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Montana State University Northern

Mission Statement

Mission Statement

MSU-Northern provides higher education to students for professional and technical careers through an institution dedicated to teaching and the pursuit of knowledge.

Approved by the Board of Regents on May 2016.

MSU-Northern's Strategic Goals

1. Strategic Growth
2. Quality and Efficiency
3. Engagement
4. Collaboration

Chancellor's Welcome

Welcome to Montana State University-Northern.

MSU-Northern is more than a traditional four-year university. We offer 35 programs that range from apprenticeships, certificates, associates, bachelors, and master level instruction. Our practical, hands-on programs prepare our graduates to move into rewarding careers.

The opportunities available to you at MSU-Northern are more than the normal classroom experiences. I believe we provide a richly satisfying array of nationally recognized sports programs, clubs, organizations, and on-campus activities that will provide you with a well-rounded college experience. At MSU-Northern, helping our students succeed is our number one goal, and I am confident that you will receive "An Education that Works."

MSU-Northern is small enough to provide you with the friendly atmosphere and personal attention you long for, yet large enough to provide you with the quality education you need to succeed in a competitive job market.

This catalog serves as your guide for academic programs, university services, and institutional policies. Please refer to it often. Our advising professionals can help you plot a course that will help you achieve your educational goals. It is our singular goal to provide a supportive, student-centered environment that will promote your success, both as a student scholar and as a community leader in your life after MSU-Northern.

I look forward to seeing you on campus, and, on behalf of everyone at Northern, please accept our warmest welcome!

Sincerely,

Greg Kegel
Chancellor
Montana State University-Northern

University Calendar

Fall Semester 2022

August 26, 2022	Residence Halls Open
August 27-28, 2022	Orientation
August 29, 2022	Classes Begin
September 5, 2022	Labor Day Holiday (No Classes; Offices Closed)
September 6, 2022	Last Day to Add Classes (for full session courses)
September 6, 2022	Last Day to Drop without a W (for full session courses)
October 19, 2022	Midterm grades due
November 1, 2022	Last Day to Drop with a W (for full session courses)
November 1, 2022	Advanced Registration for Spring 2023 Begins
November 8, 2022	Election Day Holiday (No Classes, Offices Closed)
November 11, 2022	Veteran's Day Holiday (No Classes, Offices Closed)
November 23, 2022	Thanksgiving Holiday (No Classes, Offices Open)

November 24-25, 2022	Thanksgiving Holiday (No Classes, Offices Closed)
December 12-16, 2022	Final Exams
December 16, 2022	Fall Semester Ends
December 16, 2022	Residence Halls Close
December 20, 2022	Final Grades Due by Noon

Spring Semester 2023

January 8, 2023	Residence Halls Open
January 8-15, 2023	Orientation
January 9, 2023	Classes Begin
January 16, 2023	Martin Luther King Day (No Classes, Offices Closed)
January 17, 2023	Last Day to Add Classes (for full session courses)
January 17, 2023	Last Day to Drop Classes without a W (for full session courses)
February 20, 2023	President's Day Holiday (No Classes, Offices Closed)
March 2, 2023	Midterm grades due
March 13-17, 2023	Spring Break (No Classes, Offices Open)
March 22, 2023	Last Day to Drop Classes with a W (for full session courses)
March 27, 2023	Advanced Registration for Summer 2023 and Fall 2023 Begins
April 7, 2023	University Day (No Classes, Offices Open)
April 12, 2023	All "N" Day (No Classes, Offices Open)
May 1-5, 2023	Final Exams
May 5, 2023	Spring Semester Ends
May 5, 2023	Residence Halls Close
May 6, 2023	Commencement
May 9, 2023	Spring Grades Due at Noon

Summer Semester 2023

May 8-12, 2023	Summer Break
May 15, 2023	May Session Begins
May 15, 2023	Full Session Begins
May 29, 2023	Memorial Day (No Classes- Offices Closed)
June 2, 2023	May Session Ends
June 5, 2023	First Session Begins
July 4, 2023	Fourth of July Holiday (No Classes, Offices Closed)
July 7, 2023	First Session Ends
July 10, 2023	Second Session Begins
August 11, 2023	Full Session Ends
August 11, 2023	Second Session Ends
August 15, 2023	Grades Due in Registrar's Office by noon

Degrees, Majors, Minors

Associate of Applied Science Degree (AAS)

- Agricultural Mechanics Technology
- Agricultural Technology
- Automotive Technology
- Diesel Technology
- Electrical Technology
- Pipefitter
- Plumbing

Associate of Arts (AA)

- Program of Study in General Education

Associate of Science Degree in Nursing (ASN)

- Nursing

Associate of Science Degree (AS)

- Program of Study in Business

Bachelor of Applied Science (BAS)

- Bachelor of Applied Science
- Trades Management
- Business Technology

Bachelor of Arts Degree (BA)

- Community Leadership
- Graphic Design
- Liberal Studies
- Native American Studies

Bachelor of Science Degree (BS)

- Agricultural Operations Technology
- Automotive Technology
- Biology
- Business Administration
- Civil Engineering Technology
- Criminal Justice
- Diesel Technology
- Diesel Technology: Equipment Management
- Diesel Technology: Field Maintenance Option
- Integrated Health Sciences
- Nursing

Bachelor of Science in Education (BS)

- Elementary Education (K-8)
- English (5-12)
- General Science (5-12)
- Health and Physical Education (K-12)
- Industrial Technology (5-12)
- Social Science (5-12)

Certificates of Applied Science

- Diesel Technology
- Water Distribution
- Water Treatment
- Wastewater Collection
- Wastewater Treatment
- Welding Technology

Master of Education Degree (MEd)

- Counselor Education

Master of Science Degree (MS)

- Education, Instruction and Learning

Minors (non-teaching)

- Accounting
- Agricultural Mechanics Technology
- Applied Agriculture
- Automotive Technology
- Biology
- Business Technology
- Community Leadership
- Criminal Justice
- Diesel Technology
- Integrated Health Sciences
- Marketing
- Native American Studies
- Psychology
- Small Business Management

Teaching Minors

- Art (K-12)
- Reading Specialist (K-12)
- Traffic Education (K-12)

Graduation and General Education Requirements

Students are personally responsible for meeting all University graduation requirements and the requirements for their particular academic degree programs.

Completed and signed applications for graduation are due in the Registrar's Office for Summer and Fall graduates on April 20th and Spring graduates are due by October 20th. Completed applications include a graduation application, completed degree works audit or completed program sheet, signature by your advisor and the Dean of your college and a copy of the \$50.00 payment receipt. Graduation applications are available on-line or in the Registrar's Office.

Minimum Course Grades for Graduation

In accordance with Board of Regents Policy 301.5.3, students graduating from Montana State University-Northern must earn the following minimum grades:

1. A "D-" or better in all classes that are used to satisfy free 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 for a major, minor option or certificate.

General Education Course Placement

Course placement procedures ensure students are academically prepared for successful higher level course completion.

The following determines general education course placement:

1. Evaluation of previous higher education courses completed.
2. Students who earn the following minimum scores on tests taken during high school will be placed directly into a college-level freshman composition course without further testing.
 - a. A score of 7 or above on the writing test or 18 or above on the ELA (weighted composite based on the English, reading, and writing scores) of the optional writing test of the ACT; or

- b. A score of 25 or above on the writing and language test of the SAT; or
 - c. A score of 3 or above on the AP English language or English literature examination; or
 - d. A score of 4 or above on the IB language A1 exam; or
 - e. A score of 50 or above on the (CLEP) subject examinations in composition.
 - f. For students without writing placement examination scores, see Board of Regent Policy 301.17 for placement information.
3. Mathematics proficiency policy grants full admission to students with minimum mathematics scores of:
 - a. 22 for M 105 Contemporary Mathematics or 23 for M 121 College Algebra on the ACT,
 - b. 27.5 for M 105 Contemporary Mathematics or 28.5 M 121 College Algebra on the SAT, or
 - c. 3 or above on the AP Calculus AB or BC Subject Examinations.
 4. Students with scores below these thresholds are placed into developmental courses. Details about placement testing are available from the Testing Center in Vandebogart Library Room 208.

Catalog of Record

Students may elect to follow the catalog in effect when they began their freshman year at MSU-Northern, or any subsequent catalog within the seven-year catalog limitation if there has not been a break of more than one academic term (Fall and Spring) in a year.

Students transferring from one institution to another in the Montana University System (MUS) or from any of Montana's two-year institutions to a unit of the MUS may elect to graduate under the program of study in effect at the new institution at the time they first enrolled at the sending institution if:

1. They have maintained continuous, full-time enrollment in good standing.
2. They meet the admissions requirements for the program or major at the new institution; and
3. The required courses are still available.

The catalog of record for these students shall not be more than four years old.

Obsolete Course Content

In evaluating coursework from postsecondary institutions, Montana State University-Northern will:

1. Guarantee that any postsecondary course work taken within five (5) years of being admitted or re-admitted to the campus will be included in the transfer analysis of specific required classes in a major, minor, option or certificate.
2. Guarantee that any postsecondary course work taken within fifteen (15) years of being admitted or re-admitted to the campus will be included in the transfer analysis of general education core and elective course work.

Course work that falls outside these guarantee periods may be included in the evaluation, at the discretion of the University. This is a discretionary decision and cannot be challenged by students.

Departmental Distinction

Students maintaining a 3.50 GPA and selected by the appropriate faculty may be eligible to graduate with departmental distinction. This distinction will be noted on the commencement program.

Graduation Academic Latin Honors

Graduation academic Latin honors levels are based on **all higher education work** completed at the time the program was printed. This does not include work completed at the end of the Spring Semester of commencement. If work completed after the commencement program was printed changed any honors levels, every effort will be made to provide the proper cords.

Latin Honors	Minimum GPA
Cum Laude	3.50
Magna Cum Laude	3.75
Summa Cum Laude	4.00

Honor Cords

Montana State University-Northern recognizes associate and baccalaureate students with excellent grades by awarding traditional Latin academic honors at graduation. Honored graduates wear honors cords and their names are noted in the commencement program. Cord colors are as follows:

Cum Laude	Maroon
Magna Cum Laude	Silver
Summa Cum Laude	Gold

The College of Technical Sciences Departmental Certificates

Students completing departmental certificate programs will receive a Certificate of Completion from the academic college but will not receive a diploma or participate in commencement ceremonies. The certificate does not appear on their academic transcript.

Related Instruction

All certificates of applied science and associate of applied science degrees must include instruction in program related areas of communications, computation (math), and human relations. This instruction may be included as separate coursework, or embedded in courses that are part of the degree. Courses containing embedded related education coursework must be identified and related education subjects clearly identified as part of course syllabi.

Associate of Arts, Associate of Science, and Associate of Applied Science Degree Programs

All associate and associate of applied science degrees require the following, plus course requirements under specific programs:

1. At least fifteen (15) of the total credits must be taken at Montana State University-Northern for an associate or associate of applied science degree.
2. An associate of science/arts degree is normally limited to sixty (60) credits and requires a minimum 2.00 cumulative grade point average.
3. An associate of applied science degree has a minimum of sixty (60) credits and a maximum of seventy-two (72) credits and requires a minimum cumulative grade point average of 2.00.
4. No more than 6 credits total of independent study courses (designated X92) may be applied towards an associate or associate of applied science degree.

Bachelor of Applied Science Degree

The bachelor of applied science (B.A.S.) degree is designed for students who have already earned an associate of applied science (AAS) degree from a regionally accredited institution, and would like to use that degree as a first step toward earning a baccalaureate degree. Using the A.A.S. degree as a base, the B.A.S. degree at Montana State University-Northern includes additional general education core coursework, a program of study in some selected area, and a minimum number of credits at the 300 – 400 level. The program of study typically builds on courses and the specialized study completed for the A.A.S. degree.

The specific requirements for a bachelor of applied science (B.A.S.) degree at MSU-Northern are as follows:

1. An associate of applied science (A.A.S.) degree from a regionally accredited institution; that degree must have at least 60 semester credits.
2. At least 60 semester credits beyond the A.A.S. degree.
3. Thirty of those credits described in 2 above from Montana State University-Northern.
4. Successful completion of the general education core for a baccalaureate degree at MSU-Northern. The general education core for a bachelor of applied science degree is the same as a general education core for all baccalaureate programs at MSU-Northern. Credits earned as part of the A.A.S. degree may be used to satisfy this requirement, but only if they would be accepted as appropriate coursework for any other baccalaureate general education core at MSU-Northern. **PLEASE NOTE:** Although Board of Regents Policy 301.10 almost certainly would not apply to the coursework completed by a student for an A.A.S. degree, students should ask about the Montana University System General Education Transfer Policy to determine its applicability to their work on a B.A.S. degree at Montana State University-Northern.
5. At least 30 credits in some program of study; the specific credits to satisfy this requirement will be approved by a faculty member in the program of study.
6. At least 39 of the credits at the 300 or 400 level; those upper division credits can be part of the program of study, the general education core coursework, or any elective credits that the student chooses to take.
7. A cumulative grade point average of 2.00 and a grade point average of 2.25 in the program of study.
8. No more than 9 credits of independent study courses (designated X92).

Bachelor Degree Programs

All bachelor degrees require the following, plus course requirements under specific programs:

1. The general education core requirements must be completed.
2. At least thirty (30) of the total credits must be taken at Montana State University-Northern.
3. Some programs may include additional requirements for graduation. If so, they will be noted in the recommended sequence for any individual program.
4. A bachelor of arts/science degree has 120 credits with a cumulative GPA of 2.00 and a GPA in both the major and the minor of at least 2.25. Some programs may include additional credit requirements. Some programs may also have minimum grade requirements for graduation. **PLEASE NOTE:** Students graduating under the 1997-1999 catalog and subsequent catalog need 120 credits to earn a bachelor's degree, unless their degree specifies more credits. Students graduating under a catalog prior to 1997-1999 will need a minimum of 128 credits to earn a bachelor's degree, unless the degree specifies more credits.

5. Students are required to have thirty-nine (39) upper division level credits (300 – 400 level courses) for graduation.
6. No more than 9 credits total of independent study courses (x92) may apply toward a bachelor's degree.

Minors

A minor is a supporting or complementary field taken along with a major for a baccalaureate degree. Teaching majors require teaching minors and non-teaching majors require non-teaching minors.

Minor Requirements

1. They must consist of eighteen to thirty (18 to 30) semester hours of credit.
2. At least one-third of the credits must be at the upper division level.
3. At least ten (10) of the total credits must be taken at Montana State University-Northern.
4. Students must have at least a 2.25 GPA in their minor.

Commencement without Graduation Policy

University policy allows students who have six (6) or fewer credits remaining toward requirements for graduation at the end of the Spring Semester, or who can demonstrate that they will complete graduation requirements by the end of the Summer Semester, to participate in the commencement ceremony provided that they submit graduation clearance papers by the deadline. If a student has more than six (6) credits remaining, they may petition to Admissions and Standards to request an exception to walk in the Spring ceremony.

Articulated Coursework

MSU-Northern develops articulation agreements with other post secondary institutions. For current information on these agreements, please see the Registrar's Office website.

General Education Requirements

General education core forms a significant part of every degree program. The general education core develops areas of appreciation not necessarily provided for in the specialized areas of the major, and provides a sense of the interrelationship between the various disciplines. Above all, the general education core makes available to students the tools and awareness necessary for lifelong learning and for active, literate participation in today's technological society. Students must meet the program requirements as specified for either a baccalaureate, associate, or associate of applied science degree.

The Registrar determines the acceptability of transfer credits toward general education requirements at the University.

General Education Substitutions or Waivers

Only the Admissions and Standards Committee can substitute or waive a general education requirement. Therefore, any request to substitute or waive a general education requirement must be submitted on a petition form to the Admissions and Standards Committee for approval.

The Lower Division general education requirements are waived for students who already have an associate of art, associate of science, or bachelor's degree from Montana State University-Northern or another Montana institution's Board of Regent approved general education core.

To qualify for the waiver, students must meet the following conditions:

1. Their previous degree must be from a regionally accredited institution.
2. The previous degree must be an associate of art, an associate of science, a bachelor of art, a bachelor of science, or a bachelor of applied science degree.
3. If the degree is a prior MSU-Northern associate of art or associate of science degree, the degree must have been earned in accordance with the Fall 2005 catalog or later.
4. The degree must not be an associate of applied science or associate degree nursing.

General Education programs at institutions whose general education core is not Montana Board of Regents approved will be evaluated on a course by course basis.

PLEASE NOTE: Students who transfer between units of the Montana University System may be governed by the general education transfer policy adopted by the Montana Board of Regents. That policy is set out on page 15 of this catalog. When reviewing that policy, students should pay particular attention to the IMPORTANT LIMITATION language.

This waiver does not constitute a waiver of any other graduation requirements.

MSU-Northern General Education Core

The general education core allows you (the student) to reaffirm your common experiences, to redefine your common goals, and to provide a foundation for confronting your common problems. The courses selected for inclusion in the general education core emphasize communication and techniques of creative inquiry that are used in all disciplines.

Montana State University-Northern defines seven (7) categories within the general education core. The categories and the outcomes for each category are defined below.

Category I – Communication

You (the student), upon successful completion of course(s) within this category, should be able to:

Writing: (3 credits)

1. Write clear, accurate sentences and paragraphs in Standard American English.
2. Write extended papers which effectively develop and support theses, tell stories, describe events, and/or express feelings, insights and personal values.
3. Demonstrate the ability to communicate effectively through the forms of writing most common in the student's chosen career area.
4. Identify and incorporate research materials into informative and analytical writing.
5. Demonstrate understanding and recognition of plagiarism.

Human Interaction: (3 credits)

1. Recognize the importance of communication in human interactions.
2. Recognize and articulate the components of human communication.
3. Identify verbal and nonverbal aspects of message creation.
4. Demonstrate how listening skills and other variables affect how we interpret both the verbal and non-verbal messages sent by others.
5. Describe the environmental factors that influence the outcomes of communication.

Category II - Mathematics

You (the student), upon successful completion of course(s) within this category, should be able to:

1. Solve problems through mathematical reasoning.
2. Describe or demonstrate how mathematical models or statistical designs are used to obtain knowledge in several disciplines.
3. Perform mathematical applications beyond intermediate algebra.

Category III - Natural Sciences

You (the student), upon successful completion of course(s) within this category, should be able to:

1. Demonstrate basic competence in the principles and theories used in the natural sciences.
2. Define, describe, and apply the scientific method.
3. Convey ideas using language and presentation skills specific to the natural sciences.
4. Use critical thinking to synthesize information, evaluate assumptions and claims, and draw evidence based conclusions.

Category IV - Social Sciences/History

You (the student), upon successful completion of course(s) within this category, should be able to:

1. Describe processes of continuity and change which have shaped events up to the present.
2. Identify and describe the characteristics of major era in world history or international relations, or a distinct social movement, thereby providing a framework for comprehending aspects of human experience.
3. Explain how human experiences give rise to movements, institutions, traditions, and ideas which have a subsequent influence.
4. Analyze factors leading to the dominance, suppression, or acceptance of selected racial, gender, ethnic, class and religious groups.
5. Analyze of the extent to which individuals, institutions, and/or traditions are able to influence events, making reference to illuminating examples.
6. Use factual and interpretive information to analyze and draw conclusions on historical or political hypotheses in selected areas of the social sciences.

Category V - Cultural Diversity

You (the student), upon successful completion of course(s) within this category, should be able to:

1. Compare and contrast cultural worldviews.
2. Analyze social issues, social structures and/or behavior of cultures and subcultures.
3. Examine how generalizations, stereotyping and prejudice develop, and how they impact culture.
4. Identify dimensions of culture.
5. Recognize and/or demonstrate an appreciation of different cultures through language and communication.

Category VI- Humanities Appreciation/Creative Arts

You (the student), upon successful completion of course(s) within this category, should be able to:

Humanities Appreciation sub-category

1. Discuss great works of literature, drama or visual art.
2. Compare the beliefs of different cultures reflected by literature or music or art or philosophy.
3. Make informed judgments concerning the aesthetic, entertainment, and intellectual value of a work in a area of fine art.
4. Recognize the expression of cultural values in works of literature, music, theatre, and visual art, and the ways the arts shape culture.

Creative Arts sub-category

1. Demonstrate skills in practice of a fine are, such as visual art, performing art, or literary art.
2. Describe the basic elements and practices of a fine art.
3. Demonstrate an appreciation for the creative process as it is express in master work of a fine art.

Category VII - Technology

You (the student), upon successful completion of course(s) within this category, should be able to:

1. Explain the impact of technology on society and conversely, how society impacts technology in a historical, present and future sense.
2. List technology's role in problem solving and communication.
3. Describe the ethical, legal and social concerns stemming from advances in technology.
4. Demonstrate an ability to use technology within a discipline.
5. Demonstrate an introductory level of technology literacy.

*

Students planning to transfer to another institution before completing Northern's General Education Core would be well advised to take courses from the MUS Transferable Core found on page 15 of this catalog.

General Education Transfer Policy

The Montana University System is committed to facilitating the ease of undergraduate student transfer to its campuses. Therefore, all campuses in 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 in Montana, the seven tribal colleges and regionally accredited independent colleges in the State of Montana.

Block Transfer Policy

Undergraduate students who have completed an approved general education program of between 30 and 45 lower division credit hours at one of the institutions noted above and who transfer to another of those institutions will be deemed to have met the lower division general education requirements of the campus to which the students have transferred. The student may be required to take additional coursework at the upper division level that is part of an approved general education program at the new campus.

The Montana University System Core

Students that have completed less than 20 general education credits will be required to complete the approved general education program at the campus to which they transfer. All general education transfer credits that are part of the MUS Core will be reviewed for possible application in the approved general education program at the campus.

Students who have completed 20 or more MUS core credits, but do not satisfy the block transfer policy described in the preceding section may choose to complete either the MUS core or the approved general education program at the campus to which they transfer. The student should make that decision in consultation with a faculty advisor.

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

Communications	6 semester credits maximum
Cultural Diversity	3 semester credits maximum
Humanities Appreciation/Creative Arts	6 semester credits maximum
Mathematics	3 semester credits maximum
Natural Sciences (with labs)	6 semester credits maximum
Social Sciences/History	6 semester credits maximum
Total Semester Credits Maximum	30

Satisfactory completion of the courses listed in the *Transferable Core Curriculum* will permit the student to receive credit equivalent to the lower-division degree requirements of the receiving college or university. When transferred as a core of 30 semester credits, nearly half of the receiving institution's general education core requirements may be satisfied.

Please Note This Important Limitation

Depending upon the major program into which the student transfers, additional lower division requirements may still be necessary for the transfer student to complete as part of the published programmatic prerequisites. This limitation means that, even though a transfer student may satisfy the basic requirements of the Montana University System general education transfer policy, his/her specific program of study may require additional and specialized courses in one or some of the six (6) disciplines listed above. To earn the degree, transfer students will have to complete those specialized courses.

The following Montana State University-Northern courses will satisfy the Montana University System Statewide Core Curriculum. Consequently, in selecting general education coursework for transfer, a student may wish to use the following guide:

The Montana University System Core Course List from Montana State University-Northern

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. These courses are designated with an asterisk (*) following the title. "OL" after the course number indicates that the course is offered On-Line. Courses which carry a college-level pre-requisite and/or require permission of the instructor have a (#) after the course title.

Natural Science - 6 Credits

(Students must successfully complete at least one lab course.)

Code	Title	Credits
BIOB 160	Principles of Living Systems	4
BIOB 161	Principles Living Systems Lab	1
BIOB 101	Discover Biology	4
BIOB 102	Discover Biology Laboratory	0
BIOB 272	Genetics & Evolution	4
BIOB 290	Undergraduate Research	3
BIOH 104	Basic Human Biology	4
BIOH 201	Human Anat Phys I	4
BIOH 202	Human Anat & Phys I Lab	0
BIOH 211	Human Anatomy & Physiology II	4
BIOH 212	Human Anatomy & Physiology II Lab	0
BIOM 250	Microbiology for Hlth Sciences	3
BIOM 251	Microbiology Hlth Sciences Lab	1
BIOO 220	General Botany	3
BIOO 221	Gen Botany Lab	2
CHMY 121	Intro to General Chemistry	3
CHMY 122	Intro to Gen Chem Lab	1
CHMY 123	Intro to Organic & Biochem	3
CHMY 124	Intro to Organic & Biochem Lab	1

CHMY 141	College Chemistry I	3
CHMY 142	College Chemistry Lab I	1
CHMY 143	College Chemistry II	3
CHMY 144	College Chemistry Lab II	1
ENSC 245	Soils	4
GEO 101	Intro to Physical Geology	4
GEO 102	Intro to Physical Geology Lab	0
GEO 206	Dinosaur Paleobiology	4
GEO 211	Earth History and Evolution	4
GEO 212	Earth History & Evolution Lab	0
GEO 314	Intro to Paleontology	3
GPHY 111	Intro to Physical Geography	4
PHSX 105	Fund of Physical Science	3
PHSX 106	Fund of Physical Science Lab	0
PHSX 205	College Physics I	3
PHSX 206	College Physics I Laboratory	1
PHSX 207	College Physics II	3
PHSX 208	College Physics II Laboratory	1
BIOE 110	Intro to Environmental Health	3
TSCI 304	Fuels and Lubricants	3

Humanities Appreciation/Creative Arts – 6 Credits

Creative Arts

Code	Title	Credits
ARTZ 231	Ceramics I	3
ARTZ 105	Visual Language - Drawing	3
ARTZ 106	Visual Language - 2-D Fndtns	3
ARTZ 284	Photo I-Techs and Processes	3
MUSI 132	History of Rock and Roll	3
THTR 101	Introduction to Theatre	3
THTR 105	Theatre Workshop I	3
THTR 120	Introduction to Acting I	3
THTR 208	Studies in Drama	3
CRWR 240	Intro to Creative Writing Wksp	3

Humanities Appreciation

Code	Title	Credits
ARTH 160	Global Visual Culture	3
ARTH 330	Art Hist of Western Civ I	3
ARTH 340	Art History of Western Civ II	3
LSH 201	Intro to Humanities The Art of	3
LIT 110	Intro to Lit	3
LIT 210	American Lit I	3
LIT 211	American Lit II	3
LIT 223	British Lit I	3
LIT 224	British Lit II	3
LIT 230	World Lit Survey	3
LIT 270	Film and Literature	3
LIT 285	World Mythologies	3
LIT 382	Lit for Children/Adolescents	3
LIT 309	Popular Genres	3
MUSI 201	Introduction to Music History	3

NRSG 305	Nursing/Health Care Ethics	3
PHIL 200	Introduction to Philosophy	3
PHIL 210	Ethics	3
FILM 160	Intro to World Cinema	3
GRMN 101	Introduction to German	4
MUSI 105	Orchestra Ensemble	1

Cultural Diversity - 3 credits

Code	Title	Credits
NASX 105	Intro Native Amer Studies *	3
NASX 304	Native American Beliefs/Philos *	3
NASX 310	Native Cultures of North Amer *	3
NASX 235	Oral/Written Trads Native Amer *	3
NASX 340	Native American Literature	3
NASX 376	Fed Indian Law & Policy *	3
NASX 120	Native American Language I *	3
NASX 232	MT Ind Cltrs/Hstry/Iss	3
SOCI 315	Race, Gndr, & Ethnic Relations	3
COMX 212	Intro to Intercultural Comm	3
SPNS 101	Elementary Spanish I	4
FILM 160	Intro to World Cinema	3
LIT 285	World Mythologies	3
GRMN 101	Introduction to German	4
BGEN 360	International Business	3
LIT 230	World Lit Survey	3
NRSG 361	Global Nursing/Healthcare	3

Social Sciences/History - 6 credits

Code	Title	Credits
CMLD 101	Intro to Community Leadership	3
ECNS 201	Principles of Microeconomics	3
ECNS 202	Principles of Macroeconomics	3
ECNS 372	Economic History of the US	3
HSTA 101	American History I	3
HSTA 102	American History II	3
HSTR 101	Western Civilization I	3
HSTR 102	Western Civilization II	3
HSTA 255	Montana History	3
PSCI 210	Intro to American Government	3
PSCI 250	Intro to Political Theory	3
PSCI 260	Intro to State and Local Govt	3
PSCI 471	American Constitutional Law	3
PSYX 100	Intro to Psychology	3
PSYX 150	Drugs and Society	3
PSYX 230	Developmental Psychology	3
SOCI 101	Introduction to Sociology	3
SOCI 241	Intro to Social Psychology	3
SOSC 201	Introduction to Social Science	3
SOCI 211	Introduction to Criminology	3

Mathematics - 3 credits

Code	Title	Credits
M 105	Contemporary Mathematics	3
M 112	Trigonometry & Complex Numbers	2
M 121	College Algebra	3
M 130	Math for Elementary Teachers I	3
M 131	Math for Elementary Teacher II	3
M 151	Precalculus	4
M 162	Applied Calculus	3
M 171	Calculus I	5
M 172	Calculus II	5
STAT 216	Introduction to Statistics	3

Communication - 6 credits

(Students must successfully complete coursework in written and oral communications.)

Code	Title	Credits
COMX 111	Intro to Public Speaking	3
COMX 115	Intro to Interpersonal Communc	3
WRIT 101	College Writing I	3
WRIT 122	Business Writing	3
WRIT 350	Technical Editing	3

Technology - 3 credits

Code	Title	Credits
AOT 301	Global Positioning Systems	3
CAPP 120	Introduction to Computers	3
CAPP 151	MS Office	3
IT 100	Introduction to Technology	3
EDU 270	Integrating Tech in Education	3
GDSN 231	Graphic Design Applications	3
NRSG 320	Nursing/Healthcare Informatics	3

Time-To-Degree Assurance Policy

The course requirements for each degree program offered by Montana State University-Northern are set out in this catalog.

The University makes reasonable efforts to accommodate the reasonable scheduling needs of its students. However, it is unlikely that the University will be able to schedule classes for the personal convenience of students, and it is under no obligation to do so. Students who wish to graduate within the two- and four-year time frames contemplated by this assurance are expected to devise a written plan of study with their advisor. This written plan of study must be on file in the advisor's and the Registrar's Office.

Both the student and the University must meet certain obligations in order to assure completion of degree programs within the specified time frame. The student must meet the prerequisites for all required courses and register for these courses within the prescribed time frame. If the student is unable to register for a prescribed course within the prescribed time frame due to failure of the University to schedule the course at the specified time, or due to a scheduling conflict between required courses at the specified time, it is the student's responsibility to bring this problem to the attention of the Registrar or Dean of the academic college which administers the student's major. It is the University's responsibility in these cases to create an accommodation that enables the student to meet the specified requirement at the specified time.

Any deviation of the student from the course requirements or sequences specified for his/her initially declared course of study will nullify the University's responsibility to ensure the student's graduation within the two- or four-year time frame. Failure of the student to notify the University of a course-scheduling problem prior to the beginning of the course deprives the University of the opportunity to accommodate the student, and nullifies the University's responsibility under this assurance.

Montana State University-Northern extends this time-to-degree assurance to transfer students within the Montana University System as follows: Students who are admitted to another unit of the system with the ultimate objective of transferring to Montana State University-Northern and receiving a degree from this unit may be jointly admitted to Northern when starting at the other unit.

In addition, certain two-year associate degree programs within the Montana University System are fully articulated with corresponding four-year baccalaureate degree programs at Northern. Jointly admitted students who are in such programs at two-year degree-granting institutions will receive information and faculty advising from Northern concurrent with their enrollment at the originating institutions. Jointly admitted students who follow the program specified by the articulation agreement for their Northern program will receive a full two years of credit toward their graduation program at Northern. When they begin their study at Northern, they can take advantage of the time-to-degree assurances set out above for students who begin their study at Northern, and they have the same responsibilities. Further information about joint admissions agreements is available from the Office of Admissions.

General Education Core

Montana State University – Northern General Education Core

All students seeking an associate of arts, associate of science, or bachelor's degree at Montana State University-Northern are required to fulfill course work within each of the seven General Education categories as listed below:

Associate of Arts (A.A.)
 Associate of Science (A.S.)
 Bachelor of Arts (B.A.)
 Bachelor of Science (B.S.)

Discipline Area	Minimum Required
CAT I: Communication	6 credits
CAT II: Mathematics	3 credits
CAT III: Natural Science (with lab)	6 credits
CAT IV: Social Science/History	6 credits
CAT V: Cultural Diversity	3 credits
CAT VI: Humanities Appreciation/Creative Arts	6 credits
CAT VII: Technology	3 credits
Total General Education Core Credits	33 credits

The following courses will satisfy the various categories of general education. If general education core classes are required in a program area, they can be counted towards fulfilling the general education core as well as the program requirement. (However, the number of the credits for the course only counts once toward the total credits of the degree). Students who transfer course work to MSU-Northern will have general education courses counted in the same category as the transferring institution, even if the course is not offered at MSU-Northern. **NOTE:** Different departments and academic units specify particular courses within a category to meet degree requirements. Students are urged to consult their academic advisor and the course requirements for their degree prior to selecting courses in General Education.

Category I (CAT I)	Communication (6 credits) General Education Code: C1	WRIT 101 OR WRIT 122 AND COMX 111 OR COMX 115 OR WRIT 350
Category II (CAT II)	Mathematics General Education Code: C2	M 112, M 121, M 130, M 131, M 105, M 151, M 162, M 171, M 172, STAT 216
Category III (CAT III) Students must take one science course that includes a lab. See course description to verify this requirement.	Natural Sciences (6 credits) General Education Code: C3 and C3L	BIOB 160/161, BIOB 101/102, BIOE 110, BIOH 104, BIOM 250/251, BIOO 200/221, BIOH 201/202, BIOH 211/212, BIOB 272, BIOB 290, CHMY 121/122, CHMY 123/124, CHMY 141/142, CHMY 143/144, ENSC 245, GEO 101/102, GEO 206, GEO 211/212, GEO 314, GPHY 111, PHSX 105/106, PHSX 205/206, PHSX 207/208, TSCI 304
Category IV (CAT IV)	Social Sciences/History (6 credits) General Education Code: C4 and C5	CMLD 101, ECNS 201, ECNS 202, ECNS 372, HSTA 101, HSTA 102, HSTA 255, HSTR 101, HSTR 102, PSCI 210, PSCI 250, PSCI 260, PSCI 471, PSYX 100, PSYX 150, PSYX 230, SOCI 101, SOCI 211, SOCI 241, SOSC 201
Category V (CAT V)	Cultural Diversity (3 credits) General Education Code: C6	NASX 105, NASX 232, NASX 235, NASX 304, NASX 310, NASX 340, NASX 376, NASX 120, GRMN 101, SOCI 315, COMX 212, SPNS 101, LIT 285, LIT 230, FILM 160, NRSRG 361, BGEN 360

Category VI (CAT VI) It is recommended that baccalaureate candidates complete at least one course in each sub category, for a total of 6 credits.

Humanities Appreciation/Creative Arts (6 credits)
General Education Code: C7 and C8

ARTZ 105, ARTZ 106, ARTZ 231, ARTZ 284, ARTH 160, ARTH 330, ARTH 340, LIT 110, LIT 210, LIT 211, LIT 230, MUSI 201, PHIL 200, PHIL 210, THTR 105, THTR 101, THTR 120, THTR 208, MUSI 132, MUSI 105, LIT 285, FILM 160, LIT 270, CRWR 240, GRMN 101, LSH 201, LIT 223, LIT 224, LIT 382, LIT 309, NRSG 305

Category VII (CAT VII)

Technology (3 credits) General Education Code: C9

AOT 301, CAPP 120, CAPP 151, EDU 270, IT 100, GDSN 231, NRSG 320

Overview of Programs and Special Program Requirements

Associate of Applied Science Degree (AAS)

- Agricultural Mechanics Technology
- Agricultural Technology
- Automotive Technology
- Automotive Technology Fast Track
- Engineering Technology- Civil Engineering Technology
- Diesel Technology
- Electrical Technology
- Pipefitter Technology
- Plumbing Technology

Associate of Arts (AA)

- Program of Study in General Education

Associate of Science Degree in Nursing (ASN)

- Nursing

Associate of Science Degree (AS)

- Program of Study in Business

Bachelor of Applied Science (BAS)

- Bachelor of Applied Science
- Trades Management
- Business Technology

Bachelor of Arts Degree (BA)

- Community Leadership
- Graphic Design
- Liberal Studies
- Native American Studies

Bachelor of Science Degree (BS)

- Agricultural Operations Technology
- Automotive Technology
- Biology
- Business Administration
- Engineering Technology- Civil Engineering Technology
- Criminal Justice
- Diesel Technology

- Diesel Technology: Equipment Management Option
- Diesel Technology: Field Maintenance Option
- Integrated Health Sciences
- Nursing

Bachelor of Science in Education (BSEd)

- Elementary Education (K-8)
- English (5-12)
- General Science (5-12)
- Health and Physical Education (K-12)
- Industrial Technology (5-12)
- Social Science (5-12)

Certificates of Applied Science (CAS)

- Diesel Technology
- Water Distribution
- Water Treatment
- Wastewater Collection
- Wastewater Treatment
- Welding Technology

Master of Education Degree (MEd)

- Counselor Education

Master of Science in Education Degree (MSEd)

- Instruction and Learning

Minors (non-teaching)

- Accounting
- Agricultural Mechanics Technology
- Applied Agriculture
- Automotive Technology
- Biology
- Business Technology
- Community Leadership
- Criminal Justice
- Diesel Technology
- Graphic Design
- Integrated Health Sciences
- Marketing: Technical Sales and Service
- Native American Studies
- Psychology
- Small Business Management

Teaching Minors

- Art (K-12)
- Reading Specialist (K-12)
- Traffic Education (K-12)

Programs in Nursing

MSU-Northern offers Nursing Programs that promote collaborative clinical learning, critical thinking, and personal growth in a career that is dynamic, diverse, and offers the opportunity to work in a variety of different capacities and places. Achieving the Associate of Science Degree in Nursing (ASN) prepares you to establish the seamless pathway into the Bachelor of Science Degree in Nursing (RN-BSN Online Completion Program). MSU-Northern enhances the registered nurses opportunity to complete a bachelor's degree in nursing while working as a healthcare professional.

Instruction for Nursing courses can be delivered in multiple forms; Face-to-Face, Online (only), Hybrid (combination of Face-to-Face and Online), and Distant Technologies. ASN courses are predominantly Face-to-Face and RN-BSN Completion courses are primarily Online with the two credit clinical in the student's geographical area.

Montana State University-Northern Department of Nursing Associate of Science Degree in Nursing program (ASN) is fully approved by: Montana State Board of Nursing (MT BON) 301 South Park, P.O. Box 200513, Helena, MT 59620. Phone: 1-406-841-2340 www.nurse.mt.gov The RN-BSN Completion Program follows the Rules and Statutes of the Montana State Board of Nursing.

The Associate of Science Degree in Nursing (ASN) Program at Montana State University-Northern located in Havre, Montana and the Bachelor of Science Degree in Nursing (RN-BSN Completion) are accredited by:

Accreditation Commission for Education in Nursing (ACEN)

3390 Peachtree Road NE, Suite 1400

Atlanta, Georgia 30326

Phone 404-975-5000

The most recent accreditation decision made by the ACEN Board of Commissioners for the Associate of Science Degree in Nursing program is Continuing Accreditation.

The most recent accreditation decision made by the ACEN Board of Commissioners for the Bachelor of Science Degree in Nursing program is Continuing Accreditation.

View the public information disclosed by ACEN regarding these programs at <http://www.acenursing.com/accreditedprograms/programsearch.htm>

ASN Program Information

The ASN qualifies the graduate to take the National Council Licensure Examination (NCLEX-RN). The ASN program prepares the nursing graduates for the advanced beginner entry-level as a RN in a variety of health care organizations.

Pre-Nursing students receive advisement from the Department of Nursing, located in Hagener Science Center room 102. ASN Nursing students are assigned nursing faculty advisors upon admission to the program. For information regarding the RN-BSN Completion Program, call the MSU-Northern Department of Nursing at 406-265-4196 for the application.

All students in the MSU-Northern ASN program are required to take standardized proficiency examinations during the program. These examinations provide the student, faculty, and program with information concerning student comprehension, application of nursing content and academic growth. Nursing students are required to pay fees for these examinations. These fees will be paid during the semester of the examination and are not refundable.

Further information and program requirements may be obtained by calling the Department of Nursing office at 406-265-4196 or the University toll-free number, 1-800-662-6132 or by visiting the Department of Nursing webpage at <http://www.msun.edu/academics/nursing>

To be considered for Fall 2022 admission into the Associate of Science Degree in Nursing (ASN) Program the following requirements must be met:

1. Be admitted to Montana State University-Northern (a separate application to the University is required)
2. Submit official transcripts from any college and/or university that you have attended or currently attending; Send transcripts to MSU-Northern, P.O. Box 7751, Havre, Montana 59501. Transcripts will be evaluated to determine credit allotment and articulation. No required course, including basic skills courses, will be waived simply on the basis that the applicant has a prior college degree.
3. GPA Admission requirements: a cumulative GPA of 2.50 or higher
4. An extracted GPA of a 2.85 or higher with the following required pre-nursing courses: College Algebra, Anatomy & Physiology I w/lab, College Writing I, and General Chemistry w/lab. A grade of "C" or higher is required. A grade of C- in any course is not acceptable; the course must be retaken. These courses may be taken at MSU-Northern or at other accredited institutions. Course substitution forms may need to be submitted before applying to the ASN program.
5. Complete a Kaplan Entrance Exam with a minimum score of 65%. The Kaplan Entrance Exam can be taken a second time if there are any more testing days available.

6. Copy of government issued photo identification document (driver's license, passport, etc.)
7. Obtain an application and information packet from the Department of Nursing Office to apply for ASN admission. Applications are accepted May 1 through June 15.
8. Students who desire to transfer into the Associate Degree Program from another school of nursing may apply by submitting a petition to the Director of Nursing. Placement in the program is determined on an individual basis through transcript and/or course evaluations. Applicants may be asked to take a standardized or teacher-constructed test, and demonstrate specific skills in the University nursing laboratory or in a clinical setting. Once placement is determined, admission is granted on a space-available basis.
9. Applicants not admitted into the Nursing Program by their expected date of admission must reapply for future consideration.

Upon admission, current documentation is required to be on file in the Student's Castlebranch account, or on file in the Department of Nursing office:

1. A two-step TB skin test, or QuantiFERON TB Test; Tuberculosis Policy: All nursing students are screened annually, for tuberculosis. Initially a two-step tuberculin skin test (TST) will be used to provide a baseline. Each nursing student is responsible for providing evidence of screening for TB. Documentation includes: TB screening form (date and test result cited as positive or negative). If symptomatic, the nursing student is required to submit documentation of medical evaluation of the nursing student's health status related to TB. Nursing students with a positive skin test are required to provide written clearance from their health care provider in order to provide patient/client care. Additional requirements may be expected based upon current Centers of Disease Control (CDC).
2. MMR immunization, MMR Policy: Have immunizations that are current for, or have documented proof of, immunity to measles, mumps, and rubella (MMR). Adults born before 1957 are generally considered immune to measles and mumps. All adults born in 1957 or later should have documentation of 2 or more doses of MMR vaccine unless they have a medical contraindication to the vaccine or laboratory evidence of immunity to each of the three diseases. Documentation of provider-diagnosed disease is not considered acceptable evidence of Immunity for Measles, Mumps or Rubella, (Recommended Adult Immunization Schedule United States 2015, CDC.gov).
3. Current Tetanus, Diphtheria, and Pertussis (Tdap) vaccination according to the Center for Disease Control guidelines.
4. Documentation of the Hepatitis B vaccination B series, including titer, or have a valid waiver on file.
5. Varicella Immunization; two shot series or Titer.
6. Background check provided through CastelBranch. the cost of the background check is the student's responsibility. If you have any criminal activity stated on your background check, it is recommended that you contact the Montana Board of Nursing to determine if you are eligible to take the NCLEX-RN exam upon completion of the ASN Program.
7. Health Insurance Card
8. Flu shot documentation or doctor's note stating why you cannot receive the flu shot every fall semester.
9. Professional liability insurance which is provided by MSU-Northern through student program fees.
10. All ASN nursing students are mandated to take the AHA BLS certification course that will be offered in the NRSG 233-Foundations of Nursing Lab during Fall Semester.
11. Health standards are to be met as required by the participating clinical facilities. Additional laboratory/diagnostic test results or verification of required health standards/status may be required by these facilities. The Department of Nursing faculty will require documentation that the standards/status are met.
12. HIPPA Policy: All Nursing Students are legally accountable under the Health Information Privacy and Accountability Act (HIPPA) of 1996 to ensure the confidentiality of patient health information.

Requirements for Progression through the ASN Program

1. All courses required for the nursing programs are required to earn a grade of "C" or higher.
2. Nursing students are required to maintain an 80% average on tests and quizzes in each nursing course in order to pass.
3. To progress in the program, the nursing student is required to successfully pass both the didactic and clinical portions of a course. If either is not passed, the entire course must be repeated.
4. Standardized testing is required throughout the ASN program. The nursing student is required to meet the criteria established within each course.

Clinical Requirements

Students are expected to participate in clinical experiences in hospitals, nursing homes, and other community agencies at varied time schedules. The clinical schedule may involve day, evenings, and weekend assignments. Students must allow for flexibility for meeting their academic and clinical schedules. Participation in the clinical area is dependent upon space availability. Students must provide their own transportation to and from the classroom and the clinical areas; transportation is not factored into clinical time. Attendance policies will not accommodate traveling to and from campus/clinical.

Nursing students need to make their own arrangements for transportation to health care agencies for clinical and are expected to do so at their own expense for travel, food, and lodging.

Additional information regarding student policies and guidelines are found in the Nursing Student Handbook.

Program Fee

All students admitted into the ASN program pay a \$600 program fee per semester.

RN-BSN Online Completion Program Information:

The RN-BSN Online Completion Program provides a seamless pathway for graduates of the ASN program and for licensed registered nurses to continue their education in the nursing profession. The RN-BSN Completion program builds on previous nursing education and is directed toward an expanded educational base in the areas of nursing leadership and management, community health, and advanced clinical practice. The RN-BSN Completion program is offered through MSU-Northern's distance learning program. This program allows the student to maintain employment and residency in their geographical area while completing the required BSN courses and **90 clinical hours**. The RN-BSN Completion graduate is prepared as a generalist to practice in varied settings and has the foundation for graduate education.

To be considered for admission into the RN-BSN Online Completion:

1. Be admitted to Montana State University-Northern (a separate application to the University is required)
2. Submit official transcripts from any college and/or university that you have attended or are currently attending; transcripts will be evaluated to determine credit allotment and articulation per university policy. No required course, including basis skills courses, will be waived simply on the basis that the applicant has a prior college degree.
3. GPA admission requirements: a cumulative GPA of 2.50 is required to be admitted into the RN-BSN Completion Nursing Program.
4. Submit a copy of government issued photo identification document (driver's license, passport, etc.)
5. Submit a copy of current licensure as a Registered Nurse (for U.S. state where the practicum is to be done) or proof of registration and scheduled date for the NCLEX exam
6. Submit a copy of current CPR certification (Health Care Provider or Professional version)
7. Submit a signed and completed Degree Plan of Study
8. Applications are accepted year around.

Upon Admission, current documentation is required to be on file in the Department of Nursing Office:

1. A two-step TB skin test, or QuantiFERON TB Test; Tuberculosis Policy: All nursing students are screened annually, for tuberculosis. Initially a two-step tuberculin skin test (TST) will be used to provide a baseline. Each nursing student is responsible for providing evidence of screening for TB. Documentation includes: TB screening form (date and test result cited as positive or negative). If symptomatic, the nursing student is required to submit documentation of medical evaluation of the nursing student's health status related to TB. Nursing students with a positive skin test are required to provide written clearance from their health care provider in order to provide patient/client care. Additional requirements may be expected based upon current Centers of Disease Control (CDC).
2. MMR immunization, MMR Policy: Have immunizations that are current for, or have documented proof of, immunity to measles, mumps, and rubella (MMR). Adults born before 1957 are generally considered immune to measles and mumps. All adults born in 1957 or later should have documentation of 2 or more doses of MMR vaccine unless they have a medical contraindication to the vaccine or laboratory evidence of immunity to each of the three diseases. Documentation of provider-diagnosed disease is not considered acceptable evidence of Immunity for Measles, Mumps or Rubella, (Recommended Adult Immunization Schedule United States 2015, CDC.gov).
3. Current Tetanus, Diphtheria, and Pertussis (TDAP) vaccination according to the Center for Disease Control guidelines.
4. Documentation of the Hepatitis B vaccination B series, including titer, or have a valid waiver on file.

5. Varicella Immunization; two shot series or Titer.
6. Background check provided through CastelBranch. the cost of the background check is the student's responsibility. If you have any criminal activity stated on your background check, it is recommended that you contact the Montana Board of Nursing to determine if you are eligible to take the NCLEX-RN exam upon completion of the ASN Program.
7. Submit proof of current personal professional liability insurance
8. A Current Health Insurance Card
9. Health standards are to be met as required by the participating clinical facilities. Additional laboratory/diagnostic test results or verification of required health standards/status may be required by these facilities. The Department of Nursing faculty will require documentation that the standards/status are met.
10. HIPPA Policy: All Nursing Students are legally accountable under the Health Information Privacy and Accountability Act (HIPPA) of 1996 to ensure the confidentiality of patient health information.

Requirements for Progression thru the RN-BSN Online Completion Program

1. A grade of "C" or higher must be earned in all courses required for the nursing program major.
2. Maintain a GPA of at least 2.5, or higher, while enrolled in the RN-BSN Completion Program
3. Students accumulating two grades of "W" or two grades below "C" in any course(s) required for the Nursing Major will be dropped from the program and may not be readmitted for 3 years.
4. To progress in the program, the nursing student is required to successfully pass both the didactic and clinical portions of a course. If either is not passed, the entire course must be repeated.
5. RN-BSN Completion students are required to complete the program within five (5) consecutive years of beginning the program as described with your approved Degree Plan. RN-BSN Completion students may petition the faculty if an extension is needed due to extenuating circumstances.

ASN and RN-BSN Completion Program Graduation

Graduation is dependent upon the Nursing Student meeting the professional standards and criteria of safe and effective nursing care as prescribed by the curriculum.

Students who are going to graduate need to follow all university policies and procedures relating to graduation as published in *MSU-Northern Course Catalog*. The current *MSU-Northern Course Catalog*: <https://www.msun.edu/registrar/catalogs.aspx>

1. Application for graduation forms must be completed and submitted to the registrar's office in Havre during the fall semester for spring graduation and spring semester for fall graduation.
2. Gowns and announcements need to be ordered through the bookstore during the fall semester prior to graduation.
3. All students who have received financial aid during their college experience must have an exit interview with the Financial Aide Officer.

ASN Program

First Year

		Credits
Fall		
BIOH 201	Human Anat Phys I	4
BIOH 202	Human Anat Phys I Lab	0
CHMY 121	Intro to General Chemistry	3
CHMY 122	Intro to Gen Chem Lab	1
WRIT 101	College Writing I	3
M 121	College Algebra	4
Term Credits		15
Spring		
BIOH 211	Human Anatomy Physiology II	4
BIOH 212	Human Anatomy Physiology II Lab	0
NRSG 230	Nursing Pharmacology	3
NRSG 231	Nursing Pharm Lab	2

NRSG 232	Foundations of Nursing	3
NRSG 233	Foundations of Nursing Lab	3
Term Credits		15
Second Year		
Fall		
NRSG 256	Pathophysiology	3
NRSG 234	Adult Nursing I	3
NRSG 235	Adult Nursing I Clinical	2
NRSG 236	Health Illness Maternal Nurs	2
NRSG 237	Health/Illness Mat Nurs Clinic	1
PSYX 100	Intro to Psychology	3
Term Credits		14
Spring		
NRSG 254	Mental Health Concepts	3
NRSG 255	Mental Health Concepts Clinic	1
NRSG 244	Adult Nursing II	3
NRSG 245	Adult Nursing II Clinical	2
NRSG 246	Health Illness Child/Fam	2
NRSG 247	Hlth Illns Chld/Fam Clinical	1
SOCI 101	Introduction to Sociology	3
Term Credits		15
Third Year		
Fall		
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 RN	2
NRSG 267	Managed Client Care Clinical	2
BIOM 250	Microbiology for Hlth Sciences	3
BIOM 251	Microbiology Hlth Sciences Lab	1
Term Credits		14
Total Credits		73

RN to BSN

		Credits
First Year		
Fall		
PSYX 230	Developmental Psychology	3
STAT 216	Introduction to Statistics	3
WRIT 350	Technical Editing	6
Term Credits		12
Spring		
NRSG 322	Health Promotion and Education	3
NRSG 325	Adv. Health Assessment	3
NRSG 326	Complex Health Care Needs	3
NRSG 305	Nursing/Health Care Ethics	3
Term Credits		12
Summer		
NRSG 301	Nursing in the Community	5

NRSG 302	Nursing in the Comm Clinical	1
NRSG 320	Nursing/Healthcare Informatics	3
NRSG 424	Nursing Research Evidence	3
Term Credits		12
Second Year		
Fall		
NRSG 344	Family Nursing	3
NRSG 361	Global Nursing/ Healthcare	3
NRSG 463	Leadership Mang for RN	5
NRSG 464	Leadership Mang RN Clinical	1
Term Credits		12
Total Credits		48

Programs in Education

Office: Cowan Hall Room CH309

Montana State University-Northern's education programs are accredited by the Montana Board of Public Education.

Advising Information

Students are encouraged to meet with their advisor at the beginning of each semester to confirm their plan of study and make any necessary adjustments. Due to course scheduling changes, staff assignments, and other conflicts, it may not be possible to follow the suggested plans exactly. Meeting with an advisor before registering for classes each semester will allow students to plan a schedule that will meet their needs and assist them in completing requirements in an efficient manner.

Program Outcomes and Objectives

The Education Program believes it has responsibilities to candidates and to their future students. Additionally, the department believes it has a responsibility to collaborate with the communities within which it works, to continue to grow as a program, and to model professional involvement and identity.

The Program Objectives Are

1. To prepare and graduate skilled, knowledgeable, self-aware and self-reflective teachers who are prepared academically to gain licensure.
2. To collaborate and align with the communities, agencies and schools to provide learning opportunities and best and current practices for candidates.
3. To continually evaluate the program curriculum, practices, and requirements to promote the highest quality education.
4. To model educational leadership and professional identity.
5. To apply and co-create cultural and socially responsive practices.

Teacher Recommendation for Licensure

Teacher Education graduates who complete an approved program of study, meet the minimum score of the required Praxis II test, and meet high academic standards (cumulative GPA of 2.65 or higher) are eligible to apply for an educator's license. Candidates must make application for licensure through Montana State University-Northern's Teacher Certification Office to the Office of Public Instruction. Because of current review of licensure by the Office of Public Instruction, eligibility requirements from the college may change. All applications for licensure will be reviewed on the basis of the rules under which the license is issued.

Candidates completing Montana State University-Northern's Elementary Teacher Education Program will be recommended for a Standard Class II Educator License which qualifies holders to teach kindergarten through grade eight (K-8). Candidates completing one of Montana State University-Northern's Secondary Teacher Education Programs will be recommended for a Standard Class II Secondary Educator License, which qualifies holders to teach their subject area in grades 5-12 or K-12, depending on the program completed.

In addition to their general professional education requirements, secondary education majors will complete an academic major with no minor or a combination of a regular major with a minor. Individuals obtaining a Montana Class II Educator License will be licensed in their major and minor areas. Candidates who complete majors with no minor (40-60 credits) will be licensed to teach subjects within the area encompassed by that discipline. Candidates who complete a regular major (30-39 credits) and a minor (20-29 credits) will be licensed to teach in the two areas. Areas of Concentration, an option that is available in some programs, do not lead to licensure or endorsement in that area of concentration.

Elementary Education

The University-wide General Education Requirements and Teacher Education Program pre-requisites provide Elementary Education majors with 50 hours of broadly-based subject matter background. In addition, Elementary Education majors must select either one K-12 licensure minor with a minimum of 20 credits, or two non-licensure areas of concentration with a minimum of 14 credits each. K-12 licensure minors are available in Art, Reading and Traffic Education. Although all elementary majors will receive the same license and grade level endorsement, it is recommended that candidates planning to teach in the upper grade levels include the addition of minors in their program. This is especially desirable for teaching in grades sixth, seven and eight. Candidates desiring added licensure should consider a K-12 minor. Praxis II content knowledge test is required.

Secondary Education

Accreditation standards of Montana middle and secondary schools identify the particular endorsements, and in many instances, the number of credit hours of subject matter candidates must possess. Candidates should consult with the Dean of Arts and Sciences, and Education if there are questions regarding the middle and/or high school courses which their major or minor will permit them to teach.

Several secondary majors (General Science, Broadfield Social Science and Industrial Technology) lead to a 5-12 license. The Health and Physical Education major and the minors (Art, Reading and Traffic Education) lead to a K-12 license. A K-12 license makes possible a teaching assignment in a specific subject in all grades from kindergarten through grade 12. Candidates seeking this type of licensure must plan course work and field experiences at both elementary and the secondary grade levels.

Graduates of all Montana State University-Northern Teacher Education Programs will be eligible for a recommendation for a Standard Class II Educator License. However, prospective teachers who plan to teach selected high school career and technical education subjects in technical schools, community colleges, junior colleges, or other programs where state licensure is a requirement for federal or state reimbursement programs must also complete specific career and technical education course work and meet appropriate on-the-job work experience requirements. The evaluation of an individual's on-the-job work experience is completed by personnel in the Montana Office of Public Instruction. Candidates seeking to teach in a reimbursed career and technical education program should check with their advisors early in their program. Appropriate Praxis II content knowledge test is required.

Admission to Teacher Education

Upon declaring an education major, candidates will be classified as pre-education majors. All candidates are assigned an education advisor. With the assistance of advisors, all candidates should plan a program of study and work toward Level One Admission to Teacher Education.

All teacher education candidates seeking admission to the undergraduate education program for initial educator license are required to apply to the Department of Education for Admission to Teacher Education.

Level One: Admission to Teacher Education and meeting the minimum score requirements of the CORE Academic Skills for Educators Tests in reading, writing, and mathematics is required of all candidates prior to their enrolling in any professional education core courses at the 300 level or above. After admission to Level One, they will be referred to as candidates and be classified as education majors.

All General Education Core courses and program prerequisites have to be completed with a "C" or better before application to Level One Teacher Education.

Teacher Education Prerequisites

Credits identified as Teacher Education Program prerequisites should be completed during the freshman and sophomore years and prior to making application for Level One Admission to Teacher Education and enrollment in specific upper division teacher education courses.

Criteria for Level One Admission to Teacher Education

1. Completion of Level One application
2. Completion of 51 semester credits of course work, including general education core, with a minimum cumulative grade point average of 3.0 or better
3. Completion of all general education and pre-requisite courses with a minimum grade of "C" or better
4. Completion of the CORE Academic Skills for Educators tests of, Mathematics, Reading and Writing and met set scores,

The Montana State University-Northern Teacher Education Candidates may meet the CORE Academic Skills for Educators testing requirements in Reading, Mathematics, and Writing by submitting a score at or above the minimum set score of 156 in Reading, 162 in Writing, and 150 in Mathematics.

Admission to Level One of the Teacher Education program is granted by the Teacher Education Admission and Retention Committee after a thorough evaluation of the candidate's application. The application packet is available in the Education Office and online at <https://www.msun.edu/academics/coeasn/education.aspx>. (http://www.msun.edu/academics/coeasn/index_#les/forms.htm)

Applicants will be notified according to the following classifications

1. Approved for Level One admission
2. Granted provisional admission (one semester only)
3. Disapproved

Candidates who are granted provisional admission will be monitored for progress. Any Candidate who does not meet the provisions specified for provisional status will be dropped from the Teacher Education program. Candidates who are not approved or who are suspended from the program may appeal the decision. The #rst step in the appeals process is to notify the Dean of the College of Arts and Sciences, and Education in writing. The complete appeals process is outlined in the Montana State University-Northern Student Handbook. It is the responsibility of candidates to familiarize themselves with the policy. Additional copies of the handbook are available from the Education Department. Other department information is available at <https://www.msun.edu/academics/coeasn/education.aspx>. (http://www.msun.edu/academics/coeasn/index_#les/education.htm)

Candidates' progress in the program is closely monitored by the department faculty. All candidates' performances are reviewed each semester by a faculty committee. Decisions for suspension and retention are forwarded to the Dean.

In addition, the following applies:

- No required professional education major, minor, or area of concentration courses may be taken on a pass-fail basis (except EDU 495).
- Candidates not admitted to the program, candidates who do not have the required prerequisites, or are suspended from the program who are registered for EDU courses above the 300 level may be administratively withdrawn from the course(s).
- Grades below C are not accepted in general education courses, pre-requisite courses, professional education courses, or in courses included in the major, minor, or areas of concentrations.
- Coursework #ve (5) years or older will be evaluated on a case-by-case basis for matriculation into the program.

Student Teacher Practicum

Candidates seeking to be recommended for an educator license through the Teacher Education Program at Montana State University-Northern must successfully complete a teaching practicum in their senior year. Candidates must apply and have acquired Final Admission to Level Two of the Teacher Education Program prior to enrolling in EDU 495 Student Teaching: K-8, EDU 495 Student Teaching: 5-12, or EDU 495 Student Teaching: K-12. In addition, candidates must have completed all professional education courses. The teaching practicum is a full time responsibility; therefore, the candidate will not be allowed to enroll in additional courses during this time. Student teaching candidates must apply by mid-term of the semester before they plan to student teach. Dates are posted for each semester's application deadline. A student teaching fee is assessed to all candidates enrolled in EDU 495 courses.

Praxis II Required for Licensure

Candidates seeking an initial educator license in the State of Montana must successfully complete the Praxis II requirement. All Praxis II scores must meet the requirement of the State of Montana.

Professional Education

Professional education courses are designed to prepare candidates to apply their academic training to their interactions with students, parents, colleagues, and administrators in the K-12 schools, and may be taken after receiving Level I Admission to Teacher Education. This portion of the degree requirement is designed to help candidates plan and prepare instructional experiences, develop insight into how children learn and grow, and provide actual experience with the manner in which K-12 schools are organized and operated.

The **Elementary Education Core** requirements consist of the following:

Code	Title	Credits
EDU 225	Intro to Education Psychology	3
EDU 270	Integrating Tech in Education	3
EDSP 304	Ed and Psyc Exceptl Child	3
EDU 201	Intro to Educ with Fld Exprnce	3
EDU 382	Assessment, Curr and Inst	3
EDU 397MA	Methods: K-8 Mathematics *	2
EDU 397SC	Methods: K-8 Science *	2
EDU 397SS	Methods: K-8 Social Studies *	2
EDUC 334	Method Tchng Intgrtd Lang Arts *	3
EDU 335	Fund & Corr Strtg Elem Rdg Prg *	3
EDU 311	C, D & E in Global Ed	3
EDU 397HE	Methods: K-8 Health Enhancemen	2
EDU 340	Classroom Management *	3

EDU 315	Integrat IEFA Across the Curr	2
EDU 337	Reading Materials Elem Child	2
EDU 452	Advanced Practicum *	3
HTH 110	Personal Health and Wellness	3
PSYX 230	Developmental Psychology	3
EDU 320	Lesson Planning	1
EDU 336A	Practicum I	1
EDU 336B	Practicum 2	1
EDU 495EL or EDU 495ES	Student Teaching K-8 * Student Teaching K-12	12
TOTAL		68

*
Upon Admission to Teacher Education, prescribed courses must be taken in sequence (blocks).

The **Secondary Education Core** requirements consist of the following:

Code	Title	Credits
EDU 225	Intro to Education Psychology	3
EDU 270	Integrating Tech in Education	3
EDSP 304	Ed and Psyc Exceptl Child	3
EDU 201	Intro to Educ with Fld Exprnce	3
EDU 382	Assessment, Curr and Inst	3
EDUC 321	Integrating Tech into Educ	1
EDU 320	Lesson Planning	1
EDU 336A	Practicum I	1
EDU 336B	Practicum 2	1
EDU 481	Content Area Literacy	2
EDU 495ES or EDU 495SE	Student Teaching K-12 Student Teaching 5-12	12
EDU 452	Advanced Practicum	3
HTH 110	Personal Health and Wellness	3
PSYX 230	Developmental Psychology	3
TOTAL		42

Programs in Technical Sciences

Bachelor of Science Degrees

Agricultural Operations Technology
 Automotive Technology
 Business Administration
 Civil Engineering Technology
 Diesel Technology
 Diesel Technology: Equipment Management Option
 Diesel Technology: Field Maintenance Option
 Industrial Technology (5-12)

Bachelor of Applied Science Degrees

Trades Management
 Business Technology

Associate of Science Degrees

With a program of study in Business

Certificate of Applied Sciences Degrees

Diesel Technology
Welding Technology

Associate of Applied Science Degrees

Agricultural Mechanics Technology
Agricultural Technology
Automotive Technology
Automotive Technology Fast Track
Civil Engineering Technology
Design Drafting Technology
Electrical Technology
Electronics Technician
Diesel Technology
Manufacturing
Plumbing Technology

Minors

Accounting
Agricultural Mechanics Technology
Applied Agriculture
Automotive Technology
Business Technology
Diesel Technology
Marketing
Small Business Management

Office: Brockmann Center Room 207C

The curricula offered by the College of Technical Sciences combines significant hands-on experience with foundations in liberal arts for a comprehensive learning experience.

Advising Information

Candidates are encouraged to meet with advisors at the beginning of each semester to confirm plans of study and make any necessary adjustments. Meeting with advisors before registering for classes each semester prepares you to plan a schedule that meets your needs and assists you in completing requirements in an efficient manner.

Programs in Graduate Study

Master of Education in Counselor Education

Master of Science in Education, Instruction and Learning

Office: Cowan Hall Room 309

The Graduate Studies "Policy and Procedure Manual" is subject to change. Please check with your advisor regarding the most current policy.

The graduate programs provide advanced academic preparation for individual graduate students, taking into consideration the student's experience, interests, and previous education. The programs provide studies that focus on recognition and definition of problems, theory and practice, assessment and evaluation, interpretation, and application.

Students who hold Class 2 licensure, have three years teaching experience, and have successfully completed the Master degree may be recommended for a Class 1 Teaching License. Students who complete the Master of Education, Counselor Education, but lack teacher licensure may be eligible for the Class 6 Specialist License upon program completion, passing Praxis II scores, and faculty recommendations. It is the responsibility of all students to submit a request for their institutional recommendation at the completion of their program of study to the Graduate Office.

Classification of Graduate Students

Students must be admitted (matriculated) to their specific program at or before 25 percent of program course requirements (9 credit hours for the (Instruction and Learning program) and 15 credit hours for the Counselor Education program) are completed. Until specific program admission is received, all students not matriculated for specific degrees are classified as graduate, non-degree students.

Admission Policy and Requirements

At Montana State University-Northern, any student who has earned a baccalaureate degree from a regionally accredited college or university has the opportunity to pursue graduate study. However, admission decisions for specific graduate programs are made for each applicant individually, and applicants may or may not be judged acceptable to the specific graduate program, regardless of the institution from which credentials are submitted.

In addition to the admission requirements given in this section, each applicant shall review the admission requirements for specific graduate programs available upon request from the Office of Graduate Studies. It is the responsibility of applicants to ensure that all appropriate application materials are submitted to the University and to the graduate program of their choice.

To be eligible to register for graduate course work, all applicants must be admitted to the University. The applicant must:

- Complete the MSUN *Application for Admission to Graduate Programs* form prior to registration for the first term of course work numbered at the 500 level;
- Applicants must specify on the application for admission either graduate Non-degree seeking or graduate Degree-seeking status;
- Submit official transcripts of all undergraduate and all previous graduate course work to the Admissions Office;
- Forward a non-refundable \$50.00 admission fee; and
- For students born after December 31, 1956, submit proof of MMR immunization that was administered after December 31, 1967. The immunization dates must also be after the student's first birthday. Montana State law requires documentation that proves two immunizations against measles were given at least 30 days apart, and proof of rubella immunization. Any immunizations administered after June 11, 1993 must be an MMR. A physician, health agency or school official must sign the record.

Graduate Non-Degree Status

Non-degree seeking graduate students are those who have previously earned baccalaureate degrees and:

- Do not wish to pursue a graduate program leading to an advanced degree at the University; and
- Do not meet graduate degree admission requirements for full or provisional admission OR have not completed matriculation requirements.

Application of credits toward a graduate degree is not applied to any degree until the applicant has been accepted to the specific program.

Graduate Degree Program Admission Status

Admission status to a specific graduate program is described below. The admission date for full or provisional determines the program's graduation requirements unless University regulations and policies affecting the graduate programs are changed.

Full Admission to Graduate Program (Matriculated)

- Applicant has met all University and specific program admission requirements.
- The program admission date determines the specified program and graduation requirements for that catalog unless University regulations affecting the program are changed.

Provisional Admission Status to a Graduate Program

Provisional admission may be granted to an applicant who:

- Has not satisfied the program's minimum requirements for full admission;
- Lacks certain basic undergraduate courses required in the major field, which must be satisfied before full admission.

The candidate must meet the identified provisions before Full admission to the specific program.

- Provisions, as stated in the admission's letter from the Office of Graduate Studies, must be removed within the specified period time or provisional status will be rescinded and the student will be moved to non-degree seeking, non-matriculated status.
- The admission date determines the specific program and graduation requirements as outlined in the catalog.

Denied Admissions to A Graduate Program

Applicants who are denied Full or Provisional admission may reapply to the program. Upon an admission's denial, the applicant will be classified as a non-degree seeking, non-matriculated graduate student.

Appeal Procedures

Exceptions and deviations from graduate admissions and other academic policies may be requested through petition forms and procedures available in the Office of Graduate Studies. Petitions and requested waivers are reviewed in a timely manner by the program faculty and the Graduate Council.

Students are notified by mail of the disposition of the appeal. In some cases, the appeal or petition may be forwarded to the University's Admissions and Standards Committee. Students have due process rights to appeal any decisions about admission or other academic policies to the Provost's Office.

Graduate Student Responsibilities

Montana State University-Northern bestows substantial freedom on graduate students to monitor their own program requirements. University regulations, programs, curricula, and fee schedules are subject to change without notice, and graduate students in degree programs are responsible for meeting requirements and procedural standards. Failure to be informed does not excuse a student from responsibility or from any sanction, penalty or difficulty which may be encountered.

Advising

Upon admission to a specific program, the Office of Graduate Studies will assign the student a major advisor who will assist in planning a degree program to meet the individual's program objectives. Students must confer with their major advisor prior to registering for classes.

The student's major advisor must recommend approval of all transfer course work or substitutions for courses requested by the graduate student. Official transcripts and course syllabi must accompany all requests for coursework not taken at the University.

Transfer Credits

25 percent of the required credit hours to complete the degree may be fulfilled by eligible graduate-level transfer courses. Courses accepted for transfer credit must have been earned at the graduate level from an accredited institution and carry a letter grade of "B" or better. Courses which carry grades such as "P" or "S" are unacceptable for transfer credit. All transfer courses must be approved by the program faculty at the time of matriculation and recency requirements. Courses older than 7 years may not be transferred if out of a graduate degree earned by the applicant.

Policies Governing Use of Special Topics or Independent Study Courses

A syllabus must be approved by the student's major advisor for each independent study course or special topics course to be applied to a graduate program.

Independent study courses are not intended to take the place of, or to cover the same material as courses regularly offered in the graduate program. They are to be employed for investigations into subject matter in greater depth than offered in regular courses or into material not offered in regular courses. A maximum of six (6) credits of special topics or independent study course work may be applied to the graduate degree.

In exceptional situations, when an independent study course or special topics course can be or is intended to substitute for a regular course in the catalog, the independent study or special topics course will be exempt from this policy and it will fulfill the program requirement for the identified course in the graduate program.

Credit Earned Before Matriculation (Undergraduate)

Up to 10 semester-hours of graduate level course credits earned by Montana State University-Northern students, or the credits completed in the first full-time semester prior to degree matriculation, may be applied toward a graduate degree.

Non-Matriculated

Students are considered "non-matriculated" when they have not been accepted into a specific graduate program by the first day of the semester in which they are registered.

Non-matriculated applicants who apply for and are denied admission to a specific program may continue in non-degree status. All coursework taken as a non-matriculated graduate student will not fulfill graduate program degree requirements if the candidate is denied admission to the specific program.

Twenty-five percent of graduate credits earned as a non-matriculated student may apply toward the specific graduate program's degree requirements upon full or provisional admission to the program.

Credit Load

A student may carry up to 12 credits of graduate coursework in any semester. A full-time course load for graduate students is nine credit hours. For the purposes of calculating a full-time load for a student taking a combination of graduate and undergraduate courses, full session courses, half session course, short-term workshops and interim sessions, a prorated calculation using twelve credits for full load will be utilized.

Standards of Scholarship

The University expects its graduate students to maintain high standards of scholarship. Graduate students must maintain a minimum 3.00 grade point average.

- A maximum of three (3) credits of C level work may be applied to the master's degree program. (See specific programs for course limitations.)
- A student who fails to maintain a 3.00 grade point average will be placed on probation at the end of the term the grade point average falls below 3.00. If by the end of the following term the graduate student has not raised his or her grade point average to 3.00 or above, the student will be dismissed from the graduate program and from further study at the University.
- Students receiving a grade of "C", "D", or "F" may repeat the course one time; the original grade shall remain on the transcript and be computed in the cumulative GPA. (See specific programs for limitations.)
- Candidates who receive an "incomplete" for a class must complete the course requirements by the end of the following semester or they will receive an "F".
- Practicum and internship courses require grades of B or better. Any grade below a B demands review of the candidate's performance before the respective course can be re-taken.

A student who fails to meet the program standards may be placed on probation, suspended from graduate study, or dismissed from the University. Decisions on such matters will be made by the Graduate Council in consultation with the appropriate advisor and program faculty. A student who is suspended from a graduate program or dismissed from the University may, through the petition procedure, request a review of the case by the Provost.

Admission to the University

Students must apply to the University:

1. Complete application to the University as a graduate student.
2. Provide proof of immunizations.
3. Submit official transcripts indicating an earned bachelor's degree for an accredited institution.

Admission to Graduate Studies

Admission as a degree or certificate/endorsement seeking graduate student is granted when the student has satisfied the requirements listed below.

1. **Graduate Record Examination (GRE) or Miller Analogy Test (MAT) (Only degree seeking students)**
 - a. Students seeking a master's degree must complete the General Test of the GRE or the MAT. Admission's criteria is weighted—points are assigned by "range" of scores. Check with the Graduate Office for specific cut-off scores.
2. **Scholarship**
 - a. At the time of application, the student must demonstrate adequate proficiency in oral and written communication and have a cumulative undergraduate grade point average (GPA) of 3.00 or above; all graduate coursework taken at Montana State University-Northern or other institutions must be earned at a B or better to be applied toward the master's degree.
3. **Removal of Deficiencies**
 - a. Any deficiencies in the student's undergraduate program (identified at the time of admission to graduate studies) must be removed before making application for Admission to Candidacy for a master's degree. Other program specific deficiencies must be removed before full Admissions to Candidacy in a program.
4. **Admission to Program of Study**
 - a. Upon admission as a degree-seeking (or endorsement seeking) student, a program advisor is assigned. The Graduate Office will provide the admission materials for the specific program. Contact the Graduate Studies Office for other admission requirements specific to the program, and program plans for each program.
 - b. As part of the application for matriculation, each student is responsible for adhering to the program of study for the specific degree and following the sequence of courses toward completion of the program each semester. The program of study for each program meets all graduation requirements and will be kept in the Graduate Studies Office. Subsequent deviations or substitutions to coursework or program requirements must be approved by the program faculty.
 - c. Students must be continuously enrolled in the degree program or apply for and receive approval to interrupt enrollment for each semester the student plans on not attending.
 - d. Students must be actively enrolled in the semester they expect to graduate or complete exit requirements.

Comprehensive Exit Examinations/Requirements

Students shall complete program specific exit requirements which are conducted during the last semester of enrollment or the semester immediately following course work completion. Exit requirements consist of extensive review of competencies in professional practice, knowledge and understanding and may include both written and oral components. Candidates shall notify their advisor and Graduate Studies Office of their intention to complete exit requirements and to review their application for graduation the semester prior to planned completion.

The student's major advisor generally serves as the chairperson of the Comprehensive Exit Examination/Requirements Committee. This committee administers the comprehensive examination for each degree candidate and shall assign pass or fail for the comprehensive evaluation based on its determination of the candidate's competence.

Application for Graduation

A candidate for the master's degree must file an application for graduation with the Registrar's Office at least one semester prior to the semester in which the work for the degree is anticipated to be completed. In addition, the student's advisor must indicate approval for graduation to Graduate Studies. For Counselor Education, students must apply for graduation prior to first internship semester.

Requirements for Graduation

- Application for graduation has been timely submitted to the Office of Graduate Studies.
- All courses required in the specific program must have been satisfactorily completed.
- The candidate for graduation must have a "B" (3.00) cumulative grade point average in the program; no more than three hours of "C" work will be accepted toward completion of the degree. See program of study for program specific requirements.
- The candidate for graduation must have satisfactorily completed the exit requirements.
- All credits applied to the master's degree must be earned within seven years prior to the awarding of the degree.
- A minimum residency of 75 percent of required credits in the degree program is required. A maximum of 25 percent of the credits may be transferred from other accredited institutions provide they meet all criteria and have received approval from the candidate for graduation's major advisor.

Conferring of Degrees

Although the completion of a degree is posted on the student's transcript at the end of the semester in which it was earned, diplomas are conferred only at the conclusion of Spring Semester with commencement exercises held on campus. While attendance at the exercises is not mandatory, students are urged to participate.

Time Limits for Graduation

All course work presented for graduation must be earned within seven years from date of Full or Provisional admission to a graduate program. This policy covers course work completed at the University or transferred from another institution prior to receiving admission to the program.

Master of Education, Counselor Education

The Counselor Education Program prepares graduate candidates to be effective counselors in a dynamic profession and society. The Program provides a strong academic program which provides candidates the needed knowledge base and counseling skills necessary to work with a diversity of clients. Through identification with the counseling profession, its Code of Ethics, and its organizations, the student will develop a strong counselor identity. Additionally, the profession believes that graduate candidates must be open to self-reflection and self-challenge to gain and use the personal dispositions necessary to work in a multicultural society.

The Counselor Education Program supports the mission of Montana State University Northern to provide quality undergraduate and graduate programs. These programs are designed to meet the needs of rural, underserved, and culturally diverse populations. The department supports alternative and blended delivery of the program (residential, off-campus, and online) to reach stakeholders and strengthen collaborative community partnerships for school, community, and other counseling related professions. The Counselor Education faculty maintain the highest degree of preparation and employ best pedagogic strategies and clinical practices.

Program Mission Statement

The Counselor Education Program prepares counselors who have developed sound practical skills through experiential learning; who have acquired a comprehensive theoretical knowledge base; who hold a strong counselor identity; and who possess the personal dispositions necessary to work in various professional settings with diverse clientele.

Program Outcomes

The Counselor Education Program believes it has responsibilities to current graduate candidates and to their future clients. Additionally, the department believes it has a responsibility to collaborate with the communities within which it works, to continue to grow as a program, and to model professional involvement and identity.

The Program Objectives

1. The program will prepare and graduate skilled, knowledgeable, self-aware and self-reflective counselors who are prepared academically to seek licensure.
2. The program will support faculty to collaborate with the community, its agencies and schools, to aid in learning opportunities for graduate students.
3. The program will continually evaluate the curriculum, practices, and requirements to promote the highest quality education.
4. The program will support faculty to model professional identity through involvement in professional organizations, attaining leadership positions.

Graduate Candidate Competencies

1. The graduate candidate implements sound practical therapeutic and relational skills that reflect current practice.
2. The graduate candidate possesses a comprehensive theoretical knowledge base that can be integrated and transferred to effective counseling relationships and techniques.
3. The graduate candidate expresses a strong counselor identity through involvement and participation in professional organizations, advocacy, trainings, workshops, seminars, or other continuing education opportunities.
4. The graduate candidate demonstrates a self-aware and self-reflective stance that allows for growth and the personal dispositions necessary to work in the counseling field.

Master of Science in Education, Instruction and Learning

The Masters of Science in Education degree, Instruction and Learning is offered in an on-line with residency cohort format. The program is designed to support the improvement of instruction and learning in a variety of professional learning environments (schools, private industry, government agencies, non-profits, etc.). All courses are on-line with four weekend residencies built into the schedule and a start to finish time of two years (six semesters including summers). Individuals and groups interested in starting a cohort group designed for their needs should contact the Graduate Studies Office at 1.800.662.6132, extension 3738. Further information regarding the delivery of the program will be made available upon inquiry. New cohorts commence the fall semester of each year, with full probationary admission facilitated.

The Instruction and Learning Program supports the mission of Montana State University Northern to provide quality undergraduate and graduate programs. The Instruction and Learning Program prepares graduate candidates to be effective reflective practitioners in an educational environment. The Program provides a strong academic program which provides candidates the needed knowledge, skills and dispositions necessary to work with a diversity of learners. Additionally, the profession believes that graduate candidates must be open to self-reflection and self-challenge to gain and use the personal dispositions necessary to work in a multicultural society. These programs are designed to meet the needs of rural, underserved, and culturally diverse populations. The department supports alternative and blended delivery of the program (online with residency) to reach stakeholders and strengthen instruction and learning in a wide range of professional learning environments (k-12, business and industry, governmental and non-governmental agencies) The Instruction and Learning faculty maintain a high degree of professionalism and are continually engaging in professional experiences to improve the learning of our graduate students.

Program Mission Statement

The Instruction and Learning Program mission is firmly grounded in a vision of and commitment to learning environments in which all learners have access to educational opportunities, choices, and experiences that enable them to achieve at the peak of their potential. The professional education programs are designed for delivery through innovative and efficacious systems that provide professional development and excellent educational experiences to diverse populations in a geographically and economically challenged region. To this end, we provide a variety of rich, intentional, and meaningful experiences designed to support candidates' development of appropriate dispositions, knowledge, skills, traits and habits for their fields. Through this educational experience, graduate candidates prepare to impact students' lives and learning and to take leadership roles in classrooms, schools, and beyond.

Program Responsibilities

The Instruction and Learning Program believes it has responsibilities to current graduate candidates and to their future clients. Additionally, the faculty believes it has a responsibility to collaborate with the communities within which it works, to continue to grow as a program, and to model professional involvement and identity.

The Program Outcomes

1. The program will prepare and graduate candidates capable of identifying and analyzing contemporary issues in education and examine their effect on instructional practice in culturally responsive learning environment.
2. The program will prepare and graduate candidates capable of conducting classroom action research using quantitative and qualitative methods in your classroom, school district and community to improve instruction and learning.
3. The program can document the effects of instruction of students using assessment and evaluation methodologies that accurately reflect student performance.
4. The program will prepare and graduate candidates that demonstrate critical thinking, creative thinking, reflective thinking and self-regulation in a professional decision-making capacity using learning theories in instructional practice.
5. The program will prepare and graduate candidates that demonstrate and promote the integration of technology to enhance curricular and instructional design, implementation and evaluation.

Graduate Candidate Competencies

1. The graduate candidate applies and implements sound practical changes in their professional practice based upon theoretical and applied research which demonstrates improved instruction and learning.
2. The graduate candidate possesses a comprehensive theoretical knowledge base that can be integrated and transferred to effective instructional environments and student relationships.

3. The graduate candidate expresses a strong continuous learner identity through involvement and participation in professional organizations, advocacy, trainings, workshops, seminars, or other continuing education opportunities which improves instruction and learning for all.
4. The graduate candidate demonstrates a self-aware and self-reflective stance that allows for growth and the personal dispositions necessary to work in the professional education environment.

Programs

Use the Navigation bar to the left to select a program you are interested in. Northern has a wide variety of degrees to choose from.

Agriculture

Our agriculture programs are unique to the state of Montana. Our coursework encompasses areas such as plant and animal science, range, animal and crop production, and commodity marketing, while integrating technology in areas such as computers, Global Position Systems and Geographic Information Systems. Students also have the option of including mechanics or business classes to better suit their career goals. These areas prepare student to work with the complex agriculture machinery, equipment and processes that use advanced technologies.

Mission Statement for Agricultural Operations Technology, BS

Provide primary and advanced postsecondary agricultural courses and personal growth opportunities to those preparing for a 4-year agriculture degree and employment opportunities as progressive agricultural producers, agribusiness and natural resource managers and agricultural industry professionals.

Learning Outcomes for Agricultural Operations Technology, BS

Successful graduates of this program will have:

- Students will apply key principles of management to the production of livestock.
- Students will utilize soil, water, nutrient, and chemical resources as relevant to the crop production industry.
- Students will utilize computer software and GPS/GIS systems for data analysis related to agricultural operations.
- Students will apply key business and marketing principles to the operation of agribusiness enterprises.
- Students will engage in analysis and discussion of a broad range of current issues related to agriculture and society.

Mission Statement for Agriculture Technology, AAS

Provide primary postsecondary agricultural courses and a 2-year agriculture degree featuring agricultural production, agricultural technologies and agribusiness to students preparing for careers related to farming and ranching, agricultural technology, agribusiness and for those wishing to continue their postsecondary agricultural education

Learning Outcomes for Agricultural Technology, AAS

Successful graduates of this program will have:

- Students will apply primary principles of management to the production of beef and sheep.
- Students will utilize soil, nutrient, and chemical resources as relevant to basic crop production.
- Students will engage in analysis and discussion of a broad range of current issues related to agriculture and society.

Mission Statement for Applied Agriculture, minor

Provide primary and advanced agriculture coursework for students seeking a minor that will complement and enhance an allied 4-year degree program and broaden their career opportunities in agriculture.

Learning Outcomes for Applied Agriculture, minor

Successful graduates of this program will have:

- Students will engage in analysis and discussion of a broad range of current issues related to agriculture and society.
- Students will demonstrate a broad understanding of the basic principles of animal and plant science as they relate to agriculture context.
- Students will utilize computer software for basic data analysis as it applied to agribusiness management.

Learning Outcomes for Agricultural Mechanics Technology, AAS

Upon completion of this program, students will be able to:

- Apply basic diagnostic and repair procedures for machine systems and components.
- Apply basic diagnostic and repair procedures for hydraulic systems.
- Compare and contrast design and efficiency factors among major agricultural equipment manufacturers.
- Use computer-based resources to diagnose and repair on and off-highway equipment.
- Use diagnostic devices to communicate with equipment and machine controllers.
- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Use written communication to analyze and communicate information in a clear, concise, and professional manner.
- Effectively teach end users how to utilize machine settings and maximize machine efficiency.

Learning Outcomes for Applied Agriculture, minor

Successful graduates of this program will have:

- Demonstrated an understanding of core agricultural topics and verified knowledge and proficiencies in upper level agricultural selective courses required by the minor

Bachelor of Science Agricultural Operations Technology – Minor Required

Learning outcomes: AOT Program graduates will demonstrate knowledge in agricultural production, technology and management.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
ANSC 100	Introduction to Animal Science	3
AGSC 102	Agricultural Plant Science	3
AGBE 105	Ag Marketing	3
AGBE 125	Intro to Farm Management	3
AG 150	Intro to Ag Computing	3
ENSC 245	Soils (Meets CAT III Requirement)	4
AGSC 218	Crop Production	4
AGSC 230	Agricultural Pest Management	4
ANSC 202	Livestock Feeding & Nutrition	4
ANSC 262	Range Livstck Prod	3
NRSM 260	Rangeland Management	4
AGBE 353	Co-op Business Prin & Practice	2
AOT 301	Global Positioning Systems (Meets CAT VII Requirement)	3
AGBE 305	Ag Commodity Marketing	3
AGSC 310	Soil & Water Management	2
AOT 315	Geographic Information Systems	3
AGTE 410	Agriculture Technology Mgt	4
AGBE 499	Capstone	3
AGSC 498	Cooperative Education	3
IT 100	Introduction to Technology (Meets CAT VII Requirement)	3
Minor Lower Division		12
Minor Upper Division		15
Total minimum credits required for degree/minor		120

Associate of Applied Science

Agricultural Mechanics Technology

Learning outcomes: The successful completion of assigned e-training on NAPAAutoTech.com (<http://NAPAAutoTech.com>) and DATO HVAC.

Code	Title	Credits
Required General Education Courses		
WRIT 122	Business Writing	3
M 121	College Algebra	3
or M 105	Contemporary Mathematics	
COMX 111	Intro to Public Speaking	3
or COMX 115	Intro to Interpersonal Communc	
Required Courses		
AGTE 230	Intro to Ag Machines & Equip	2
AGTE 120	Forage Implements	3
AGTE 130	Intro to Agricultural Tractors	3
AGTE 225	Intro to Grain Harvstng Equip	3
AGTE 210	Tlg, Plntg, Spray Implements	3
ATDI 134	Electrical/Electronic Sys I	6
ATDI 264	Electrical/Electronic Sys II	6
ATDI 265	Heating and Air Conditioning	4
DST 104	Intro to Diesel Engines	3
DST 114	Intro to Diesel Engines Lab	3
DST 115	Intro to Diesel Fuel Systems	5
DST 204	Intro to Hydraulics Pneumatics	2
DST 214	Intro to Hydr Pneumatics Lab	2
DST 216	Heavy Duty Power Trains	4
DST 264	Diesel Engine Diagnosis Repair	3
DST 274	Diag Diesel Engine Repair Lab	3
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
WLDG 260	Repair & Maintenance Welding	3
Total Credits		71

Agricultural Technology

Learning outcomes: Ag Tech (AAS) graduated will verify basic knowledge in agriculture sciences, agriculture business and agriculture technology

Code	Title	Credits
Required General Education Courses		
WRIT 101	College Writing I	3
M 121	College Algebra	3
or M 105	Contemporary Mathematics	
or M 112	Trigonometry & Complex Numbers	
or M 151	Precalculus	
or M 162	Applied Calculus	
or M 171	Calculus I	
COMX 111	Intro to Public Speaking	3
or COMX 115	Intro to Interpersonal Communc	
Required Courses		
ANSC 100	Introduction to Animal Science	3
AGSC 102	Agricultural Plant Science	3
AGBE 105	Ag Marketing	3
AGBE 125	Intro to Farm Management	3

AG 150	Intro to Ag Computing	3
ENSC 245	Soils (Meets CAT III Requirements)	4
AGSC 218	Crop Production	4
AGSC 230	Agricultural Pest Management	4
ANSC 202	Livestock Feeding & Nutrition	4
ANSC 262	Range Livstck Prod	3
NRSM 260	Rangeland Management	4
IT 100	Introduction to Technology (Meets CAT VII Requirement)	3
Advisor Approved Electives		12
Total minimum required credits for degree		62

Minors

Agricultural Mechanics Technology

Code	Title	Credits
Required Courses		
AGTE 230	Intro to Ag Machines & Equip	2
AOT 301	Global Positioning Systems	3
AGTE 410	Agriculture Technology Mgt	4
TSCI 304	Fuels and Lubricants	3
Selective Credits		
Select two (2) of the following courses		8
ATDI 134	Electrical/Electronic Sys I	
DST 204 & DST 214	Intro to Hydraulics Pneumatics and Intro to Hydr Pneumatics Lab	
WLDG 110 & WLDG 111	Welding Theory I and Welding Theory I Practical	
Selective Credits		
Select three (3) of the following courses		9
AGTE 120	Forage Implements	
AGTE 130	Intro to Agricultural Tractors	
AGTE 225	Intro to Grain Harvstng Equip	
AGTE 210	Tlg, Plntg, Spray Implements	
Total minimum credits required for minor		29

Applied Agriculture

Code	Title	Credits
Required Courses		
ANSC 100	Introduction to Animal Science	3
AGSC 102	Agricultural Plant Science	3
AG 150	Intro to Ag Computing	3
AGBE 499	Capstone	3
Select a minimum of eight (8) credits from the following		8
ENSC 245	Soils (Meet CAT III Requirements)	
AGSC 218 & AGSC 219	Crop Production and Crop Production Lab	
ANSC 202 & ANSC 203	Livestock Feeding & Nutrition and Livestock Feedng & Nutritn Lab	
NRSM 260 & NRSM 261	Rangeland Management and Rangeland Management Lab	
Select a minimum of six (6) upper division level credits from the following		6
AGSC 498	Cooperative Education	
AGBE 353	Co-op Business Prin & Practice	

AOT 301	Global Positioning Systems (Meets CAT VII Requirements)
AGBE 305	Ag Commodity Marketing
AGSC 310	Soil & Water Management
AOT 315	Geographic Information Systems
AGTE 410	Agriculture Technology Mgt

Total minimum credits required for minor

26

Associate of Arts

This is a degree designed for students who expect to complete a bachelor's degree at MSU-Northern but are undecided on a major, who wish to complete their general education requirements at MSU-Northern before transferring to another institution to complete the remaining requirements for a bachelor's degree; who wish to pursue an additional degree (such as dental hygiene) where having an associate degree will aid in admission. Completion of the associate of arts degree at Northern satisfies all bachelor degree general education requirements throughout the Montana University system.

The associate of arts degree requires that students complete MSU-Northern's General Education Core. *Students enrolled in the associate of arts degree who plan to transfer to a bachelor's degree program should contact the office of the Dean of the College of Arts, Science, and Education early in their first semester for assistance in choosing electives from the Transferable Core and electives to support their future plans for study.

Code	Title	Credits
	General Education Core (p. 20)	33
	Advisor Approved Electives	27
Total minimum credits required for degree		60

*

Students should not confuse the MSU-Northern General Education Core with the Montana University System Transferable Core (p. 14). Please see the Dean or your advisor for more information.

Mission Statement

The MSU-Northern Associate of Arts degree in General Education provides the academic knowledge and skills for transfer to meet higher education goals or career pursuits.

Learning Outcomes for General Education, AA

Upon completion of this program, students will be able to:

- Demonstrate effective oral communication.
- Demonstrate effective written communication.
- Interpret everyday life problems through mathematical or logical representations.
- Demonstrate an understanding of the scientific method and its applications.
- Effectively use technology.
- Describe the structure and functions of social institutions (e.g., family, political, economic, religious) in society.
- Describe how an individual's behavior is related to physical, environmental and/or cognitive factors.
- Describe events from multiple perspectives, evaluate historical context and evidence, to make judgments based on evidence.
- Analyze creative work, and study and experience how thought, emotion, and meaning are expressed through the creative arts.
- Demonstrate knowledge of and appreciation for artistic creativity.

Automotive Technology

Our programs in Automotive Technology are certified by NATEF (National Automotive Technicians Education Foundation) and offer comprehensive coursework in the fundamentals of all mechanical, fuel, and electronic systems found on modern vehicles including gasoline, diesels, and hybrids.

Emphasis is placed on hands-on learning in the laboratory and through cooperative education experiences, giving the opportunity to earn money, university credit, and on-the-job training as part of your education.

Mission Statement for Automotive Technology, BS

The mission of the BS Automotive Degree is to prepare students for successful entry into the automotive industry that require and reward higher level thinking and skill sets. As such, the mission is to equip graduating students to begin a successful career within the automotive industry in corporate, management, ownership and/or technical positions.

Learning Outcomes for Automotive Technology, BS

- Demonstrate the effectiveness of incorporating computer based technical training.
- Demonstrate technical proficiency by completion of for MLR (Maintenance and Light Repair) training.
- Demonstrate technical presentation and writing skill. Students will demonstrate their technical presentation and writing skills through multiple presentations. These technical presentations will utilize multiple teaching methodologies.
- Demonstrate the application of technical skills by enrolling and arranging a cooperative education experience with the career center and an automotive industry employer.

Mission Statement for Automotive Technology, AAS

To prepare students for successful entry into the automotive industry that require and reward higher level thinking and skill sets. As such, the mission is to equip graduating students to begin a successful career within the automotive industry and technical positions.

Learning Outcomes for Automotive Technology, AAS

- Demonstrate the effectiveness of incorporating computer based technical training.
- Demonstrate technical proficiency by completion of Form MLR (Maintenance Light Repair) training.
- Demonstrate the application of technical skills by enrolling and arranging a cooperative education experience with the career center and automotive industry employer.

Learning Outcomes for Automotive Technology, Minor

- Demonstrate the effectiveness of incorporating computer based technical training.
- Demonstrate technical presentation and writing skill. Students will demonstrate their technical presentation and writing skills through multiple presentations. These technical presentations will utilize multiple teaching methodologies.

Bachelor of Science Automotive Technology

Learning outcomes: The successful completion of assigned e-training on NAPAAutoTech.com (<http://NAPAAutoTech.com>) and DATO HVAC.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
ATDI 134	Electrical/Electronic Sys I	6
ATDI 257	Automatics	4
ATDI 262	Automatics Remove and Repair	1
ATDI 264	Electrical/Electronic Sys II	6
ATDI 265	Heating and Air Conditioning	4
ATDI 383	Alt Auto Power Systems	4
ATDI 384	AT/DI Elctrcl/Elctrn Sys III	4
ATDI 400	Shop Procedures	3
AST 106	Auto Manual Drive Train/Axles	5
AST 114	Automotive Brakes	5
AST 220	Auto Steering and Suspension	5
AST 160	Automotive Engine Repair	5
AST 164	Auto Diagnosis & Tune Up	6
AST 266	Engine Performance	6
AST 408	Current Trends Mobility Tech	2
AST 450	Advanced Engine Performance	4
AST 457	Advanced Power Trains	4

AST 495	Automotive Practicum	3
AST 498	Cooperative Education	3
Electives or Minor		7
Total minimum credits required for degree		120

NOTE: Students must take a total of 11 credits of upper division coursework from the electives or general education core.

Associate of Applied Science Automotive Technology

Learning outcomes: The successful completion of assigned ASE testing available on NAPAAutoTech.com (<http://NAPAAutoTech.com>)

Code	Title	Credits
Required General Education Courses		
WRIT 122 or WRIT 101	Business Writing College Writing I	3
M 105 or M 121 or STAT 216	Contemporary Mathematics College Algebra Introduction to Statistics	3
COMX 111 or COMX 115	Intro to Public Speaking Intro to Interpersonal Communc	3
Required Courses		
ATDI 134	Electrical/Electronic Sys I	6
ATDI 257	Automatics	4
ATDI 262	Automatics Remove and Repair	1
ATDI 264	Electrical/Electronic Sys II	6
ATDI 265	Heating and Air Conditioning	4
AST 106	Auto Manual Drive Train/Axles	5
AST 107	Auto Man Drive Train/Axles Lab	0
AST 114	Automotive Brakes	5
AST 115	Automotive Brakes Lab	0
AST 220	Auto Steering and Suspension	5
AST 221	Auto Steering & Suspension Lab	0
AST 160	Automotive Engine Repair	5
AST 161	Automotive Engine Repair Lab	0
AST 164	Auto Diagnosis & Tune Up	6
AST 165	Auto Diagnostics & Tune Up Lab	0
AST 266	Engine Performance	6
AST 298	Automotive Internship	3
Advisor Approved Elective		3
Total minimum credits required for degree		68

TOYOTA T-TEN PROGRAM Students enrolled in the T-Ten Program will complete the requirements listed above for the associate of applied science degree. In addition, sixteen weeks or 640 hours of cooperative education experience in a Toyota dealership is required. Further information is available upon request—please see your advisor.

Fast Track Automotive Technology

Code	Title	Credits
Required Courses		
ATDI 134	Electrical/Electronic Sys I	6
ATDI 257	Automatics	4
ATDI 262	Automatics Remove and Repair	1
ATDI 264	Electrical/Electronic Sys II	6
ATDI 265	Heating and Air Conditioning	4

AST 106	Auto Manual Drive Train/Axles	5
AST 107	Auto Man Drive Train/Axles Lab	0
AST 114	Automotive Brakes	5
AST 115	Automotive Brakes Lab	0
AST 220	Auto Steering and Suspension	5
AST 221	Auto Steering & Suspension Lab	0
AST 160	Automotive Engine Repair	5
AST 161	Automotive Engine Repair Lab	0
AST 164	Auto Diagnosis & Tune Up	6
AST 165	Auto Diagnostics & Tune Up Lab	0
AST 266	Engine Performance	6
AST 298	Automotive Internship	9
Total minimum credits required for degree		62

Minor

Automotive Technology

Code	Title	Credits
Required Courses		
ATDI 134	Electrical/Electronic Sys I	6
ATDI 264	Electrical/Electronic Sys II	6
ATDI 383	Alt Auto Power Systems	4
ATDI 384	AT/DI Elctrcl/Elctrn Sys III	4
ATDI 400	Shop Procedures	3
AST 164	Auto Diagnosis & Tune Up	6
Total minimum credits required for minor		29

Biology

Our Biology program offers students a strong foundation in basic biological principles coupled with a varied emphasis in chemistry and molecular biology. This background is designed to provide you with a comprehensive undergraduate experience that will prepare you to enter graduate school or professional areas of the health sciences, wildlife biology, and more.

Mission Statement

It is the mission of the Biology Program to 1) engage students that seek a wide variety of professional careers founded in the biological sciences, 2) expand an understanding of biology for students outside the field, and 3) provide learning and research experiences that increase every student's ability to know the natural world.

Learning Outcomes for Biology, BS and for Biology, Minor

Upon completion of this program, students can:

- Demonstrate basic competence in the principles and theories used in the natural sciences, including:

- Identify major historical figures and/or precedents.
- Define key concepts and principles.
- Describe theories and/or methods accurately.

- Define, describe, and apply the scientific method, including:

- Identify steps of the scientific method and its correct application.
- Formulate a testable hypothesis.
- Outline an experiment, analyze and interpret results.

- Convey ideas using language and presentation skills specific to the natural sciences, including:

- a. Write well-constructed essay and/or formal lab report.
 - b. Design and articulate an oral group or individual presentation.
 - c. Develop skills in providing constructive feedback.
 - d. Independently write a scientific paper.
- Use critical thinking to synthesize information, evaluate assumptions and claims, and draw evidence-based conclusions.
- a. Organize information gathered from several sources, including peer-reviewed.
 - b. Synthesize and communicate material correctly.
 - c. Critically extend or defend evidence-based conclusions

Bachelor of Science Biology (No Minor Required)

Learning outcomes: Students will describe the structure and function of cellular components. Students will describe, discuss and give examples of macro and micro evolution. Students will recognize and explain interrelationships and dependencies between abiotic and biotic components of ecosystems. Students will apply the scientific method when testing hypotheses, designing and conducting experiments. The student will design and conduct an undergraduate research project under the guidance of the course faculty. Students will prepare a library research paper, using only peer-reviewed journal articles, which compares and contrasts two or more taxa. The student will prepare and present an electronic oral presentation of their undergraduate research project. The student will demonstrate appropriate gel electrophoresis and sample loading techniques. The student will demonstrate appropriate field population sampling. The student will demonstrate appropriate aseptic technique using bacteria.

Code	Title	Credits
General Education Core (p. 20)		33
Common Science Core		
BIOB 160	Principles of Living Systems	4
BIOB 161	Principles Living Systems Lab	1
BIOO 220	General Botany	3
BIOO 221	Gen Botany Lab	2
BIOO 380	Zoology	3
BIOO 381	Zoology Lab	2
CHMY 141	College Chemistry I	5
CHMY 142	College Chemistry Lab I	0
CHMY 143	College Chemistry II	5
CHMY 144	College Chemistry Lab II	0
PHSX 205	College Physics I	3
PHSX 206	College Physics I Laboratory	1
PHSX 207	College Physics II	3
PHSX 208	College Physics II Laboratory	1
Required Program Courses		
BIOE 370	General Ecology	4
BIOE 371	General Ecology Lab	0
BIOB 485	Molecular Biology and Genetics	4
BIOB 486	Molecular Biology Genetics Lab	0
CHMY 321	Organic Chemistry I	3
CHMY 322	Organic Chemistry Lab I	2
STAT 216	Introduction to Statistics (Meets CAT II Requirement)	3
BIOB 420	Evolution	4
NSCI 450	Undergraduate Research I	3
COMX 111	Intro to Public Speaking (Meets CAT I Requirement)	3
Select twelve (12) credits from the following:		12
BIOB 450	Molecular Biology Techniques	
BIOB 451	Molecular Biology Technqus Lab	
BIOE 410	Field Biology Methods	

BIOE 411	Field Biology Methods Lab	
BIOE 428	Freshwater Ecology	
BIOE 429	Freshwater Ecology Lab	
BIOH 201	Human Anat Phys I	
BIOH 211	Human Anat Phys II	
BIOM 250 & BIOM 251	Microbiology for Hlth Sciences and Microbiology Hlth Sciences Lab	
BIOM 251	Microbiology Hlth Sciences Lab	
BIOM 400	Medical Microbiology	
BIOM 401	Medical Microbiology Lab	
BIOO 320	General Botany	
BIOO 321	General Botany Laboratory	
BIOO 462	Entomology	
BIOO 463	Entomology Lab	
BIOO 470	Ornithology	
BIOO 471	Ornithology Lab	
GEO 314	Intro to Paleontology	
NSCI 451	Undergraduate Research II	
Advisor Approved Electives or Minor		18
Total minimum credits required for degree		120

Minor Biology

Code	Title	Credits
Required Courses (BIOB, BIOE, BIOM, BIOO, and NSCI are CAT III)		
BIOB 160	Principles of Living Systems	4
BIOB 161	Principles Living Systems Lab	1
BIOE 428	Freshwater Ecology	4
BIOE 429	Freshwater Ecology Lab	0
BIOM 250	Microbiology for Hlth Sciences	3
BIOM 251	Microbiology Hlth Sciences Lab	1
BIOO 220	General Botany	3
BIOO 221	Gen Botany Lab	2
BIOO 320	General Botany	4
BIOO 321	General Botany Laboratory	0
BIOO 380	Zoology	3
BIOO 381	Zoology Lab	2
NSCI 301		3
Total minimum credits required for minor		30

Business

Our Business Administration program provides you with a solid foundation in professional business management theories and practices with the flexibility to pursue your individual interest. The major provides broad coverage of the technical, interpersonal, conceptual, and analytical skills necessary to specialize in a particular area of interest such as entrepreneurship/small business, marketing, accounting or general business. A degree in Business Administration can lead to many different careers.

Mission Statement for the Department of Business

The mission statement of the Department of Business of Montana State University Northern is to take students from around the world and help them become technically competent, ethically grounded, socially responsible, innovative change-leaders in the business environment.

Learning Outcomes for Business Administration, BS , Trades Management and Business Technology, BAS.

- Use accounting information to analyze and make business decisions.
- Use finance skills to analyze and make business decisions.
- Use strategy skills to analyze and make business decisions.
- Use marketing skills to analyze and make business decisions.
- Use operations' skills to analyze and make business decisions.
- Use human resource skills to analyze and make business decisions.

Learning Outcomes for Program of Study in Business, AS

Upon completion of this program, students will be able to:

- Produce written documents that will (a) be grammatically correct and (b) incorporate logical, complete, and articulate thoughts.
- Demonstrate presentation and oral communication skills with utilization of technology.
- Recognize basic concepts and theories related to business ethics and social responsibilities.
- Demonstrate basic knowledge of the functional areas of business.
- Make effective group decisions integrating multiple functional areas of business.
- Use the library resources, research databases, and/or the Internet to obtain information.
- Analyze and interpret quantitative data. Examples include those found in financial statements and data used to make business decisions.
- Evaluate information. Examples include external information, current issues.
- Use the problem solving model to evaluate information and to choose a solution to a problem.

Mission Statement for Accounting, minor

The mission of the minor in Accounting is to give students an understanding of basic accounting principles and technologies and the analytical and technical skills to employ them for best business practices.

Learning Outcomes for Accounting, minor

- Identify, illustrate, and describe enterprise and transaction cycles and business processes.
- Identify and apply appropriate accounting standards relating to financial reporting.
- Employ analytical skills to solve accounting-specific problems.
- Use industry relevant software for a variety of accounting applications.
- Identify and discuss ethical considerations in an accounting context.
- Use written communication to analyze and convey information in a clear and professional manner.

Mission Statement for Marketing Program Minor

The marketing program and Montana State University Northern will prepare you for an exciting career in print, online and social media outlets. This minor gives you a broad background in personal selling, customer service and advertising/promotion.

Learning Outcomes for Marketing: Technical Sales and Service, minor

- Written Communication: Students produce written documents that will (a) be grammatically correct and (b) incorporate logical, complete and articulate thoughts.
- Oral Communication: Students demonstrate presentation and oral communication skills with utilization of technology.
- Decision Making: Strategies: Use marketing planning and strategy skills to make business decisions.
- Critical Thinking: Identify key problem(s) and/or opportunities in a domestic and/or global business situation and use critical thinking skills to make business decisions.

Bachelor of Science Business Administration – Minor Required

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
ACTG 201	Principles of Fin Acct	3
ACTG 202	Principles of Mang Acct	3
BGEN 112	Creative Problem Solving	3
BGEN 110	Applied Business Leadership	3
BGEN 253	Business Statistics & Research	3
or STAT 216	Introduction to Statistics	
BGEN 235	Business Law	3
BMGT 335	Management & Organization	3
BMGT 329	Human Resource Management	3
BMKT 325	Principles of Marketing	3
BMKT 441	Advanced Marketing Application	3
BFIN 322	Business Finance	3
BGEN 360	International Business (Meets CAT V requirement)	3
BMGT 322	Operations Management	3
BGEN 468	Contemp Issues in Bus Ethics	3
BMIS 311	Management Information Systems	3
BGEN 494	Seminar	3
ECNS 201	Principles of Microeconomics (Meets CAT IV Requirement)	3
or ECNS 202	Principles of Macroeconomics	
Electives		12
Minor		30
Total minimum credits required for degree/minor		120

Bachelor of Applied Science in Trades Management

*** A student entering this program will have completed an Associate of Applied Science (AAS) degree in plumbing, electrical, construction trades, carpentry, construction technology, culinary arts, electronics technology, energy technology, industrial machine technology, machine tool technology, metals technology, sheet metal technology, surveying, sustainable energy technology, or welding technology from any member of the Montana University System or from those Montana tribal colleges, with which MSU-Northern have articulated with. A maximum of 60 of those credits (including 9 required general education credits) will apply to this degree***

General Education Core 33

Code	Title	Credits
ACTG 410	Cost/Mgmt Acct I	3
BMGT 329	Human Resource Management	3
BMGT 335	Management & Organization	3
BMKT 325	Principles of Marketing	3
BMGT 422	Project Management	3
BFIN 322	Business Finance	3
BUS 348	Business Communications	3
BGEN 468	Contemp Issues in Bus Ethics	3
BMIS 311	Management Information Systems	3
BMGT 322	Operations Management	3
CET 498	Cooperative Education	3

Bachelor of Applied Science in Business Technology

*** Students entering this program will have completed an Associate of Applied Science (AAS) in Business, Business Administration, Business Management or Business Technology from the MUS system, or from those Montana tribal colleges, with which MSU-Northern have articulated with. A maximum of 60 credits (includes 9 credits of required general education course work) of those credits will apply to this degree.***

Core Category	Credits	Course Prefix and Number
Gen Ed Core	33	
Code	Title	Credits
BFIN 322	Business Finance	3
BGEN 468	Contemp Issues in Bus Ethics	3
BMGT 335	Management & Organization	3
BMIS 311	Management Information Systems	3
BMKT 325	Principles of Marketing	3
CAPP 158	MS Access	3
BMGT 322	Operations Management	3
BMGT 329	Human Resource Management	3
BUS 348	Business Communications	3
CAPP 266	Advanced MS Excel Applications	3
BMGT 498	Cooperative Education	3
BMGT 245	Customer Service Management	3

Associate of Science Program of Study in Business

Learning Outcome: Students recognize basic concepts and theories related to business ethics and social responsibilities.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
ACTG 201	Principles of Fin Acct	3
ACTG 202	Principles of Mang Acct	3
BGEN 105	Introduction to Business	3
BGEN 112	Creative Problem Solving	3
BGEN 110	Applied Business Leadership	3
BGEN 253	Business Statistics & Research	3
or STAT 216	Introduction to Statistics	
BGEN 235	Business Law	3
CAPP 151	MS Office (Meets CAT VII Requirement)	3
ECNS 201	Principles of Microeconomics (Meets CAT IV Requirement)	3
or ECNS 202	Principles of Macroeconomics	
CAPP 158	MS Access	3
CAPP 266	Advanced MS Excel Applications	3
Total minimum credits required for degree		60

*Check course descriptions for course rotation

Minors

The Business Technology minor is not available to students earning a BS in Business Administration.

Accounting

Code	Title	Credits
Required Courses		
ACTG 201	Principles of Fin Acct	3
ACTG 202	Principles of Mang Acct	3
ACTG 205	Computerized Accounting	3
ACTG 301	Intermediate Accounting I	3
ACTG 302	Intermediate Accounting II	3
ACTG 401	Principles of Fed Tax - Ind	3
ACTG 410	Cost/Mgmt Acct I	3
ACTG 411	Auditing 1	3

BGEN 235	Business Law	3
BFIN 322	Business Finance	3
Total minimum credits required for minor		30

*

Offered alternate even years

**

Offered alternate odd years

Suggested Selective General Education Courses:

Code	Title	Credits
Category IV Social Sciences: ECNS 201	Principles of Microeconomics (CAT IV)	3
Category IV Social Sciences: ECNS 202	Principles of Macroeconomics (CAT IV)	3

The Business Technology minor is not available to students earning a BS in Business Administration.

Business Technology

Code	Title	Credits
Required Courses		
ACTG 201	Principles of Fin Acct	3
ACTG 202	Principles of Mang Acct	3
BGEN 105	Introduction to Business	3
BGEN 112	Creative Problem Solving	3
BGEN 110	Applied Business Leadership	3
BGEN 235	Business Law	3
BMGT 335	Management & Organization	3
BMKT 325	Principles of Marketing	3
BUS 348	Business Communications	3
Total minimum credits required for degree		27

Marketing

Code	Title	Credits
Required Courses		
BGEN 112	Creative Problem Solving	3
BMKT 325	Principles of Marketing	3
BMKT 337	Consumer Behavior	3
BUS 348	Business Communications	3
BMKT 345	Marketing Trends	3
BMKT 436	Sales and Sales Management	3
BMKT 441	Advanced Marketing Application	3
BMKT 338	Advertising and Promotion	3
BMGT 245	Customer Service Management	3
GDSN 231	Graphic Design Applications	3
Total minimum credits required for minor		30

Small Business Management

Code	Title	Credits
Required Courses		
ACTG 201	Principles of Fin Acct	3
ACTG 202	Principles of Mang Acct	3
BGEN 235	Business Law	3
BMGT 335	Management & Organization	3
BMGT 329	Human Resource Management	3

BMKT 325	Principles of Marketing	3
BMKT 338	Advertising and Promotion	3
BMGT 461	Small Business Management	3
BMGT 448	Entrepreneurship	3
BMGT 245	Customer Service Management	3
Total minimum credits required for minor		30

Carpentry

Community Leadership

The Community Leadership program engages students in civic interests, developing the knowledge, skills, and dispositions required for professional careers of public service, guiding systems, managing change, and advancing egalitarian principles.

Mission Statement

The Community Leadership program engages students in civic interests, developing the knowledge, skills, and dispositions required for professional careers of public service, guiding systems, managing change, and advancing egalitarian principles.

Learning Outcomes for Community Leadership, BA

Upon completion of this program, students will be able to:

- Apply foundational principles of communication studies to analyze and explain the dynamics of verbal, written, and nonverbal exchanges, from dyadic to mass communication, across cultural contexts.
- Apply foundational principles of psychology and sociology to analyze and explain the dynamics of mental processes and behaviors, from interpersonal relationships to social settings, across cultural contexts.
- Apply foundational principles of leadership studies to analyze and explain the dynamics of leader-follower interactions, exchanges, and relationships.
- Apply foundational principles of civics and political science to analyze and explain the dynamics of the public, private, and nonprofit sectors in a democratic society with a mixed economy.
- Apply foundational principles of systems theory to analyze and explain the structure and processes of communities.
- Apply foundational principles of change theory to plan and evaluate the transformation of communities.
- Apply specialized knowledge and skills in non-profit management to guide organizations in mission implementation.

*PUBLIC ADMINISTRATION TRACK ONLY:

- Apply specialized knowledge and skills in public administration to guide agencies in mission implementation.

Learning Outcomes for Community Leadership, Minor

Upon completion of this program, students will be able to:

- Apply foundational principles of leadership studies to analyze and explain the dynamics of leader-follower interactions, exchanges, and relationships.
- Apply foundational principles of civics and political science to analyze and explain the dynamics of the public, private, and nonprofit sectors in a democratic society with a mixed economy.
- Apply foundational principles of systems theory to analyze and explain the structure and processes of communities.
- Apply foundational principles of change theory to plan and evaluate the transformation of communities.

Bachelor of Arts Community Leadership - Minor Required

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
CMLD 101	Intro to Community Leadership (CAT IV)	3
PSYX 100	Intro to Psychology (Meets CAT IV Requirement)	3
CMLD 260	Fndtns of Non Profit Service	3

SOCI 101	Introduction to Sociology (Meets CAT IV Requirement)	3
COMX 212	Intro to Intercultural Comm (Meets CAT V Requirement)	3
or SOCI 315	Race, Gndr, & Ethnic Relations	
CMLD 301	Concepts in Comm Leadership	3
COMX 210	Communication in Small Groups	3
PHIL 210	Ethics (Meets CAT VI Requirement)	3
CMLD 355	Assmnt & Dsgn Comm Programs	3
CMLD 360	Eval of Comm-Based Programs	3
WRIT 328	Media Literacy	
COMX 320	Prin of Organizational Comm	3
CMLD 401	Seminar in Comm Leadership	3
COMX 412	Communication and Conflict	3
WRIT 338	Public Relations Writing	3
With an Option in Nonprofit Managment		
PSCI 227	Fin Man Nonprofit Org	
PSCI 307	HR Mgmt Nonprofit Orgs	
PSCI 411	Nonprofit Grant Writing	
PSCI 412	Nonprofit Fundraising	
CMLD 490	Undergraduate Research	
or CMLD 498	Cooperative Education	
Option subtotal 15 credits		
Or/(And) With an Option in Public Administration		
PSCI 210	Intro to American Government	
PSCI 260	Intro to State and Local Govt	
PSCI 240	Intro to Public Administration	
PSCI 365	Public Policy Issues&Analysis	
PSCI 490	Undergraduate Research	
or PSCI 498	Intern/coop education/omnibus	
Option subtotal 15 credits		
Minor		21-30
Total minimum credits required for degree/minor		120

Minor

Community Leadership

Code	Title	Credits
Required Courses		
CMLD 101	Intro to Community Leadership (CAT IV)	3
CMLD 260	Fndtns of Non Profit Service	3
CMLD 301	Concepts in Comm Leadership	3
CMLD 355	Assmnt & Dsgn Comm Programs	3
CMLD 360	Eval of Comm-Based Programs	3
CMLD 401	Seminar in Comm Leadership	3
Select one of the following combinations of courses for an additional 6 credits:		6
Option 1		
PSCI 227	Fin Man Nonprofit Org	
PSCI 307	HR Mgmt Nonprofit Orgs	
Option 2		
ENGL 328	Media Literacy	
WRIT 338	Public Relations Writing	
Option 3		
PSCI 411	Nonprofit Grant Writing	
PSCI 412	Nonprofit Fundraising	

Option 4

PSCI 210	Intro to American Government
PSCI 260	Intro to State and Local Govt

Option 5

ECNS 201	Principles of Microeconomics
ECNS 202	Principles of Macroeconomics

Option 6

COMX 210	Communication in Small Groups
COMX 320	Prin of Organizational Comm

Total minimum credits required for minor

24

Computer Information Systems

Criminal Justice

Whether you're currently a professional looking to expand your opportunities through education or interested in starting a career in criminal justice, this program is designed to work for you. You will learn how the criminal justice system works; from crime prevention and enforcement, to the legal system, corrections, and more.

Mission Statement

The mission of the Criminal Justice program is to provide students with an overall understanding of the criminal justice system and all of its major players (officers, professionals, victims, and offenders). We aim to give students the knowledge, skills, and critical thinking capabilities that will prepare them for successful careers within the criminal justice field. Students are exposed to both established and contemporary theory, to research and writing skills, and to the requirements of practice in the field.

Learning Outcomes for Criminal Justice, Major

Upon completion of this program, students will be able to:

- Demonstrate a comprehensive understanding and knowledge of the practical components of the criminal justice system.
- Apply learned knowledge of the principles underlying human deviant behavior and social/psychological relationships.
- Apply critical thinking skills and logic to analyze and solve complex problems in the criminal justice environment.
- Cite effective practices and trends and anticipate the impact of programs and services that are effective in combating crime.

Learning Outcomes for Criminal Justice, Minor

Upon completion of this program, students will be able to:

- Demonstrate a comprehensive understanding and knowledge of the practical components of the criminal justice system.
- Apply learned knowledge of the principles underlying human deviant behavior and social/psychological relationships.
- Apply critical thinking skills and logic to analyze and solve complex problems in the criminal justice environment.
- Cite effective practices and trends and anticipate the impact of programs and services that are effective in combating crime.

Bachelor of Science Criminal Justice - Minor Required

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
CJUS 121	Intro to Criminal Justice	3
CJUS 125	Funds of Forensic Science	3
CJUS 215	CJ and Community	3
CJUS 220	Intro to Corrections	3
CJUS 230	Police Org and Behavior	3
CJUS 236	Intro to Research Methods	3

CJUS 325	American Criminal Law	3
CJUS 330	Admin of Juv Justice	3
CJUS 335	Victimology	3
CJUS 356	Sociology of Violence	3
CJUS 421	Criminal Justice Ethics	3
CJUS 427	Deviance & Social Control	3
CJUS 494	Seminar	3
SOCI 211	Introduction to Criminology	3
SW 423	Addiction Studies	3
COMX 412	Communication and Conflict	3
Minor and Advisor Approved Electives (12 credits must be upper division) including the following:		39
CJUS 226	Introduction to Probation	
CJUS 228	Diversity in Criminal Justice	
CJUS 413	Administration Law Enforcement	
CJUS 440	Gender, Crime and Justice	
CJUS 488	Forensic Crime Lab & Beyond	
CJUS 498	Cooperative Education	
Total minimum credits required for degree/minor		120

Minor Criminal Justice

Code	Title	Credits
Required Courses		
CJUS 121	Intro to Criminal Justice	3
SOCI 211	Introduction to Criminology	3
Select two of the following:		3
CJUS 125	Funds of Forensic Science	
CJUS 220	Intro to Corrections	3
CJUS 230	Police Org and Behavior	3
CJUS 236	Intro to Research Methods	
Select 4 of the following		
Total minimum credits required for minor		24
PSYX 340	Abnormal Psychology	3
CJUS 330	Admin of Juv Justice	3
CJUS 335	Victimology	3
CJUS 356	Sociology of Violence	
CJUS 421	Criminal Justice Ethics	
CJUS 427	Deviance & Social Control	3
CJUS 494	Seminar	
COMX 412	Communication and Conflict	3
SW 423	Addiction Studies	3

**The Criminal Justice degree accepts life experience credits earned through Northern's LEAP program. Students with successful professional experience in law enforcement and corrections, in particular, are encouraged to consider preparing a LEAP portfolio.

Please note: approval does not indicate support for new faculty or additional resources.

Diesel Technology

Our Diesel Technology programs offer a unique, hands-on technology education recognized by industry leaders as one of the nation's leading diesel programs. Our curriculum is relevant to students' lives and careers, valuable in terms of content and competencies and connected to the needs of industry. It strives to provide an environment that fosters excellence in learning and one that nurtures discovery of knowledge for advancement, academic excellence in the classroom, and personal growth through collaboration and teamwork.

Mission Statement

The mission of the Diesel Technology program is to provide students with the working knowledge, technological proficiency, and professional skills necessary to be successful in a variety of careers related to diesel technology. Our faculty instructors and cutting-edge Diesel Technology Center provide students a unique opportunity to gain hands-on and technology-driven educational experiences that reflect industry standards and expectations.

Learning Outcomes for Diesel Technology, BS

Upon completion of this program, students will be able to, in accordance with industry standards:

- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Effectively utilize written and verbal communication skills and industry knowledge and resources (e.g., software, manuals).
- Apply advanced diagnostic and repair procedures for electrical/electronic systems.
- Apply advanced diagnostic and repair procedures for hydraulics/hydrostatics systems.
- Apply advanced diagnostic and repair procedures for power trains systems.
- Apply advanced diagnostic and repair procedures for diesel engine systems.
- Apply advanced diagnostic and repair procedures for air conditioning/heating systems.

Learning Outcomes for Diesel Technology Field Maintenance, BS

Upon completion of this program, students will be able to, in accordance with industry standards:

- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Effectively utilize written and verbal communication skills and industry knowledge and resources (e.g., software, manuals).
- Apply advanced diagnostic and repair procedures for electrical/electronic systems.
- Apply advanced diagnostic and repair procedures for hydraulics/hydrostatics systems.
- Apply advanced diagnostic and repair procedures for power trains systems.
- Apply advanced diagnostic and repair procedures for diesel engine systems.
- Apply advanced diagnostic and repair procedures for air conditioning/heating systems.
- Perform advanced welding processes appropriate to field maintenance.

Learning Outcomes for Diesel Technology Equipment Management, BS

Upon completion of this program, students will be able to, in accordance with industry standards:

- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Effectively utilize written and verbal communication skills and industry knowledge and resources (e.g., software, manuals).
- Apply advanced diagnostic and repair procedures for electrical/electronic systems.
- Apply advanced diagnostic and repair procedures for power trains systems.
- Apply advanced diagnostic and repair procedures for diesel engine systems.
- Apply advanced diagnostic and repair procedures for air conditioning/heating systems.
- Demonstrate a working knowledge of the general nature, structure, resources, and operations of business organizations in the diesel technology industry.

Learning Outcomes for Diesel Technology, AAS

Upon completion of this program, students will be able to, in accordance with industry standards:

- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Effectively utilize written and verbal communication skills and industry knowledge and resources (e.g., software, manuals).
- Apply advanced diagnostic and repair procedures for electrical/electronic systems.

- Apply advanced diagnostic and repair procedures for hydraulics/hydrostatics systems.
- Apply advanced diagnostic and repair procedures for power trains systems.
- Apply advanced diagnostic and repair procedures for diesel engine systems.
- Apply advanced diagnostic and repair procedures for air conditioning/heating systems.

Learning Outcomes for Diesel Technology, CAS

Upon completion of this program, students will be able to, in accordance with industry standards:

- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Effectively utilize written and verbal communication skills and industry knowledge and resources (e.g., software, manuals).
- Apply advanced diagnostic and repair procedures for electrical/electronic systems.
- Apply advanced diagnostic and repair procedures for power trains systems.
- Apply advanced diagnostic and repair procedures for diesel engine systems.

Learning Outcomes for Diesel Technology, Minor (no change)

Upon completion of this program, students will be able to, in accordance with industry standards:

- Apply basic diagnostic and repair procedures for machine systems and components.
- Apply basic diagnostic and repair procedures for hydraulic systems.
- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Use written communication to convey technical information in a clear, concise, and professional manner.

Bachelor of Science Diesel Technology

Learning Outcomes:

Required Courses

Code	Title	Credits
General Education Core (p. 20) ¹		33
Required Courses		
ATDI 134	Electrical/Electronic Sys I	6
ATDI 257	Automatics	4
ATDI 264	Electrical/Electronic Sys II	6
ATDI 265	Heating and Air Conditioning	4
ATDI 384	AT/DI Elctrc/Elctrn Sys III	4
ATDI 400	Shop Procedures	3
DST 104	Intro to Diesel Engines	3
DST 114	Intro to Diesel Engines Lab	3
DST 115	Intro to Diesel Fuel Systems	5
DST 204	Intro to Hydraulics Pneumatics	2
DST 214	Intro to Hydr Pneumatics Lab	2
DST 216	Heavy Duty Power Trains	4
DST 219	Heavy Duty Chassis	4
DST 264	Diesel Engine Diagnosis Repair	3
DST 274	Diag Diesel Engine Repair Lab	3
DST 273	Diesel Shop Practices	4
DST 314	Hydraulics and Pneumatics II	4
DST 420	Diesel Shop Management	2
DST 434	Current Model Year Technology	3
DST 440	Advanced Fuel Systems	4

DST 450	Diag Pwr Shifts and HD Atmtics	4
DST 498	Cooperative Education	3
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
WLDG 260	Repair & Maintenance Welding	3
Total minimum credits required for degree		120

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Please Note: *In addition to WRIT 350 and TSCI 304, four (4) credits of the General Education Core must be at the upper division level.*

Associate of Applied Science Diesel Technology

Code	Title	Credits
Required Courses		
ATDI 134	Electrical/Electronic Sys I	6
DST 104	Intro to Diesel Engines	3
DST 114	Intro to Diesel Engines Lab	3
DST 204	Intro to Hydraulics Pneumatics	2
DST 214	Intro to Hydr Pneumatics Lab	2
COMX 111	Intro to Public Speaking (Meets CAT I Requirement)	3
or COMX 115	Intro to Interpersonal Communc	
ATDI 265	Heating and Air Conditioning	4
DST 115	Intro to Diesel Fuel Systems	5
ATDI 264	Electrical/Electronic Sys II	6
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
DST 216	Heavy Duty Power Trains	4
DST 264	Diesel Engine Diagnosis Repair	3
DST 274	Diag Diesel Engine Repair Lab	3
M 121	College Algebra (Meets CAT II Requirement)	3
or M 105	Contemporary Mathematics	
ATDI 257	Automatics	4
DST 219	Heavy Duty Chassis	4
DST 273	Diesel Shop Practices	4
WRIT 122	Business Writing	
Total minimum credits required for degree		66

Certificate of Applied Science Diesel Technology

First Year

Fall		Credits
ATDI 134	Electrical/Electronic Sys I	6
DST 104	Intro to Diesel Engines	3
DST 114	Intro to Diesel Engines Lab	3
DST 216	Heavy Duty Power Trains	4
Term Credits		16
Spring		
DST 219	Heavy Duty Chassis	4
DST 115	Intro to Diesel Fuel Systems	5
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
WRIT 122	Business Writing	3

COMX 115	Intro to Interpersonal Communc	3
Term Credits		19
Total Credits		35

Minor Diesel Technology

Code	Title	Credits
Required Courses		
DST 104	Intro to Diesel Engines	3
DST 114	Intro to Diesel Engines Lab	3
DST 115	Intro to Diesel Fuel Systems	5
DST 204	Intro to Hydraulics Pneumatics	2
DST 214	Intro to Hydr Pneumatics Lab	2
Select ten (10) credits from the following:		10
DST 314	Hydraulics and Pneumatics II	
DST 420	Diesel Shop Management	
DST 434	Current Model Year Technology	
DST 440	Advanced Fuel Systems	
DST 450	Diag Pwr Shifts and HD Atmtics	
Total minimum credits required for minor		25

Diesel Technology: Equipment Management

Our Diesel Technology programs offer a unique, hands-on technology education recognized by industry leaders as on the nation's leading diesel programs. Our curriculum is relevant to students' lives and careers, valuable in terms of content and competencies and connected to the needs of industry. It strives to provide an environment that fosters excellence in learning and one that nurtures discovery of knowledge for advancement, academic excellence in the classroom, and personal growth through collaboration and teamwork.

Mission Statement

The mission of the Diesel Technology program is to provide students with the working knowledge, technological proficiency, and professional skills necessary to be successful in a variety of careers related to diesel technology. Our faculty instructors and cutting-edge Diesel Technology Center provide students a unique opportunity to gain hands-on and technology-driven educational experiences that reflect industry standards and expectations.

Learning Outcomes for Diesel Technology Equipment Management, BS

Upon completion of this program, students will be able to, in accordance with industry standards:

- Apply basic diagnostic and repair procedures for machine systems and components.
- Apply basic diagnostic and repair procedures for hydraulic systems.
- Demonstrate a working knowledge of the general nature, structure, resources, and operations of business organizations.
- Use computer-based resources to diagnose and repair on and off-highway equipment.
- Use diagnostic devices to communicate with equipment and machine controllers.
- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Use written communication to analyze and convey information in a clear, concise, and professional manner.
- Use verbal communication and visual aids to convey information to an audience in an effective, professional manner.

Bachelor of Science in Equipment Management

Learning Outcome: Demonstrate the effectiveness of incorporating computer based testing with the B.S. Diesel Technology - Equipment management option. Successful completion and submission of electronic work-orders. Demonstrate understanding of Cost Accounting

Required Courses

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
DST 104	Intro to Diesel Engines	3
DST 114	Intro to Diesel Engines Lab	3
DST 115	Intro to Diesel Fuel Systems	5
ATDI 134	Electrical/Electronic Sys I	6
DST 204	Intro to Hydraulics Pneumatics	2
DST 214	Intro to Hydr Pneumatics Lab	2
ATDI 264	Electrical/Electronic Sys II	6
DST 216	Heavy Duty Power Trains	4
DST 498	Cooperative Education	4
DST 264	Diesel Engine Diagnosis Repair	3
DST 274	Diag Diesel Engine Repair Lab	3
ACTG 201	Principles of Fin Acct	3
BGEN 253	Business Statistics & Research	3
ACTG 202	Principles of Mang Acct	3
ATDI 265	Heating and Air Conditioning	4
ATDI 384	AT/DI Elctrcl/Elctrn Sys III	4
BFIN 322	Business Finance	3
BMGT 335	Management & Organization	3
BMGT 322	Operations Management	3
BMGT 422	Project Management	3
BUS 348	Business Communications	3
BGEN 360	International Business (Meets CAT V Requirement)	3
DST 440	Advanced Fuel Systems	4
ACTG 410	Cost/Mgmt Acct I	3
DST 450	Diag Pwr Shifts and HD Atmtics	4
BMGT 329	Human Resource Management	3
TSCI 304	Fuels and Lubricants (Meets CAT III Requirement)	3
Total Credits		120

Diesel Technology: Field Maintenance

Our Diesel Technology programs offer a unique, hands-on technology education recognized by industry leaders as on the nation's leading diesel programs. Our curriculum is relevant to students' lives and careers, valuable in terms of content and competencies and connected to the needs of industry. It strives to provide an environment that fosters excellence in learning and one that nurtures discovery of knowledge for advancement, academic excellence in the classroom, and personal growth through collaboration and teamwork.

Mission Statement

The mission of the Diesel Technology program is to provide students with the working knowledge, technological proficiency, and professional skills necessary to be successful in a variety of careers related to diesel technology. Our faculty instructors and cutting-edge Diesel Technology Center provide students a unique opportunity to gain hands-on and technology-driven educational experiences that reflect industry standards and expectations.

Learning Outcomes for Diesel Technology Field Maintenance, BS

Upon completion of this program, students will be able to, in accordance with industry standards:

- Apply advanced diagnostic and repair procedures for machine systems and components.
- Apply advanced diagnostic and repair procedures for hydraulic systems.
- Perform advanced welding processes appropriate to field maintenance.
- Use computer-based resources to diagnose and repair on and off-highway equipment.

- Use diagnostic devices to communicate with equipment and machine controllers.
- Work within current industry safety guidelines and standards to ensure a safe working environment.
- Use written communication to analyze and convey information in a clear, concise, and professional manner.
- Use verbal communication and visual aids to convey information to an audience in an effective, professional manner.

Bachelor of Science Diesel Technology: Field Maintenance Option

Learning Outcomes: Demonstrate the effectiveness of incorporating computer based testing with the B.S. Diesel Technology - Field Maintenance program. The student will successfully complete selected weld performance certifications. Successful completion and submission of electronic work-orders.

Required Courses

Code	Title	Credits
General Education Core (p. 20) ¹		33
Required Courses		
DST 115	Intro to Diesel Fuel Systems	5
DST 216	Heavy Duty Power Trains	4
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
COMX 111	Intro to Public Speaking (Meets CAT I Requirement)	3
or COMX 115	Intro to Interpersonal Communc	
ATDI 265	Heating and Air Conditioning	4
DST 104	Intro to Diesel Engines	3
DST 114	Intro to Diesel Engines Lab	3
Any Category II: Mathematics		3
WLDG 114	Mig/Tig Welding	3
ATDI 134	Electrical/Electronic Sys I	6
DST 204	Intro to Hydraulics Pneumatics	2
DST 214	Intro to Hydr Pneumatics Lab	2
DST 264	Diesel Engine Diagnosis Repair	3
DST 274	Diag Diesel Engine Repair Lab	3
ATDI 264	Electrical/Electronic Sys II	6
WLDG 260	Repair & Maintenance Welding	3
Any Category IV: Social Science/History		6
Any Category VII: Technology		3
ATDI 384	AT/DI Elctrcl/Elctrn Sys III	4
MCH 200	Machining	3
Any Category III: Natural Science		3
Any Category VI: Humanities/Fine Arts		6
DST 314	Hydraulics and Pneumatics II	4
TSCI 304	Fuels and Lubricants (Meets CAT III w/ Lab Requirement)	3
WLDG 186	Welding Qual Test Prep w/Lab	3
WRIT 350	Technical Editing (Meets CAT I Requirement)	3
ATDI 400	Shop Procedures	3
DST 440	Advanced Fuel Systems	4
WLDG 356	Welding Certifctn Procdrs II	3
Any Category V: Cultural Diversity		3
DST 434	Current Model Year Technology (Capstone)	3
DST 450	Diag Pwr Shifts and HD Atmtics	4
WLDG 357	Welding Certifctn Procdrs III	3

*

Please Note: *In addition to WRIT 350 and TSCI 304, four (4) credits of the General Education Core must be at the upper division level.*

Drafting (Design) Technology

MSU-Northern offers an Associate of Applied Science (AAS) degree in Design Drafting Technology through its College of Technical Science. A minor in Design Drafting Technology is also available. The fundamentals of technical drawing remain constant, but the tools used to produce technical drawings and models change almost daily. In response to these changes, our program strives to incorporate the latest technological advancements from the field to aid in the application of basic to advanced design concepts. There is a strong emphasis on computer-aided design throughout the program along with the courses emphasizing technical animation, simulation, and multimedia design and development.

Mission Statement

The mission of the MSUN Design Drafting Program is to prepare students to work alongside engineers and development personnel in an engineering, manufacturing, or production environment, to create working technical drawings.

Learning Outcomes for Design Drafting Technology, AAS

Upon completion of this program, students will be able to:

- Demonstrate proficiency in performing mathematical computations consistent with the profession.
 - a. students will be able to use Precision Measuring tools, (i.e., caliper, rule, micrometer, dial indicator, Vernier scale tools,) to Draft Geometric figures.
 - b. students will be able to setup and use Surveying Equipment (tape, level, range finder, etc..) to create/update topographical maps.
 - c. students will be able to create a bid estimation for use in Civil, Mechanical, and Architectural Design/Drafting.
- Demonstrate Design Visualization in both 2D and 3D environments.
 - a. Students will be able to read, sketch, and draft (by hand) 2 dimensional orthographic drawings as well as 2 dimensional isometric drawings.
 - b. students will create 2D and 3D models/drawings in a CAD program.
 - c. students will be able to create an idea, design, sketch, working CAD drawings (for a physical prototype) that addresses a problem or a need.
- Demonstrating understanding and application of modern design practices.
 - a. students will demonstrate understanding of the use of competitor products (benchmarking) to gain ideas for the design of personal/classroom projects.
 - b. students will demonstrate their ability to create an initial idea and sketch, using the information/ideas taken from benchmarked designs.
 - c. students will demonstrate how to create a physical prototype and a set of working drawings from their original idea and sketch.
- Demonstrating effective formal and informal communication through the use of technical writing, presentation, and technical drawing.
 - a. students will demonstrate professional communication through evaluations of seven values, on campus employer interviews, and employer info-sessions.
 - b. students will demonstrate proficiency in technical drawing by creating working CAD models/drawings that include orthographic, isometric, and assembly views.

Associate of Applied Science Design Drafting Technology

Code	Title	Credits
Required Courses		
BGEN 112	Creative Problem Solving	3
DDSN 119	Technical Graphics I	3
ETCC 173	Architectural Const & Material	3
M 121	College Algebra (Meets CAT II Requirement)	3
MCH 200	Machining	3
COMX 111	Intro to Public Speaking (Meets CAT I Requirement)	3

DDSN 114	Introduction to CAD	3
M 112	Trigonometry & Complex Numbers	2
MFGT 210	CAD/CAM I	3
SRVY 230	Intro to Srvy for Engineers	3
DDSN 116	3D CAD	3
DDSN 265	Architectural Drafting	3
EGEN 203	Applied Mechanics	3
PHSX 205	College Physics I (w/ Lab Meets CAT III Requirement)	3
PHSX 206	College Physics I Laboratory	1
WRIT 101	College Writing I (Meets CAT I Requirement)	3
DDSN 239	Parametric CAD	3
DDSN 245	Civil Drafting	3
DDSN 255	Machine Drafting	3
EGEN 208	Applied Strength of Materials	3
MCH 250	Manuf Processes and Materials	3
Total minimum credits required for degree		60

Minor Design Drafting Technology ****Currently in Moratorium****

Code	Title	Credits
Required Courses		
DDSN 119	Technical Graphics I	3
DRFT 132	Descriptive Geometry	3
DDSN 114	Introduction to CAD	3
DDSN 265	Architectural Drafting	3
DDSN 255	Machine Drafting	3
DDSN 116	3D CAD	3
Select three of the following:		9
ETCC 385	Highway Design & Construction	
DDSN 239	Parametric CAD	
DDSN 376	Presentation & Animatn (=276)	
DDSN 435	Industrial Product Design	
DRFT 428	Technical Illustration	
DDSN 465	Architectural CAD II	
MCH 351	CAD/CAM Applications	
Total minimum credits required for minor		27

Education (Teaching)

Education (Teaching)

Professional Education Core Requirements

Upper division Elementary Education Core Requirements must be taken in a block. Please see below.

Code	Title	Credits
Elementary Education Core Requirements		
EDU 201	Intro to Educ with Fid Exprnce	3
EDU 225	Intro to Education Psychology	3
HTH 110	Personal Health and Wellness	3
M 130	Math for Elementary Teachers I	3
PSYX 230	Developmental Psychology	3
EDU 311	C, D & E in Global Ed	3
EDU 315	Integrat IEFA Across the Curr	2
EDSP 304	Ed and Psyc Exceptl Child	3

EDU 382	Assessment, Curr and Inst	
EDU 336A	Practicum I	
EDU 340	Classroom Management	3
EDU 335	Fund & Corr Strtg Elem Rdg Prg	3
EDU 336B	Practicum 2	
EDU 337	Reading Materials Elem Child	2
EDU 397MA	Methods: K-8 Mathematics	2
EDU 397SC	Methods: K-8 Science	2
EDU 397SS	Methods: K-8 Social Studies	2
EDU 397CA	Methods: K-8 Int. Arts All Lrn	2
EDU 397HE	Methods: K-8 Health Enhancemen	2
EDU 452	Advanced Practicum	3
Select one of the following:		
EDU 495EL	Student Teaching K-8	
EDU 495ES	Student Teaching K-12 *	
Select one of the following:		
TOTAL		68

*

Upon Admission to Teacher Education, prescribed courses must be taken in sequence). See your advisor for more information.

Code	Title	Credits
Secondary Education Professional Education Core Requirements		
EDU 225	Intro to Education Psychology	3
EDU 270	Integrating Tech in Education	3
EDSP 304	Ed and Psyc Exceptl Child	3
EDU 201	Intro to Educ with Fld Exprnce	3
EDU 380	Intro Curric Plan/Practice	3
EDUC 321	Integrating Tech into Educ	1
EDU 383	Assessment in Education	3
EDU 481	Content Area Literacy	2
EDU 452	Advanced Practicum	3
EDU 495	Student Teaching	12
HTH 110	Personal Health and Wellness	3
PSYX 230	Developmental Psychology (CAT IV)	3
TOTAL		42

Industrial Technology and Business Education majors (or minors) who plan on being able to verify appropriate work experience through the Office of Public Instruction and who want to qualify for vocational approval to teach in a state or federally reimbursed program please speak with your advisor.

Bachelor of Science in Education

Learning Outcomes: Candidates apply theory-to-practice pedagogy that will help them become effective 21st century educators. Candidates have a comprehensive content knowledge base used to instruct research based strategies to meet the needs of diverse student populations. Candidates demonstrate an understanding of and actively embrace the differences among diverse people, cultures, circumstances, environments. Candidates demonstrate a willingness to assist their future students' academic, emotional, personal, cultural, and physical needs.

Elementary Education K-8

Prerequisites for admission to Elementary Education Program refer to page 29.

Code	Title	Credits
General Education Core (p. 20)		
Required Courses		
WRIT 101	College Writing I (Meets CAT I Requirement)	3
AG 204, or ESCL, or GEO, or GPHY, or GSCI, or NSCI, or PHSX, or TSCI 110 (Meets CAT III Requirement)		3
EDU 270	Integrating Tech in Education (Meets CAT VII Requirement)	

Any Humanities/Fine Arts. Meets CAT VI Requirement		3
COMX 115	Intro to Interpersonal Communc (Meets CAT I Requirement)	3
M 121	College Algebra (Meets CAT II Requirement)	3
or M 105	Contemporary Mathematics	
EDU 225	Intro to Education Psychology	3
HTH 110	Personal Health and Wellness	3
Any BIOx, or CHMY and any GEO or PHSX (CAT III Lab Science). (Meets CAT III Requirement)		4
HSTA 255	Montana History (Meets CAT IV Requirement)	3
EDU 201	Intro to Educ with Fld Exprnce	3
PSYX 230	Developmental Psychology (Meets CAT IV Requirement)	3
Any NASX or NASL (Meets CAT V Requirement)		3
Any LIT (Meets CAT VI Requirement)		
PSCI 210	Intro to American Government (Meets CAT IV Requirement)	3
M 130	Math for Elementary Teachers I	3
EDSP 304	Ed and Psyc Exceptl Child *	3
EDU 315	Integrat IEFA Across the Curr *	2
EDU 336A	Practicum I	1
EDU 340	Classroom Management *	3
EDU 382	Assessment, Curr and Inst	3
EDU 320	Lesson Planning	1
EDU 311	C, D & E in Global Ed	3
EDU 336B	Practicum 2	1
EDU 337	Reading Materials Elem Child	2
EDU 397CA	Methods: K-8 Int. Arts All Lrn	2
EDU 397SS	Methods: K-8 Social Studies *	2
EDUC 334	Method Tchng Intgrtd Lang Arts *	3
EDU 335	Fund & Corr Strtg Elem Rdg Prg *	3
EDU 452	Advanced Practicum *	3
EDU 397MA	Methods: K-8 Mathematics *	2
EDU 397SC	Methods: K-8 Science *	2
EDU 397HE	Methods: K-8 Health Enhancemen	2
Select one of the following:		12
EDU 495	Student Teaching (K-8) *	
EDU 495	Student Teaching (K-12) *	
Major/Minor/Electives		29
Total minimum credits required for degree		128

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Upon Admission to Teacher Education, prescribed courses must be taken in sequence. See your advisor for more information.

Bachelor of Science in Education

Learning Outcomes: Candidates apply theory-to-practice pedagogy that will help them become effective 21st century educators. Candidates have a comprehensive content knowledge base used to instruct research based strategies to meet the needs of diverse student populations. Candidates demonstrate an understanding of and actively embrace the differences among diverse people, cultures, circumstances, environments. Candidates demonstrate a willingness to assist their future students' academic, emotional, personal, cultural, and physical needs.

Prerequisites for admission to Elementary Education Program refer to page 29.

Health and Physical Education (K-12)

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
EDU 201	Intro to Educ with Fld Exprnce	3
EDU 225	Intro to Education Psychology	3

HTH 110	Personal Health and Wellness	3
EDSP 304	Ed and Psyc Exceptl Child *	3
EDU 311	C, D & E in Global Ed *	3
EDU 382	Assessment, Curr and Inst	3
EDU 336A	Practicum I	1
EDU 340	Classroom Management *	3
EDU 397HE	Methods: K-8 Health Enhancemen	2-3
EDU 481	Content Area Literacy	2
HEE 376	Assessment in Health Education	3
HEE 300	PE in the Elementary School *	3
HEE 340	Methods of Health Education *	3
HEE 310	Methods of Adapted HE	2
EDU 336B	Practicum 2	
EDU 452	Advanced Practicum (in Education) *	3
EDU 495SE	Student Teaching 5-12	6-12
HPE Course Requirements		
HTH 101	Opport in Health Professions	2
CHTH 262	Community Health	3
HEE 435	Curr Planning in HE	3
HEE 303	Methods Lifetime Fit Act	3
KIN 327	Kinesiology & Biomechanics	3
KIN 320	Exercise Physiology	3
Advisor approved electives		
Select one of the following two Areas of Concentration (required only if no minor)		20
Teaching and Coaching		
REC 236	Intramural Recreational Activi	3
COA 210	Intro to Sports Officiating	2
COA 205	Introduction to Coaching	3
AHAT 210	Prev and Care Athletic Injur	3
HTH 378	Sex Education	3
COA 407	Issues in Competitive Athl	3
or KIN 440	Sport Psychology	
ACT Advisor Approved Elective		1
Select one course from the following		2
COA 242	Coaching Football	
COA 245	Coaching Basketball	
COA 240	Coaching Volleyball	
COA 258	Coaching Wrestling	
Health Enhancement		
REC 236	Intramural Recreational Activi	3
REC 307	Community Recreation	3
AHAT 210	Prev and Care Athletic Injur	3
HTH 391	Special Topics	3
HTH 378	Sex Education	3
REC 388	Outdoor Education	3
Select two courses from the following list of Fitness and Wellness		2
ACT 110	Beginning Weight Training	
ACT 107	Beginning Aerobic Dance	
ACT 157	Beginning Martial Arts	
ACT 106	Beg Conditioning and Fitness	
ACT 150	Beginning Yoga	
ACT 210	Intermediate Weight Training	1

ACT 191	Special Topics	2
Total minimum credits required for degree		128

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Upon Admission to Teacher Education, prescribed courses must be taken in sequence (blocks). See your advisor for more information.

Minors

Art K-12 (Teaching)

Code	Title	Credits
Required Courses		
ARTH 160	Global Visual Culture (CAT VI)	3
ARTZ 231	Ceramics I (CAT VI)	3
ARTZ 105	Visual Language - Drawing (CAT VI)	3
ARTZ 106	Visual Language - 2-D Fndtns	3
ARTZ 221	Painting I	3
or ARTZ 224	Watercolor I	
ARTH 330	Art Hist of Western Civ I (CAT VI)	3
or ARTH 340	Art History of Western Civ II	
EDU 315	Integrat IEFA Across the Curr	2
EDU 397CA	Methods: K-8 Int. Arts All Lrn	2
Total minimum credits required for minor		22

Health and Physical Education K-12 (Teaching)

Code	Title	Credits
Required Courses		
EDU 395		
HTH 101	Opport in Health Professions	2
CHTH 262	Community Health	3
HEE 300	PE in the Elementary School *	3
HEE 340	Methods of Health Education *	3
HEE 310	Methods of Adapted HE *	2
HEE 435	Curr Planning in HE	3
HEE 303	Methods Lifetime Fit Act	3
KIN 327	Kinesiology & Biomechanics	3
KIN 320	Exercise Physiology	3
HEE 376	Assessment in Health Education	3
Select one course from the following:		1
ACT 170	Beginning Swimming	
ACT 270		
ACT 274		
ACT 178	Canoeing	
ACT 133		
ACT 191	Special Topics	
Total minimum credits required for minor		37

Reading Specialist K-12 (Teaching)

Code	Title	Credits
Required Courses		
EDSP 460	Learning Disabilities	3
EDU 315	Integrat IEFA Across the Curr	2
EDUC 345	The Adolescent Reader	3
EDUC 355	Phonics & Word Identification	3

EDUC 356 or WRIT 328	Exploring Writing in Elem Ed Media Literacy	3
LING 340	English Language	3
EDUC 334	Method Tchng Intgrtd Lang Arts	3
EDU 335	Fund & Corr Strtg Elem Rdg Prg	3
EDU 484	Asmt in Remedial Reading	2
EDU 481	Content Area Literacy	2
LIT 382	Lit for Children/Adolescents (CAT VI)	3
Total minimum credits required for minor		30

Traffic Education K-12 (Teaching)

Code	Title	Credits
Required Courses		
TED 461	Methods of Traffice Safety Ed	3
TED 462	Methods of Behind-the-Wheel In	3
TED 465	Motor Vehicle Law	2
HPE 234	First Aid and CPR	2
TED 468	Safety Education	2
Advisor Approved Electives from the following(Additional possibilities for electives must be approved by your advisor.)		8
TED 452	Traffic Ed & Adolescent Brain	
TED 454	Impaired & Distracted Driving	
TED 455	Crash Dynamics	
TED 456	Coaching Novice Drivers	
TED 457	Roadway Safety Tech & Design	
TED 458	Vehicle Safety Tech & Design	
TED 459	Adaptive Driver Education	
Total minimum credits required for minor		20

Education- Secondary (5-12)

Bachelor of Science in Education English 5-12 (Teaching) - Teaching Minor Required

Learning Outcomes: Candidates apply theory-to-practice pedagogy that will help them become effective 21st century educators. Candidates have a comprehensive content knowledge base used to instruct research based strategies to meet the needs of diverse student populations. Candidates demonstrate an understanding of and actively embrace the differences among diverse people, cultures, circumstances, environments. Candidates demonstrate a willingness to assist their future students' academic, emotional, personal, cultural, and physical needs.

Refer to transfer guide or articulation agreement if you are a transfer student.

Prerequisites for Admission to Secondary Education English 5-12 Program refer to page 28.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
WRIT 101	College Writing I (Meets CAT I Requirement)	3
PSYX 230	Developmental Psychology (Meets CAT IV Requirement)	3
LIT 110	Intro to Lit (Meets CAT VI Requirement)	3
EDU 270	Integrating Tech in Education (Meets CAT VII Requirement)	3
EDU 201	Intro to Educ with Fld Exprnce	3
COMX 111 or COMX 115	Intro to Public Speaking (Meets CAT I Requirement) Intro to Interpersonal Communc	3
M 121	College Algebra (Meets CAT II Requirement)	3
LIT 230	World Lit Survey (Meets CAT VI Requirement)	3
HTH 110	Personal Health and Wellness	3
HSTR 101	Western Civilization I (Meets CAT IV Requirement)	3

or HSTR 102	Western Civilization II	
LIT 210	American Lit I	3
WRIT 328	Media Literacy	3
LIT 223	British Lit I	3
NASX 235	Oral/Written Trads Native Amer (Meets CAT V Requirement)	3
or NASX 340	Native American Literature	
EDU 225	Intro to Education Psychology	3
LIT 211	American Lit II	3
EDU 382	Assessment, Curr and Inst	3
EDU 320	Lesson Planning	1
EDU 336A	Practicum I	1
LIT 382	Lit for Children/Adolescents (CAT VI)	3
LIT 327	Shakespeare (CAT VI)	3
EDSP 304	Ed and Psyc Exceptl Child	3
CRWR 340	Interm Creative Writing Wkhp	3
EDU 336B	Practicum 2	1
LIT 300	Literary Criticism	3
LING 340	English Language	3
LIT 224	British Lit II	3
EDU 497EN	Methods: 5-12 English	3
EDU 452	Advanced Practicum	3
EDU 481	Content Area Literacy	2
EDU 495SE	Student Teaching 5-12	12
Choose two 300-400 level LIT courses, of which at least one must be 400 level		6
Minor		21
Total minimum credits required for degree/minor		128

Bachelor of Science in Education General Science 5-12 (Teaching) - No Minor Required

Learning Outcomes: Candidates apply theory-to-practice pedagogy that will help them become effective 21st century educators. Candidates have a comprehensive content knowledge base used to instruct research based strategies to meet the needs of diverse student populations. Candidates demonstrate an understanding of and actively embrace the differences among diverse people, cultures, circumstances, environments. Candidates demonstrate a willingness to assist their future students' academic, emotional, personal, cultural, and physical needs.

Refer to transfer guide or articulation agreement if you are a transfer student.

Prerequisites for Admission to Secondary Education General Science 5-12 Program refer to page 28.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
General Science Course Requirements		
BIOB 160	Principles of Living Systems	4
BIOB 161	Principles Living Systems Lab	1
BIOO 220	General Botany	3
BIOO 221	Gen Botany Lab	2
BIOE 370	General Ecology	4
BIOE 371	General Ecology Lab	0
BIOO 380	Zoology	3
BIOO 381	Zoology Lab	2
BIOB 420	Evolution	4
CHMY 141	College Chemistry I	5
CHMY 142	College Chemistry Lab I	0
CHMY 143	College Chemistry II	5
CHMY 144	College Chemistry Lab II	0

GEO 101	Intro to Physical Geology	4
GEO 102	Intro to Physical Geology Lab	0
GEO 328	General Hydrology	3
GPHY 111	Intro to Physical Geography	4
PHSX 205	College Physics I	3
PHSX 206	College Physics I Laboratory	1
PHSX 207	College Physics II	3
PHSX 208	College Physics II Laboratory	1
EDU 225	Intro to Education Psychology	3
EDU 201	Intro to Educ with Fld Exprnce	3
HTH 110	Personal Health and Wellness	3
EDSP 304	Ed and Psyc Exceptl Child	3
EDU 382	Assessment, Curr and Inst	3
EDU 336A	Practicum I	1
EDU 481	Content Area Literacy	2
EDU 497SC	Methods:5-12 General Science	3
EDU 336B	Practicum 2	1
EDU 452	Advanced Practicum (in Education)	3
EDU 380	Intro Curric Plan/Practice	3
EDU 495	Student Teaching (5-12)	12
Select four credits from the following:		4
BIOH 201	Human Anat Phys I	4
BIOH 202	Human Anat & Phys I Lab	0
BIOH 211	Human Anat Phys II	4
BIOH 212	Human Anat Phys II Lab	0
BIOO 320	General Botany	4
BIOO 321	General Botany Laboratory	0
BIOO 462	Entomology	3
BIOO 463	Entomology Lab	0
BIOO 470	Ornithology	3
BIOO 471	Ornithology Lab	0
BIOB 450	Molecular Biology Techniques	3
BIOB 451	Molecular Biology Technqus Lab	0
BIOE 428	Freshwater Ecology	4
BIOE 429	Freshwater Ecology Lab	0
BIOE 410	Field Biology Methods	4
BIOE 411	Field Biology Methods Lab	0
BIOM 400	Medical Microbiology	3
BIOM 401	Medical Microbiology Lab	0
GEO 314	Intro to Paleontology	3
NSCI 450	Undergraduate Research I	3
NSCI 451	Undergraduate Research II	3
Total minimum credits required for degree		128

Bachelor of Science in Education Industrial Technology 5-12 (Teaching)

Learning Outcomes: Candidates apply theory-to-practice pedagogy that will help them become effective 21st century educators. Candidates have a comprehensive content knowledge base used to instruct research based strategies to meet the needs of diverse student populations. Candidates demonstrate an understanding of and actively embrace the differences among diverse people, cultures, circumstances, environments. Candidates demonstrate a willingness to assist their future students' academic, emotional, personal, cultural, and physical needs.

Refer to transfer guide or articulation agreement if you are a transfer student.

Prerequisites for Admission to Secondary Education Industrial Technology 5-12 Program refer to page 28.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
AST 160	Automotive Engine Repair	5
CIS 308	Industrial Electronics	4
CSTN 105	Introduction to Woodworking	3
EDU 270	Integrating Tech in Education	3
CSTN 217	Furniture & Cabinetmaking	3
DDSN 119	Technical Graphics I	3
DDSN 114	Introduction to CAD	3
EDU 225	Intro to Education Psychology	3
EDSP 304	Ed and Psyc Exceptl Child	3
EDU 201	Intro to Educ with Fld Exprnce	3
EDU 380	Intro Curric Plan/Practice	3
EDUC 321	Integrating Tech into Educ	1
EDU 383	Assessment in Education	3
EDU 481	Content Area Literacy	2
EDU 495	Student Teaching (5-12)	12
EDU 452	Advanced Practicum	3
EET 110	Electronics Survey I	3
HTH 110	Personal Health and Wellness	3
IT 100	Introduction to Technology (Meets CAT VII Requirement)	3
IT 130	Construction Technology	3
MCH 200	Machining	3
M 105	Contemporary Mathematics	3
MCH 250	Manuf Processes and Materials	3
PSYX 230	Developmental Psychology (Meets CAT IV Requirement)	3
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
Technical Endorsement (see advisor for more information)		10
Electives		2
Total minimum credits required for degree		128

Bachelor of Science in Education Social Science-Broadfield 5-12 (Teaching) - No Minor Required

Learning Outcomes: Candidates apply theory-to-practice pedagogy that will help them become effective 21st century educators. Candidates have a comprehensive content knowledge base used to instruct research based strategies to meet the needs of diverse student populations. Candidates demonstrate an understanding of and actively embrace the differences among diverse people, cultures, circumstances, environments. Candidates demonstrate a willingness to assist their future students' academic, emotional, personal, cultural, and physical needs.

Refer to transfer guide or articulation agreement if you are a transfer student.

Prerequisites for Admission to Secondary Education Social Science-Broadfield 5-12 Program.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
EDU 225	Intro to Education Psychology	3
EDU 201	Intro to Educ with Fld Exprnce	3
HTH 110	Personal Health and Wellness	3
EDSP 304	Ed and Psyc Exceptl Child	3
EDU 382	Assessment, Curr and Inst	3
EDU 336A	Practicum I	1
EDU 481	Content Area Literacy	2

EDU 336B	Practicum 2	1
EDU 497		3
EDU 452	Advanced Practicum	3
EDU 495	Student Teaching (5-12)	12
Education Program Total		38
Social Science Course Requirements		
Language Requirement		6-8
HSTA 101	American History I (Do not count credits if used for General Education)	3
HSTA 102	American History II (CAT IV)	3
HSTA 255	Montana History	3
HSTR 101	Western Civilization I (CAT IV)	3
HSTR 102	Western Civilization II (CAT IV)	3
HSTA 499 or HSTR 499	Sen Capstone: Hist Methodology Sen Capstone: Hist Methodology	3
POL 344	International Relations	3
PSCI 210	Intro to American Government (CAT IV)	3
PSCI 250	Intro to Political Theory (CAT IV)	3
PSCI 260	Intro to State and Local Govt	3
PSCI 471	American Constitutional Law (CAT IV)	3
Upper Level Social Science		
Choose 6 credits HSTA or HSTR at the 300 or 400 level		6-8
Choose six credits ENSC, PSYX, SOCI or NASX		6
Select twelve credits from one of the following prefixes (3 credits must be at the 300 level): ECNS, PSYX, SOCI		12
Total minimum credits required for degree		128

Learning Outcomes for Education CORE:

Upon completion of this program, students will be able to:

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.
- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.'
- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).
- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).
- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.

Learning Outcomes for Education – Art (K-12), minor

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.
- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.'
- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).
- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).

- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.

-Art Minor (K-12) candidates will demonstrate competency in art education content, and become licensed in MT (or home state).

Learning Outcomes for Elementary Education (K-8), BS

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.

- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.'

- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).

- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).

- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.

- Elementary Education (K-8) Candidates will demonstrate competency in elementary education content areas, and becoming licensed in MT (or home state).

Learning Outcomes for Health & Physical Education (K-12), BSEd

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.

- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.'

- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).

- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).

- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.

- Health & Physical Education (K-12) Candidates will demonstrate competency inK-12 Health & Physical Education content area.

Learning Outcomes for Industrial Education Technology, BS

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.

- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.'

- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).

- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).

- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.

- Industrial Technology Education (5-12) Candidates will demonstrate competency in industrial technology education content area, and become licensed in MT (or home state).

Learning Outcomes for Reading Specialist (K-12), Minor

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.
- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.¹
- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).
- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).
- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.
- Reading Specialist (K-12) Candidates will demonstrate competency in literacy education content area, and becoming licensed in MT (or home state).

Learning Outcomes for Secondary Social Science Broadfield (5-12), BS

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.
- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.¹
- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).
- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).
- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.
- Social Science Education (5-12) Candidates will demonstrate competency in social science content area, and becoming licensed in MT (or home state).

Learning Outcomes for Secondary English (5-12), BS

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.
- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.¹
- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).
- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).
- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.
- English Education (5-12) Candidates will demonstrate competency in English content, and become licensed in MT (or home state).

Learning Outcomes for Secondary General Science Education (5-12), BS

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.

- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.'
- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).
- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).
- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.
- General Science Education (5-12) Candidates will demonstrate competency in general science content area, and becoming licensed in MT (or home state).

Learning Outcomes for Secondary Industrial Technology Education (5-12), BS

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)1 in the following categories: the learner and learning; content; instructional practice; and professional responsibility.
- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.'
- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).
- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).
- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.
- Industrial Technology Education (5-12) Candidates will demonstrate competency in industrial technology education content area, and become licensed in MT (or home state).

Electrical Technology

MSU-Northern's Electrical Technology program is the only program in the state to offer an Associate of Applied Science degree in conjunction with State of Montana Apprenticeship program. With an electrical technology degree, students will be prepared to start their career as an apprentice electrician or to continue their education in electrical engineering.

Mission Statement

Graduate has earned an Associate of Applied Science Degree in Electrical Technology. The graduate will have the necessary skills, training, and confidence to be a valuable employee to an electrical contractor with skills commensurate to a 2nd year apprentice.

Learning Outcomes for Electrical Technology, AAS

Upon completion of this program, students will understand and apply:

- Understand basic electricity and it's functions
- Understanding basic residential wiring (IE: branch circuits, overcurrent protection, single pole and 3-way switching.)
- Understand National Electrical Code Requirements for Motor installation and hook up a motor installation with Magnetic Starter, Thermal Overloads, Overcurrent Protection, and Control devices. Understand how to read a Volt Ohm Meter and other basic hand-held meters.
- Bend conduit with hand held bender and large mechanical benders. Identify electrical parts used on the job.

Associate of Applied Science Electrical Technology

Code	Title	Credits
Required Courses		
CAPP 120	Introduction to Computers	3

ELCT 101	Electrical Fundamentals I	3
ELCT 103	Electric Code Study/Codeology	3
ELCT 106	Electrical Formulas & Calc	3
ELCT 137	Electrical Drafting	2
WRIT 101 or WRIT 122	College Writing I Business Writing	3
ELCT 102	Electrical Fundamentals II	3
ELCT 111	Electric Meters & Motors	3
ELCT 133	Basic Wiring	3
ELCT 139	Electrical Code Study-Residential	3
M 105 or M 121	Contemporary Mathematics College Algebra	3
COMX 115 or COMX 111	Intro to Interpersonal Communc Intro to Public Speaking	3
ELCT 201	Alternating Current Theory	3
ELCT 205	Electrical Design & Lighting	3
ELCT 211	AC Measurements	3
ELCT 233	Commercial Wiring Lab	3
ELCT 239	Grounding & Bonding Fund	3
ELCT 204	Electrical Planning & Estimating	3
ELCT 230	Industrial Electrical Wiring	3
ELCT 236	Conduit/Rcwys & Code Calc Lab	3
ELCT 241	Electric Motor Controls	3
HPE 234	First Aid and CPR	2
IT 111	Industrial Safety/Waste Mgmt	2
Total minimum credits required for degree		65

Engineering Technology

A civil engineering technology degree gets you started on your path to a professional engineering career. Graduates with a Bachelor degree in Civil Engineering Technology may sit for the Fundamentals of Engineering (FE) Examination administered by the State Board of Professional Engineers and Surveyors. This examination is the first of two required for registration as a professional engineer in the State of Montana. After passing the FE, students are qualified under the state law to pursue careers as engineers in training. With that FE and four years of progressive responsibly experience and other criteria as set out by the Montana Board of Professional Engineers and Land Surveyors, graduates may then sit for the Principles and Practice of Engineering Exam. Successfully passing this exam means the individual will be licensed as a professional engineer in the State of Montana.

Mission Statement for Civil Engineering Technology, BS

Graduates of civil engineering technology programs will have the technical and managerial skills necessary to enter careers in the planning, design, construction, operation or maintenance of the built environment and global infrastructure.

Learning Outcomes for Civil Engineering Technology, BS

- Successful students will have an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline.
- Successful students will have an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline.
- Successful students will have an ability to apply written, oral and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- Successful students will have an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes;
- Successful students will have an ability to function effectively as a member as well as a leader on technical teams.

Bachelor of Science Engineering Technology: Civil Engineering Technology

Learning Outcomes: Conducting Standardized Field and Laboratory Testing on Engineering Materials Utilizing modern surveying methods for land measurements and/or construction layout. Selecting appropriate engineering materials and practices. Planning and preparing design and construction documents, such as specifications, contracts, change orders, engineering drawings, and construction schedules.

Accredited by:

Technology Accreditation Commission of ABET

111 Market Place, Suite 1050

Baltimore, MD 21202-4012

Telephone: 410.347.7700

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
DDSN 119	Technical Graphics I	3
CAPP 151	MS Office	3
ETCC 173	Architectural Const & Material	3
IT 100	Introduction to Technology	3
M 121	College Algebra (Meets Category II Requirement)	3
CAPP 266	Advanced MS Excel Applications	3
DDSN 114	Introduction to CAD	3
IT 111	Industrial Safety/Waste Mgmt	2
M 112	Trigonometry & Complex Numbers (CAT II)	2
Any Category IV: Social Science And History		6
WRIT 101	College Writing I (Meets Category I Requirement)	3
ECIV 230	Cnst Mgmt & Bid Estimation	3
EGEN 203	Applied Mechanics	3
PHSX 205	College Physics I (Meets Category III Requirement)	3
PHSX 206	College Physics I Laboratory (Meets Category III Requirement)	1
STAT 216	Introduction to Statistics	3
COMX 111	Intro to Public Speaking (Meets Category I Requirement)	3
CHMY 121	Intro to General Chemistry	3
CHMY 122	Intro to Gen Chem Lab	1
DDSN 245	Civil Drafting	3
EGEN 208	Applied Strength of Materials	3
M 162	Applied Calculus (CAT II)	3
SRVY 230	Intro to Srvyg for Engineers	3
MCH 457	Quality Assurance	3
ETCC 307	Structural Analysis	3
ETCC 385	Highway Design & Construction	4
M 171	Calculus I (CAT II)	5
EGEN 325	Engineering Economic Analysis	3
WRIT 350	Technical Editing	3
ETCC 302	Soils & Foundations	4
BMGT 422	Project Management	3
or BMIS 311	Management Information Systems	
ETCC 361	Design/Details Steel Building	4
ETCC 489	Senior Project I	1
Any Category VI: Humanities/Fine Arts		6
ETCC 375	Applied Mechanics of Fluids	3
Advisor Approved Electives: Math/Science -4 Credits, Science - 3 Credits (ABET Requirement)		7
ETCC 411	Reinforcd Concrete Dsgn/Detls	4
ETCC 499	Capstone: Senior Project II	2

Any Category V: Cultural Diversity		3
Total minimum credits required for degree		124
Code	Title	Credits
DDSN 119	Technical Graphics I	3
CAPP 151	MS Office	3
ETCC 173	Architectural Const & Material	3
IT 100	Introduction to Technology	3
M 121	College Algebra (Meets CAT II Requirement)	3
CAPP 266	Advanced MS Excel Applications	3
DDSN 114	Introduction to CAD	3
IT 111	Industrial Safety/Waste Mgmt	2
M 112	Trigonometry & Complex Numbers	2
WRIT 101	College Writing I (Meets CAT I Requirement)	3
Advisor approved electives		2
ECIV 230	Cnst Mgmt & Bid Estimation	3
EGEN 203	Applied Mechanics	3
PHSX 205	College Physics I (Meets CAT III Requirement)	3
PHSX 206	College Physics I Laboratory (Meets CAT III Lab Requirement)	1
COMX 111	Intro to Public Speaking	3
Advisor Approved Electives *		3
CHMY 121	Intro to General Chemistry (Meets CAT III Requirement)	3
CHMY 122	Intro to Gen Chem Lab (Meets CAT III Lab Requirement)	1
DDSN 245	Civil Drafting	3
EGEN 208	Applied Strength of Materials	3
M 162	Applied Calculus	3
SRVY 230	Intro to Srvyg for Engineers	3

*

Advisor approved ABET requirement. Student should select a science elective if planning to get a Bachelor Degree.

Graduate Programs

Master of Education

Counselor Education

Code	Title	Credits
Graduate Core		
CNSL 549	Research Methods in Counselor	3
EDUC 507	Educational Measurement	3
CNSL 530	Life Span Dev & Adjustment	3
Area of Specialization		
CNSL 506	K-12 Counslng Progm Dev & Admn	3
CNSL 551	Educational & Psychological Ap	3
CNSL 508	Theories of Counseling	3
CNSL 517	Counseling Skills & Practice	3
CNSL 571	Counseling Practicum	3
CNSL 525	Child & Adolescent Counseling	3
CNSL 565	Marriage & Family Counseling	3
CNSL 502	Professional Ethics	2
CNSL 563	Multicultural Counseling	2
CNSL 560	Crisis Intervention Counsel	2
CNSL 567	Community & Agency Counseling	2

CNSL 564	Diagnosis & Treatment in Cnsl	3
CNSL 521	Counseling & Medications	2
CNSL 522	Group Dynamics & Counseling	3
CNSL 558	Career Cnsl & Info Systems	2
CNSL 594	School Counseling Internship I	6
or CNSL 595	Com/Agency Counseling Intern I	
CNSL 596	School Counseling Intern II	6
or CNSL 597	Comm/Agency Cnsl Intern II	
Total minimum credits required for degree		60

Students who complete the Master of Education, Counselor Education, can plan their program in a manner that may qualify them to be eligible to apply to the Licensing Board to become licensed clinical professional counselors (LCPC). Candidates for licensure must complete the Graduate Core, the Area of Specialization, a list of Specified Counseling Courses, for a minimum of (60) sixty semester credits.

Master of Science in Education

Instruction and Learning Program

The Master's of Science degree, Learning Development option, is offered in a cohort format. All courses are offered on weekends (Internet support) and with a start to finish time of two years. Individuals and groups interested in starting a cohort group in their location should contact the Graduate Programs Office at 1-800-662-6132, extension 3738. Further information regarding the delivery of the program will be made available upon inquiry.

Code	Title	Credits
Required Courses		
EDUC 548	Learning Theories	3
EDUC 520	Learning Technologies	3
EDUC 517	Research Methods	3
EDUC 550	Critical and Creative Thinking	3
EDUC 522	Motivation and Learning	3
EDUC 511	Change Theory and Practice	3
EDUC 532	Assessment & Evaluation	3
EDUC 507	Educational Measurement	3
EDUC 552	Learning Systems	3
EDUC 554	Graduate Seminar	3
EDUC 558	Mastery Learning	3
EDUC 598	Graduate Action Research	3
Total minimum credits required for degree		36

Program Mission Statement

The Counselor Education Program prepares counselors who have developed sound practical skills through experiential learning; who have acquired a comprehensive theoretical knowledge base; who hold a strong counselor identity; and who possess the personal dispositions necessary to work in various professional settings with diverse clientele.

Program Responsibilities

The Counselor Education Program believes it has responsibilities to current graduate candidates and to their future clients. Additionally, the department believes it has a responsibility to collaborate with the communities within which it works, to continue to grow as a program, and to model professional involvement and identity.

Program Objectives

- The program will prepare and graduate skilled, knowledgeable, self-aware and self-reflective counselors who are prepared academically to seek licensure.
- The program will support faculty to collaborate with the community, its agencies and schools, to aid in learning opportunities for graduate students.
- The program will continually evaluate the curriculum, practices, and requirements to promote the highest quality education.
- The program will support faculty to model professional identity through involvement in professional organizations, attaining leadership positions.

Program Learning Outcomes for Counselor Education, MEd

Graduate Candidate Competencies

- The graduate candidate implements sound practical therapeutic and relational skills that reflect current practice.
- The graduate candidate possesses a comprehensive theoretical knowledge base that can be integrated and transferred to effective counseling relationships and techniques.
- The graduate candidate expresses a strong counselor identity through involvement and participation in professional organizations, advocacy, trainings, workshops, seminars, or other continuing education opportunities.
- The graduate candidate demonstrates a self-aware and self-reflective stance that allows for growth and the personal dispositions necessary to work in the counseling field.

Program Mission Statement

The Instruction and Learning Program mission is firmly grounded in a vision of and commitment to learning environments in which all learners have access to educational opportunities, choices, and experiences that enable them to achieve at the peak of their potential. The professional education programs are designed for delivery through innovative and efficacious systems that provide professional development and excellent educational experiences to diverse populations in a geographically and economically challenged region. To this end, we provide a variety of rich, intentional, and meaningful experiences designed to support candidates' development of appropriate dispositions, knowledge, skills, traits and habits for their fields. Through this educational experience, graduate candidates prepare to impact students' lives and learning and to take leadership roles in classrooms, schools, and beyond.

Program Responsibilities

The Instruction and Learning Program believes it has responsibilities to current graduate candidates and to their future clients. Additionally, the faculty believes it has a responsibility to collaborate with the communities within which it works, to continue to grow as a program, and to model professional involvement and identity.

Program Objectives

- The program will prepare and graduate candidates capable of identifying and analyzing contemporary issues in education and examine their effect on instructional practice in culturally responsive learning environment.
- The program will prepare and graduate candidates capable of conducting classroom action research using quantitative and qualitative methods in your classroom, school district and community to improve instruction and learning.
- The program can document the effects of instruction of students using assessment and evaluation methodologies that accurately reflect student performance.
- The program will prepare and graduate candidates that demonstrate critical thinking, creative thinking, reflective thinking and self-regulation in a professional learning environments.
- The program will prepare graduate candidates that demonstrate and promote the integration of technology in professional learning environments.
- The program will prepare graduate candidates who have increased awareness and intervention skills in mental health, suicide awareness, and collaborative problem-solving change processes.

Program Learning Outcomes for Instruction and Learning, MS in Education

Graduate Candidate Competencies

- The ability to identify and analyze contemporary issues in education and examine effects on instructional practice in culturally responsive learning environments.
- The ability to conduct research using quantitative and qualitative methods in professional learning environments to improve instruction and learning.
- An ability to document the effects of instruction using assessment and evaluation methodologies that accurately reflect student performance.
- Ability to demonstrate critical thinking, creative thinking, reflective thinking and self-regulation in professional learning environments.
- The ability to demonstrate and promote the integration of technology in professional learning environments.

Graphic Design

MSU-Northern's Graphic Design program integrates traditional arts education with current technology to prepare designers for both print and electronic media. Drawing, design, and painting courses provide a foundation focusing on development of perceptual skills and visual conception abilities. Students are expected to continue to build on these skills and abilities in subsequent courses. These foundation courses also provide the student with experience in a broad range of traditional art materials and techniques.

Mission Statement

It is the mission of the Art and Graphic Design Program to engage students in visual art and design as preparation for creative careers in the graphic design industry and related fields.

Learning Outcomes for Graphic Design, BA

Upon completion of this program, students will be able to:

- Identify and apply principles of graphic design, color, composition, hierarchy, and typography.
- Understand art and design-related tools and technology, including their roles in the creation, reproduction, and distribution of visual messages.
- Form and defend value judgements, and to communicate ideas, concepts and requirements.
- Understand the relationship of graphic design to other disciplines and to society.
- Demonstrate the ability to create and develop portfolio-level graphic design work from concept to completion.

Learning Outcomes for Graphic Design, Minor

Upon completion of this program, students will be able to:

- Identify and apply principles of graphic design, color, composition, hierarchy, and typography.
- Understand art and design-related tools and technology, including their roles in the creation, reproduction, and distribution of visual messages.
- Form and defend value judgements, and to communicate ideas, concepts and requirements.
- Understand the relationship of graphic design to other disciplines and to society.

Bachelor of Arts Graphic Design (Minor Required)

Learning Outcomes: Ability to use basic design principles to visually communicate a message and give meaningful visual form to content. Student displays an understanding of the historical and cultural implications of the Art canon. Students will demonstrate professional graphic design standards and methods needed for entry level employment. Students will apply learned knowledge to designs through the development of printed materials. Students will apply learned knowledge to electronic designs.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
ARTZ 105	Visual Language - Drawing (CAT VI)	3
ARTZ 106	Visual Language - 2-D Fndtns (CAT VI)	3
GDSN 231	Graphic Design Applications (Meets CAT VII Requirement)	3
Any Mathematics Course that Meets the Category II Requirement		3
ARTZ 224 or ARTZ 221	Watercolor I Painting I	3
Any History or Social Science that Meets Category IV Requirements		6
Choose one of the following for Category I:		3
WRIT 101	College Writing I	
WRIT 122	Business Writing	
WRIT 350	Technical Editing	
ARTZ 284	Photo I-Techs and Processes (Meets CAT VI Requirement)	3
Any BIOx, or CHMY and any GEO or PHSX (CAT III Lab Science). (Meets CAT III Requirement)		4

Any Cultural Diversity Class that Meets Category V Requirements		3
GDSN 220	Illustration I	3
GDSN 240	Electronic Design I	3
GDSN 250	Graphic Design I	3
Language Class (See Advisor		3
GDSN 340	Electronic Design II	3
GDSN 350	Graphic Design II	3
AG 204, or ESCL, or GEO, or GPHY, or GSCI, or NSCI, or PHSX, or TSCI 110 (Meets CAT III Requirement)		3
CAT VI Humanities/Fine Arts		6
Choose one of the following:		
ARTH 303	History of Renaissance	
ARTH 322	History of Baroque/Rococo	
ARTH 342	History of Modern Art	
ARTZ 384	Photo II-Theory, Crit, Prctice	3
ARTH 330	Art Hist of Western Civ I (Meets CAT VI Requirement)	3
or ARTH 340	Art History of Western Civ II	
COMX 111	Intro to Public Speaking	3
or COMX 115	Intro to Interpersonal Communc	
Upper level selective course		5
GDSN 450	Graphic Design III	4
GDSN 320	Illustration II	3
Minor and Advisor Approved Electives (18 credits must be upper division)		39
Total minimum credits required for degree/minor		120

Code	Title	Credits
ARTZ 106	Visual Language - 2-D Fndtns	3
GDSN 231	Graphic Design Applications	3
GDSN 240	Electronic Design I	3
GDSN 250	Graphic Design I	3
ARTZ 284	Photo I-Techs and Processes	3
GDSN 340	Electronic Design II	3
BMKT 338	Advertising and Promotion	3
GDSN 350	Graphic Design II	3
Choose one of the following:		3
ARTH 330	Art Hist of Western Civ I	
ARTH 340	Art History of Western Civ II	
ARTH 391	Special Topic	
Total minimum credits required for minor		27

Minor

Integrated Health Sciences

The Integrated Health Sciences program prepares students for a career as a health care professional capable of implementing the disease preventing wellness programs sought after by today's health care delivery system. The program offers a Bachelor degree for students interested in working in the health and fitness fields. The focus is on providing students with an educational background in health, fitness, and business with an emphasis on real-world rather than scholastic situations. The minor is a good fit for students in the community leadership program. Students in business programs may also want to minor in health promotion if they are interested in working in the insurance industry. The health promotion degree can also be tailored for those students wishing to pursue an advanced degree in athletic training or physical therapy.

- Mission Statement

Learning to Empower Others through psycho-motor, cognitive, and affective development in the medical, fitness, and public health settings.

Learning Outcomes for Integrated Health Sciences, BS

Upon completion of this program, students will be able to:

- Students will be able to describe the etiology, risk factors, prevention, and treatments of the most common chronic diseases (cancer, cardiovascular disease, diabetes mellitus, obesity, depression).
- Students will demonstrate their ability to use SMART goal setting to modify a personal health behavior.
- Students will demonstrate their ability to conduct a community health related needs assessment or an individual fitness assessment.
- Students will demonstrate their ability to design either a needs-based community health program or a needs-based individual health program.
- Students will demonstrate the ability to empower others through their effective use of:
 1. active listening
 2. expressing empathy
 3. providing constructive encouragement
 4. effective teaching methods
 5. policy development related to adequate resources and safe environments.

Learning Outcomes for Integrated Health Sciences, minor

Upon completion of this program, students will be able to:

- Students will be able to describe the etiology, risk factors, prevention, and treatments of the most common chronic diseases (cancer, cardiovascular disease, diabetes mellitus, obesity, depression).
- Students will demonstrate their ability to use SMART goal setting to modify a personal health behavior.
- Students will demonstrate their ability to conduct a community health related needs assessment or an individual fitness assessment.
- Students will demonstrate their ability to design either a needs-based community health program or a needs-based individual health program.
- Students will demonstrate the ability to empower others through their effective use of:
 1. active listening
 2. expressing empathy
 3. providing constructive encouragement

Bachelor of Science Integrated Health Science (Non-Teaching)

Code	Title	Credits
General Education Core (p. 20)		34-37
Required Courses		
M 121	College Algebra (Meets CAT I Requirement)	3
COMX 115	Intro to Interpersonal Communc (Meets CAT I Requirement)	3
BIOH 104 or BIOH 201	Basic Human Biology (w/ Lab Meets CAT III Requirement) Human Anat Phys I	4
AHMS 144	Medical Terminology	3
PSYX 150	Drugs and Society (Meets CAT IV Requirement)	3
BIOH 211	Human Anat Phys II (w/ Lab Meets CAT III Requirement)	4
Or Category III Course Approved by Advisor		3
WRIT 101	College Writing I (Meets CAT I Requirement)	3
Any Category V: Cultural Diversity		3
HTH 101	Opport in Health Professions	2
HTH 110	Personal Health and Wellness	3
Any Category IV: Social Sciences/History		3
Any Category VI: Humanities/Fine Arts		6
KIN 205	Foundation in Kinesiology	3

NUTR 221	Basic Human Nutrition	3
Any ACT XXX Activities Course		1
Any Category VII: Technology Course		3
PSYX 230	Developmental Psychology (Meets CAT IV Requirement)	3
CHTH 262	Community Health	3
AHAT 210	Prev and Care Athletic Injur	3
HTH 325	Etiology of Disease	3
HTH 378	Sex Education	3
HTH 374	Current Issues in Health	
WRIT 3XX any Upper Division Writing		3
HTH 376	Understanding Obesity	3
KIN 364	Research Methods Health	3
HTH 309	Contemporary Epidemics	3
HTH XXX Selective		3
Areas of Concentration		
Community Health Education		29
Advisor Approved Electives		6
HPE 234	First Aid and CPR	2
CHTH 355	Theory Pract Comm Hlth Ed	3
PSYX 383	Health Psychology	3
CHTH 440	Principles of Epidemiology	3
CHTH 445	Prgm Planning Comm Health	3
CHTH 450	Worksite Health Promotion	3
HTH 498	Cooperative Education	6
Exercise Science Option		29
HPE 234	First Aid and CPR	2
KIN 483	Exercise, Disease and Aging	3
KIN 320	Exercise Physiology	3
KIN 327	Kinesiology & Biomechanics	3
KIN 410	Advanced Strength/Conditioning	3
KIN 415	Adv Exercise Test & Prescrip	3
HTH 475	Legal/Ethical Issue Hlth/Exerc	3
KIN 440	Sport Psychology	3
HTH 498	Cooperative Education	6
Pre-Allied Health		31
STAT 216	Introduction to Statistics	3
CHMY 141/142	College Chemistry I	4
CHMY 143/144	College Chemistry II	4
CHMY 321	Organic Chemistry I	3
CHMY 322	Organic Chemistry Lab I	2
CHMY 323	Organic Chemistry II	3
CHMY 324	Organic Chemistry Lab II	2
PHSX 205	College Physics I	3
PHSX 206	College Physics I Laboratory	1
KIN 490	Undergraduae Research	3
AHAT 495	Practicum: Sports Medicine	3
Total minimum credits required for degree		120

Minor Integrated Health Science (Non-Teaching)

Code	Title	Credits
Required Courses		
HTH 110	Personal Health and Wellness	3

ACT 150	Beginning Yoga	1
KIN 205	Foundation in Kinesiology	
NUTR 121	Clinical Human Nutrition	2
HPE 234	First Aid and CPR	2
CHTH 262	Community Health	3
HTH 325	Etiology of Disease	3
PSYX 383	Health Psychology	3
HTH 378	Sex Education	3
Total minimum credits required for minor		24

Industrial Technology

Learning Outcomes for all Education majors

Upon completion of this program, students will be able to:

- Demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)¹ in the following categories: the learner and learning; content; instructional practice; and professional responsibility.
- Use research and evidence to develop an understanding of the teaching profession and use both to measure their P-12 students' progress and their own professional practice.¹
- Apply content and pedagogical knowledge as reflected in outcome assessments in response to standards of Specialized Professional Associations (SPA), the National Board for Professional Teaching Standards (NBPTS), states, or other accrediting bodies (e.g., National Association of Schools of Music – NASM).
- Demonstrate skills and commitment that afford all P-12 students access to rigorous college- and career-ready standards (e.g., Next Generation Science Standards, National Career Readiness Certificate, Common Core State Standards).
- Model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice.

Bachelor of Science in Education Industrial Technology 5-12 (Teaching)

Learning Outcomes: Candidates apply theory-to-practice pedagogy that will help them become effective 21st century educators. Candidates have a comprehensive content knowledge base used to instruct research based strategies to meet the needs of diverse student populations. Candidates demonstrate an understanding of and actively embrace the differences among diverse people, cultures, circumstances, environments. Candidates demonstrate a willingness to assist their future students' academic, emotional, personal, cultural, and physical needs.

Refer to transfer guide or articulation agreement if you are a transfer student.

Prerequisites for Admission to Secondary Education Industrial Technology 5-12 Program refer to page 28.

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
AST 160	Automotive Engine Repair	5
CIS 308	Industrial Electronics	4
EDU 370		
CSTN 105	Introduction to Woodworking	3
CSTN 217	Furniture & Cabinetmaking	3
DDSN 119	Technical Graphics I	3
DDSN 114	Introduction to CAD	3
EDU 225	Intro to Education Psychology	3
EDSP 304	Ed and Psyc Exceptl Child	3
EDU 201	Intro to Educ with Fld Exprnce	3
EDU 380	Intro Curric Plan/Practice	3
EDUC 321	Integrating Tech into Educ	1
EDU 383	Assessment in Education	3

EDU 481	Content Area Literacy	2
EDU 495	Student Teaching (5-12)	12
EDU 452	Advanced Practicum	3
EET 110	Electronics Survey I	3
HTH 110	Personal Health and Wellness	3
IT 100	Introduction to Technology (Meets CAT VII Requirement)	3
IT 130	Construction Technology	3
MCH 200	Machining	3
MCH 250	Manuf Processes and Materials	3
PSYX 230	Developmental Psychology (Meets CAT IV Requirement)	3
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
Technical Endorsement (see advisor for more information)		10
Electives		1
Total minimum credits required for degree		128

Liberal Studies

Our Bachelor of Arts degree in Liberal Studies is designed to provide you with a flexible liberal education emphasizing the humanities and social sciences. This coursework provides a foundation for understanding the ideas shaping our society. In addition, the program is founded on a general education core, with an emphasis on advanced work in two areas of liberal study with options in the humanities and social sciences.

Mission Statement

The MSU-Northern Liberal Studies BA is committed to the discovery of knowledge about social, historical, ethical, cultural, and aesthetic issues that shaped the past and influence students' future academic, personal, and professional lives.

Learning Outcomes for Liberal Studies, BA

Upon completion of this program, students will be able to:

- Demonstrate an understanding of knowledge and methods from disciplines in humanities, social sciences and fine arts.
- Be able to give a compelling, focused well-organized and well-delivered argument on a research topic that demonstrates the ability to engage in perspective-taking.
- Be able to consider multiple perspectives; discuss critical assumptions, findings and alternative interpretations; and draw well-founded and cautious conclusions, integrating knowledge and modes of thinking from two more disciplines.
- Understand the significant ideas, concepts, structures, and values within and across disciplines, including theoretical, and practical implications, demonstrating interdisciplinary connections between two or more liberal arts areas.

Bachelor of Arts Liberal Studies-Minor Required

Learning Outcome: Candidate demonstrates the ability to frame a meaningful question in a academic discipline and to find information relevant to that question

Code	Title	Credits
General Education Core (p. 20)		33
Required Courses		
LSH 201	Intro to Humanities The Art of (Meets CAT VI Requirement)	3
Choose one (CAT VI)		
PHIL 200		
LIT 300	Literary Criticism	3
Choose one (CAT IV)		
HSTR 101	Western Civilization I	3
HSTR 102	Western Civilization II	3
Foreign Language or cultural diversity course		
Select (6) six credits (100-200 level)		6
ARTZ, ARTH, LIT, MUSI, NASX, GDSN, THTR *		

Choose (6) six credits (100-200 level)

CMLD, ECON, GEO, PSCI, PSYX, SOCI, EDU, COMX *	
--	--

Select (15) fifteen credits from each of two of the following major areas at the 300-400 level. 30

ARTH, ARTZ, GDSN, MUSI, NASX, THTR	
------------------------------------	--

LIT, CRWR, WRIT, LING, ENGL	
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CMLD, COMX, ECON, EDU, EDUC, HSTR, HSTA, PSCI, PSYX, SOCI	
---	--

Choose one 3

LSH 494	Senior Capstone
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Capstone in Concentration Area **

Total minimum credits required for degree/minor 120

*
If a course counts in more than one area, additional courses will be required to reach the 120 credits required to graduate.

**
** May impact how many additional electives students need

Manufacturing

Overview

Learning Outcomes for Manufacturing, AAS

Upon completion of this program, students will:

- Demonstrate high standards of professionalism and safety.
 - a. Working with Others: Students will demonstrate that they can plan, work, and accomplish a task utilizing the help of their peers.
 - b. Hand Tool Safety: Students will demonstrate the proper and safe use of hand tools.
 - c. Personal Safety: Students will demonstrate proper use of Personal Protective Equipment (PPE).
- Demonstrate skills in utilizing proper tools, materials & machines for manufacturing.
 - a. Measurement Tools: Students will demonstrate the proper selection and use of Semi-Precision and Precision Measurement Tools.
 - b. Welding, cutting and foundry: Students will demonstrate the proper processes when Welding/Cutting/Founding Metals.
 - c. Machine Tools: Students will demonstrate the proper selection and use of CNC or manual machine tools.
- Demonstrate understanding of the Development Process by effective use of resources to convert materials into industrial and consumable goods.
 - a. Design: Students will demonstrate how to design something based upon a perceived need.
 - b. Development: Students will Create and Test their Design to see if it fills the need of the Original Design Idea.
 - c. Manufacture: Students will use a Developed Design and create Manufacturing Processes that will produce enough of said Design to fill the needs of the market.
- Use Graphic Communication resources to convey technical information.
 - a. Technical Drafting: Students will be able to use Precision Measuring tools, (i.e. caliper, rule, micrometer, dial indicator, Vernier scale tools,) to aid in Drafting Geometric figures.
 - b. Computer Aided Design 2D: Students will demonstrate proficiency in creating 2D CAD drawings and prints.
 - c. Computer Aided Design 3D: Students will demonstrate proficiency in creating 3D CAD Drawings as well as 3D printed models.

Associates of Applied Science in Metals Manufacturing

Code	Title	Credits
DDSN 119	Technical Graphics I	3

WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
WLDG 114	Mig/Tig Welding	3
WLDG 195	Practicum: Welding (Repeat for 12 credits)	3
WRIT 101	College Writing I (Meets CAT I Requirement)	3
WLDG 180	Shielded Metal Arc Welding	3
WLDG 260	Repair & Maintenance Welding	3
WLDG 186	Welding Qual Test Prep w/Lab	3
BGEN 105	Introduction to Business	3
COMX 111	Intro to Public Speaking (Meets CAT I Requirement)	3
DDSN 114	Introduction to CAD	3
MCH 200	Machining	3
MCH 250	Manuf Processes and Materials	3
CAPP 120	Introduction to Computers	3
M 121	College Algebra (Meets CAT II Requirement)	3
DDSN 255	Machine Drafting	3
MFGT 252	CNC Machining	3
IT 111	Industrial Safety/Waste Mgmt	2
PHSX 105	Fund of Physical Science (Meets CAT III Requirements)	3
PHSX 106	Fund of Physical Science Lab	0
Total Credits Required		66

Mathematics

Overview

Native American Studies

Overview

Native American Studies

Code	Title	Credits
NASX 120	Native American Language I	3
NASX 105	Intro Native Amer Studies	3
NASX 232	MT Ind Cltrs/Hstry/Iss	3
Core Options At least 6 credits (NASX 2XX, 3XX, 4XX)		6-15
Major Specific Electives - At least 21 credits		21-27
NASX 121	Native American Language II	
NASX 2XX Native Museum Studies		
NASX 235	Oral/Written Trads Native Amer	
NASX 340	Native American Literature	
NASX 3XX Native Northern American Music		
NASX 450	History of American Indians	
NASX 3XX Comparative Indigenous Activism		
NASX 439	American Indian Art	
NASX 492	Independent Study	
NASX 4XX Native Studies Senior Research Capstone		
General Education Core		33
Minor/Elective Course		36-51
Total minimum credits required for degree		120

Minor

Code	Title	Credits
Required Courses		
NASX 105	Intro Native Amer Studies (CAT V)	3
NASX 232	MT Ind Cltrs/Hstry/Iss (= 332)	3
NASX 120	Native American Language I	3
or NASX 121	Native American Language II	
NASX 310	Native Cultures of North Amer (CAT V)	3
NASX 235	Oral/Written Trads Native Amer (CAT V)	3
or NASX 340	Native American Literature	
NASX 376	Fed Indian Law & Policy (CAT V)	3
NASX 450	History of American Indians (CAT V)	3
Total minimum credits required for minor		21

Nursing

Office: Hagener Science Center Room 102

Montana State University-Northern offers multiple-entry/multiple exit nursing programs that include an Associate of Science degree in nursing (ASN) and a Bachelor of Science degree in nursing (RN-BSN Completion Program).

Montana State University-Northern Department of Nursing Associate of Science Degree in Nursing (ASN) and Bachelor of Science Degree in Nursing (RN-BSN Completion) are accredited by:

Accreditation Commission for Education in Nursing (ACEN)

3343 Peachtree Road NE, Suite 850

Atlanta, Georgia 30326

404-975-5000

www.acenursing.org (<http://www.acenursing.org/>)

Montana State University-Northern Department of Nursing Associate of Science Degree in Nursing (ASN) is fully approved by:

Montana State Board of Nursing (MT BON)

301 South Park

PO Box 2000513

Helena MT 59620-0513

406-841-2300

www.nurse.mt.gov (<http://www.nurse.mt.gov/>)

The RN-BSN Completion Program follows the Rules and Statutes of the Montana State Board of Nursing.

Advising Information

Nursing students are encouraged to meet with advisors at the beginning of each semester to confirm plans of study and make any necessary adjustments. Meeting with an advisor before registering for classes each semester will allow students to plan a schedule that will meet student needs and assist in completing requirements in an efficient manner.

The program prepares men and women for entry-level Registered Nurse positions in hospitals and other health care agencies. The ASN qualifies the graduate to write the National Council Licensure Examination (NCLEX) to become a registered nurse. The ASN degree program is an intense, demanding, accelerated education option for students desiring the opportunity to become RN's and enter the workforce sooner than the four-year degree.

The prerequisite year of the ASN program is offered in both Havre and Lewistown. Upon admission to the nursing program students will participate in clinical experiences at various sites in their communities. Students who begin the program in Havre can complete their second year in Havre or at the MSU-Northern Great Falls campus. Students who begin the program in Lewistown will complete the program at that site. Placement is determined by grade point average. Placement is limited at each site.

All students in the MSU-Northern ASN program are required to take standardized proficiency examinations during the program. These examinations provide the student, faculty and program with information concerning student comprehension, application of nursing content and academic growth. Nursing students are required to pay fees for these examinations. These fees will be paid during the semester of the examination and are not refundable.

The RN-BSN Completion program provides the opportunity for registered nurses to continue their education in the profession. The RN-BSN program follows the Rules and Statutes of the Montana State Board of Nursing and is fully accredited by ACEN. The major builds on previous nursing education and is directed toward an expanded educational base in the areas of nursing leadership and management, community health, and advanced clinical practice. The BSN graduate is prepared as a generalist to practice in varied settings and has the foundation for graduate education.

The RN-BSN classes are online and are scheduled innovatively to meet the needs of adult, non-traditional learners. Most RN-BSN students maintain their jobs and residences and are able to attend classes without moving to the university setting. It is usually possible to attain RN-BSN clinical experiences in the student's geographic

Further information and program requirements may be obtained by calling the Department of Nursing office at 406.265.4196 or the University toll-free number, 1.800.662.6132, or by visiting the Department of Nursing Web page at <http://www.msun.edu/academics/nursing> (<http://www.msun.edu/academics/nursing/>). Interested RN-BSN students can contact Debbie Winegar at deborah.winegar@msun.edu for questions concerning admission into the program.

Associate of Science Degree

Prerequisites for Entering the Nursing Program

The following is the policy for admission to the Associate of Science in nursing (ASN) program:

To be considered for admission the student must:

1. Be admitted to Montana State University-Northern (a separate application to the University is required).
2. Submit official transcripts from any college and/or university that you have attended or are currently attending. Submit electronically using "National Student Clearinghouse" or mail transcripts to *MSU-Northern Registrar's office, P.O. Box 7751, Havre, Montana, 59501*. Transcripts will be evaluated to determine credit allotment and articulation.
3. Required admissions criteria for acceptance into the ASN program:
 - a. Applications are accepted from May 1 to June 15. If the student is taking a prerequisites during spring semester those final grades must be submitted with the application. Accepted applicants will be notified by email and mail on or before July 1st.
 - b. a minimum extracted GPA of 2.85 is required to apply. the extracted GPA is calculated from the following courses completed with a "C" grade or better, Anatomy and Physiology I with lab, General Chemistry with Lab, College Writing and College Algebra.
 - c. the Kaplan Admissions Exam with a minimum score of 65% or higher.
4. Licensed Practical Nurses may apply to the ASN program. The LPN would apply to the program with the same requirements. If accepted to the ASN program, the LPN can take a skills test and computer test to test out of one course, Foundations of Nursing. The LPN is required to take all other courses to receive an ASN degree.
5. Students who desire to transfer into the Associate Degree Program for another school of nursing must meet the required admission criteria listed above and demonstrate competency in clinical skills. Admission is granted on a space-available basis.
6. Applicants not admitted into the Nursing Program by their expected date of admission must reapply for future consideration. **There is no waiting list.**
7. The following prerequisite courses may be taken at MSU-Northern or at other accredited institutions. None of these courses are waived simply on the basis of a prior college degree. An advisor from the Department of Nursing will evaluate the transcripts from other institutions and will recommend the credit (if any) to be allowed.

8. Code	Title	Credits
BIOH 201	Human Anat Phys I	4
BIOH 211	Human Anatomy & Physiology II	4
CHMY 121	Intro to General Chemistry	3
CHMY 122	Intro to Gen Chem Lab	1
M 121	College Algebra	3
NRSNG 100	Introduction to Nursing	1
NUTR 121	Clinical Human Nutrition	2
PSYX 100	Intro to Psychology	3
WRIT 101	College Writing I	3

9. Prior to starting NRSNG courses the student must meet the following requirements:
10. Students are required to set up an account with **CastleBranch**. CastleBranch provides secure storage of student's required documents for the program. The student is responsible for the fees associated with this account. For more information: www.castlebranch.com (<http://www.castlebranch.com/>)
 - a. The following documentation is required and must be completed in your CastleBranch account prior to the first day of class:
 - i. Has MMR immunization or titer
 - ii. Tetanus, Diphtheria, and Pertussis (Tdap) immunization or Titer.

- iii. Had the hepatitis B vaccination 3 shot series or titer
 - iv. Has Varicella immunization or titer.
 - v. Drug testing is required every fall semester. The test is provided through CastleBranch. The cost of the drug test is the student's responsibility. You will receive more information concerning the drug testing date after the start of the Fall semester.
 - vi. Background check provided through CastleBranch. The cost of the background check is the student's responsibility. If you have any criminal activity stated on your background check, it is recommended that you contact the Montana Board of Nursing to determine if you are eligible to take NCLEX-RN upon completion of the ASN program. <http://boards.bsd.dli.mt.gov/nur>
 - vii. Influenza immunization. (This is done during the fall semester, closer to October)
 - viii. American Heart Association BLS certification. *This course will be offered in the NRSG 233-Foundations of Nursing Lab during fall semester.
- b. Health standards must be met as required by participating clinical facilities. Additional tests must be taken as required by these facilities and the Department of Nursing faculty document that such standards are met
11. Students are expected to participate in clinical experiences in hospitals, nursing homes, and other community agencies at varied time schedules. Students who are employed must arrange with employers to allow for flexibility in meeting their academic and clinical schedules. The clinical schedule may involve day, evenings, and weekend assignments.
12. Faculty members have an obligation to the client to ensure that nursing students who care for them are competent to do so. In the interest of safeguarding the client's welfare, students must meet the criteria detailed in the Nursing Student Handbook. To be allowed to participate in clinical assignments the student must:
- a. Demonstrate good health status and practices and be free from any condition that could jeopardize client safety and comfort
 - b. Demonstrate emotional stability
 - c. Demonstrate sensitivity to client safety and comfort
 - d. Practice within legal standards and demonstrate regard for professional ethics
 - e. Comply with agency requirements pertinent to student participation
 - f. Carry out client care assignments with the required knowledge and skill as determined in classroom theory and laboratory demonstrations

Students Note: You cannot participate in clinical experiences if you fail to keep current your proof of requirements. Failure in clinical experience also results in failure in the nursing course(s). Also, please note that all Associate Degree Nursing students pay a \$600/semester program fee.

General Requirements for Progression and Graduation

To assure progression through the program, the Nursing student is required to maintain the total academic and clinical requirements. When assigned to clinical situations, the student must meet the criteria that assure safety and welfare.

1. Pass the required General Education courses. Students who does not pass the General Education courses that are embedded in the ASN curriculum cannot progress to next semester of the ASN program. The general education courses include:(Anatomy & Physiology II with Lab, Intro to Psych, Intro to Sociology, and Microbiology with Lab). Any student requesting an Incomplete in these 4 courses has to meet with the Dean for approval.
2. Earn a grade of "C" or higher in all courses required for the nursing program, even the required General Education courses.
3. Maintain an average of 80% or higher on tests and quizzes in order to pass the nursing course.
4. Pass both the didactic and lab/clinical courses in the same semester. If either is not passed, **both** must be repeated together.
5. Meet the criteria established for the standardized testing (Kaplan and Hurst Review) required for the nursing courses.

Reinstatement after Withdrawal from the Nursing Major

Reinstatement to the nursing major is not automatic. A former student must submit a petition to the Director of Nursing before the beginning of the semester. The petition must state the reason the student was unsuccessful and what has been done to increase the chances for success if readmitted. Students petitioning for reinstatement may be required to pass a written test and a practical performance exam for placement into the nursing program. Students who have left the program for non-academic reasons, and have been out for one year or less, may be reinstated without testing on a space available basis.

Additional information regarding student policies and guidelines may be found in the Nursing Student Handbook, which is updated annually.

Faculty Academic Advisors

1. Faculty advisors are assigned to each student upon admission to the nursing program. As students' progress to Level II, new advisors may be assigned. New advisors may also be assigned as students' progress to the BSN program.
2. A student is expected to meet with his/her advisor a minimum of twice per semester to discuss grades, academic plans or problems, course changes, etc. The student or the advisor has the right to initiate a change in the advising assignment. Students are encouraged to confer with advisors as academic problems, conflicts, or concerns arise.

Transportation

Students must provide their own transportation to and from the classroom and the clinical areas.

Program Fee

All students admitted into the ASN program pay a \$600 program fee per semester.

Summary

If the above criteria are not met, or if there is any circumstance that may constitute an unreasonable risk to the safety and well being of the patient/client, a student may be removed from the program. The final decision regarding removal will be based on the judgment of the Nursing faculty and Director.

Bachelor of Science In Nursing Degree

The following is the policy for applying to the Bachelor of Science degree in nursing (RN-BSN) program:

1. Apply for admission to Montana State University-Northern (a separate application to the University is required; obtain form from the Admissions Office or <https://www.applyweb.com/msunorth> (<https://www.applyweb.com/msunorth/>)).
1. Submit official transcripts from any college and/or university that you have attended or are currently attending either electronically using "National Student Clearinghouse" or mail transcripts to MSU-Northern Registrar's office, P.O. Box 7751, Havre, Montana, 59501. Transcripts will be evaluated to determine credit allotment and articulation.
2. A cumulative GPA of 2.50 or higher.
3. Be licensed as a RN or eligible to sit for the NCLEX (Licensure required for clinical practicum courses).
4. Applications are accepted year round.
5. The following required general education courses may be taken at MSU-Northern or at other accredited institutions. None of these courses are waived simply on the basis of a prior college degree except as provided by the Montana Board of Regents policy. An advisor from the Department of Nursing will evaluate the transcripts from other institutions and will recommend the credit, if any, to be allowed

6. Code	Title	Credits
CAPP 120	Introduction to Computers	3
M 121	College Algebra	3
Select one of the following:		3-4
STAT 216	Introduction to Statistics	
STAT 217	Interm Statistical Concepts	
BGEN 253	Business Statistics & Research	
WRIT 101	College Writing I	3
Cultural Diversity elective		3
Humanities/Fine Arts elective		6
History/Social Science electives		6

7. Students are required to set up an account with CastleBranch. CastleBranch provides secure storage of student's required documents for the program. The student is responsible for the fees associated with this account. For more information: www.castlebranch.com
8. Prior to starting the clinical courses the student must meet the following requirements:
 - a. MMR immunization or titer
 - b. Tetanus, Diphtheria, Pertussis (Tdap) immunization or titer.
 - c. hepatitis B vaccination series or titer
 - d. Two-Step TB Test or QuantiFERON test
 - e. Has professional liability insurance
 - f. Copy of Montana RN license
 - g. Current BLS certification
 - h. Background check provided through CastleBranch.

General Requirements for Progression and Graduation

The MSU-Northern Department of Nursing is required to follow the *Montana State-Wide RN-BSN Completion Model Curriculum* adopted in 2016.

To assure progression through the program, the student must meet the total academic and clinical requirements. When assigned to clinical situations, the student is also required to assure patient safety and welfare.

To progress in the MSU-Northern RN-BSN Completion Program without interruption, the student is required:

1. Earn a grade of "C" or higher in all courses required for the nursing program.
2. Maintain a GPA of at least 2.5, or higher, while enrolled in the RN-BSN Completion Program
3. Students accumulating two grades of "W" or two grades below "C" in any course(s) required for the Nursing Major will be dropped from the program and may not be readmitted for 3 years.
4. To progress in the program, the nursing student is required to successfully pass both the didactic and clinical portions of a course. If either is not passed, the entire course must be repeated.
5. RN-BSN Completion students are required to complete the program within five (5) consecutive years of beginning the program as described with your approved Degree Plan.

Reinstatement after Withdrawal from the Nursing Major

1. A student who has been removed for academic performance or who has withdrawn from the program, may reapply to the Department of Nursing for readmission to the RN-BSN Program.
2. A student who has been removed for academic performance or who has withdrawn from the program is required to petition the Department of Nursing APG Committee and the Department of Nursing Director in writing for readmission to the RN-BSN Completion program. The written petition gives permission for the APG Committee and Director to review the student's record. It also includes the following documents:
 - a. A copy of their Current transcript;
 - b. A written success plan describing how he/she plans to meet the course requirements and identifying how he/she will overcome the barriers of the past;
 - c. A written summary of his/her nursing academic career plan;
3. The APG Committee will consider each case on presentation of the information submitted in the petition. There is no guarantee that the student will be readmitted.
4. Readmission depends on:
 - a. The APG's evaluation of the likelihood of the applicant's successful performance in succeeding course work;
 - b. All admission criteria being met.
5. If approval for readmission is granted, the student will resume the nursing program at a point of entry which allows for smooth progression to the next sequence as determined by the APG Committee.
 - a. The student may be advised to audit a previous nursing course so that transition can be made smoothly and student achievement enhanced.
 - b. Students may be advised to successfully complete the appropriate standardized examinations as required by the Department of Nursing.

Additional information regarding student policies and guidelines may be found in the Nursing Student Handbook, which is updated annually.

Courses to be Taken and Where They Are Offered

This information is provided in sample curriculum plans for the BSN degree. These are available as separate documents and should be included in the packet of application materials.

Faculty Academic Advisors

Faculty advisors are assigned to each student upon admission to the program. A student is expected to meet with his/her advisor a minimum of twice per semester to discuss grades, academic plans or problems, course changes, etc. The meeting may be face-to-face, by e-mail, or by telephone. The student or the advisor has the right to initiate a change in the advising assignment. Students are encouraged to confer with advisors as academic problems, conflicts, or concerns arise.

Transportation

Students must provide their own transportation to and from the clinical areas.

1. Students are expected to participate in clinical experiences in hospitals, nursing homes, and other community agencies at varied time schedules. Students who are employed must arrange with employers to allow for flexibility in meeting their academic and clinical schedules. The clinical schedule may involve day, evenings, and weekend assignments.
2. Participation in the clinical area is dependent upon space availability.
3. Faculty members have an obligation to the patient/client to ensure that nursing students who care for them are competent to do so. In the interest of safeguarding the patient/client's welfare, students must meet the criteria detailed in the Nursing Student Handbook. To be allowed to participate in clinical assignments the student must:
 - a. Demonstrate good health status and practices and be free from any condition that could jeopardize patient/client safety and comfort.
 - b. Demonstrate emotional stability.
 - c. Demonstrate sensitivity to client safety and comfort.
 - d. Practice within legal standards and demonstrate regard for professional ethics.

- e. Comply with agency requirements pertinent to student participation.
- f. Carry out patient/client care assignments with the required knowledge and skill as determined in classroom theory and laboratory demonstrations.

If the above criteria are not met, or if there is any circumstance that may constitute an unreasonable risk to the safety and well-being of the patient/client, a student may be removed from the program. The final decision regarding removal will be based on the judgment of the nursing faculty and Director.

Mission Statement for the Department of Nursing

The mission for the Department of Nursing is to provide professional nursing education for a diverse student population by promoting student-centered and culturally enriched environments which foster student's success utilizing healthcare partnerships which expand learning experiences across North Central Montana and beyond.

Mission Statement for Nursing, RN to BSN

MSU-Northern's RN-BSN Completion Program assists the RN to build on prior experiences, knowledge and skills in order to grow personally and professionally into a leadership role. The RN-BSN Completion Program addresses complex healthcare issues in a diverse and evolving world of healthcare.

Student Learning Outcomes for Nursing, RN-BSN Completion Program

Upon completion of this program, students will be able to:

- Provide leadership in coordinating patient-centered care which respects patient values, preferences and needs.
- Demonstrate collaborative leadership with patients and interprofessional teams, to foster mutual respect, open communication, and shared decision-making.
- Integrate evidence-based practices with clinical expertise for delivery of optimal health care.
- Analyze and evaluate patient and health care data to support quality improvement within health care systems.
- Analyze health care systems and processes to identify actual and potential risks based on national safety initiatives.
- Analyze the use of technology to communicate, inform, and support decision-making while managing patient-centered care.

Mission Statement for Nursing, ASN

ASN Completion Program Mission Statement: MSU-Northern's ASN program provides a high quality nursing program that prepares students to become graduate nurses entering the profession of nursing.

Student Learning Outcomes for Nursing, ASN Program

- Upon completion of this program, students will be able to:
- Provide coordinated patient-centered care which respects patient values, preferences and needs.
- Collaborate with patients and inter-professional teams, to foster mutual respect, open communication, and shared decision-making.
- Analyze evidence-based practices for delivery of optimal health care across the lifespan.
- Explain the use of patient and health care data to monitor care outcomes for quality improvement.
- Provide safe patient care across the lifespan in all practice settings.
- Use technology to communicate, inform, and support decision-making while providing patient-centered care across the lifespan.

Bachelor of Science

Students who plan to complete the BSN degree must first earn an ASN degree at MSU-Northern or another approved nursing program (first and second year nursing course requirements are met). Registered nurses who earn their nursing diploma will be evaluated on an individual basis.

Code	Title	Credits
General Education Core (p. 20)		
ASN Required Before Acceptance		
Required Courses		
PSYX 230	Developmental Psychology	3

STAT 216	Introduction to Statistics	3
WRIT 350	Technical Editing	3
Upper Division Humanities (300-400lv)		3
NRSG 344	Family Nursing	3
NRSG 361	Global Nursing/Healthcare	3
NRSG 463	Leadership & Mang for RN	5
NRSG 464	Leadership & Mang RN Clinical	1
NRSG 322	Health Promotion and Education	3
NRSG 325	Health Assessment	3
NRSG 326	Complex Health Care Needs	3
NRSG 305	Nursing Ethics	3
NRSG 301	Nursing in the Community	5
NRSG 302	Nursing in the Comm Clinical	1
NRSG 320	Nursing/Healthcare Informatics	3
NRSG 424	Nursing Research & Evidence	3
Total minimum credits required for degree		120

PLEASE NOTE: Students enrolled in the clinical courses in this program will pay a \$50 fee for NRSG 464 fall semester and pay a \$50 fee for NRSG302 in Summer semester. These fees are in addition to tuition and other mandatory fees.

Associate of Science

This program is for students who began Fall Semester 2022 and thereafter.

Code	Title	Credits
Required Courses Credits		
Pre-Nursing		
BIOH 201	Human Anat Phys I (w/ Lab Meets CAT III Requirement)	4
CHMY 121	Intro to General Chemistry (Meets CAT III Requirement)	3
CHMY 122	Intro to Gen Chem Lab	1
WRIT 101	College Writing I (Meets CAT I Requirement)	3
M 121	College Algebra (Meets CAT II Requirement)	3
Program Requirements		
NRSG 230	Nursing Pharmacology	3
NRSG 231	Nursing Pharm Lab	2
NRSG 232	Foundations of Nursing	3
NRSG 233	Foundations of Nursing Lab	3
BIOM 250	Microbiology for Hlth Sciences (Meets CAT III Requirements)	3
BIOM 251	Microbiology Hlth Sciences Lab	1
NRSG 256	Pathophysiology	3
NRSG 234	Adult Nursing I	3
NRSG 235	Adult Nursing I Clinical	2
NRSG 236	Health & Illness Maternal Nurs	2
NRSG 237	Health/Illness Mat Nurs Clinic	1
BIOH 211	Human Anat Phys II (w/ Lab Meets CAT III Requirement)	4
NRSG 244	Adult Nursing II	3
NRSG 245	Adult Nursing II Clinical	2
NRSG 254	Complex Care Mental Health	3
NRSG 255	Cmplx Care Mental Health Clncl	1
NRSG 246	Health & Illness Child/Fam	2
NRSG 247	Hlth & Illns Chld/Fam Clinical	1
SOCI 101	Introduction to Sociology (Meets CAT IV Requirement)	3
NRSG 259	Adult Nursing III	3
NRSG 260	Adult Nursing III Lab	1

NRSG 261	Adult Nursing III Clinical	2
NRSG 266	Managed Client Care	2
NRSG 267	Managed Client Care Clinical	2
PSYX 100	Intro to Psychology (Meets CAT IV Requirement)	3
Total minimum credits required for degree		72

After graduation from ASN program students are eligible to sit for NCLEX for RN licensure.

PLEASE NOTE: Students enrolled in this program will pay \$600.00 program fee. This fee are in addition to tuition and other mandatory fees.

Plumbing Technology

Our Associate of Applied Science degree in Plumbing Technology integrates the theory and applications of today's plumbing materials, technology, and installation practices with the requirements the state plumbing code to prepare the graduate for entry into the fields of plumbing as a apprentice plumber.

MSU-Northern's innovative program is the only one of a kind in Montana and has the board support of the state's plumbing industry. The plumbing degree provides the student with a comprehensive course of study designed to make the program graduate a valuable asset to the plumbing industry and to provide the graduate with a lifetime career in the trade of journeyman plumber.

Mission Statement

The mission of the Plumbing Technology program at MSU-Northern is to prepare students for successful employment in a variety of settings related to the field of Plumbing & Pipe fitting.

Learning Outcomes for Plumbing Technology, AAS

Upon completion of this program, students will be able to:

- Operate pipe trades tools & equipment
- Perform plumbing math and layout work for the installation of plumbing systems
- Perform plumbing joint making processes
- Perform plan reading and plumbing drafting
- Perform plumbing work in compliance with current Uniform Plumbing Codes
- Enter into the field of plumbing as an apprentice plumber

Associate of Applied Science

Code	Title	Credits
Required Courses		
CAPP 120 or CAPP 151	Introduction to Computers MS Office	3
DDSN 119	Technical Graphics I	3
PLUM 100	Intro to the Plumbing Trades	4
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
IT 105	Industry Foundations	
CSTN 135	Basic Rigging	1
IT 111	Industrial Safety/Waste Mgmt	2
PLUM 170	Plumbing Codes	2
WLDG 180	Shielded Metal Arc Welding	3
PLUM 260	Intro to Cntrl Circuit Trblsht	2
PLUM 120	Intro to Piping Systems	3
COMX 111 or COMX 115	Intro to Public Speaking ³ Intro to Interpersonal Communc	3
HPE 234	First Aid and CPR	2
PLUM 200	Pipe Fitting Tools & Motor Eq	3

PLUM 210	Advanced Blueprint Reading	2
PLUM 230	Hngrs, Supports, & Fld Testing	2
M 105	Contemporary Mathematics	3
PLUM 110	Intro to Plumbing and Drawing	1
PLUM 125	Intro to Plumbing Fixtures	2
WLDG 186	Welding Qual Test Prep w/Lab	3
PLUM 250	Special Piping	3
PLUM 270	Hydronic Heating & Cooling Sys	2
WRIT 122 or WRIT 101	Business Writing College Writing I	3
PLUM 280	Energy Management	1
PLUM 285	System Startup & Shutdown	1

Total minimum credits required for degree **62**

CAPP 151, COMX 111 and WRIT 122 are preferred courses

PLEASE NOTE: Students enrolled in this program will pay \$75/semester in program fees. These fees are in addition to tuition and other mandatory fees.

Psychology

Mission Statement

The MSUN psychology program is committed to the discovery of knowledge about the mind, brain, and behavior for the benefit of growth and development in students' academic, personal, and professional lives.

Learning Outcomes for Psychology, minor

Upon completion of this program, students will be able to:

- Describe key concepts, principles, and overarching themes in psychology
- Develop a working knowledge of psychology's content domains
- Describe applications of psychology
- Use scientific reasoning to interpret psychological phenomena
- Demonstrate psychology information literacy
- Engage in innovative and integrative thinking and problem solving
- Incorporate sociocultural factors in scientific inquiry
- Apply ethical standards to evaluate psychological science and practice
- Build and enhance interpersonal relationships
- Adopt values that build community at local, national, or global levels
- Interact effectively with others
- Apply psychological content and skills to career goals

The minor will complement the ongoing cross-disciplinary activities of the MSUN college of Education, Arts, Sciences and Nursing (CEASN), as well as the College of Technical Sciences (COTS), by providing opportunities for all students regardless of major to learn about psychology.

Code	Title	Credits
PSYX 100	Intro to Psychology	3
PSYX 230	Developmental Psychology	3
PSYX 360	Social Psychology	3
PSYX 362	Multicultural Psychology	3
Elective Courses (must complete 12 credits)		

PSYX 150	Drugs and Society	3
PSYX 238	Adolescent Psychology	3
PSYX 340	Abnormal Psychology	3
PSYX 362	Multicultural Psychology	3
PSYX 382	Forensic Psychology	3
PSYX 383	Health Psychology	3
PSYX 385	Psychology of Personality	3
EDU 225	Intro to Education Psychology	3
KIN 440	Sport Psychology	3
Total Minor Credits 24		

Sustainable Energy Technology

This program is currently in Moratorium. We are not accepting new students into this program. Students currently enrolled will be able to complete this degree. This program is being reviewed and may become available in the future.

Associate of Applied Science

Code	Title	Credits
Credits		
WRIT 104	Workplace Communications (Category I Communications)	2
M 121	College Algebra (Category II Mathematics)	3
CAPP 120	Introduction to Computers (Category IX Technology)	3
Required Courses		
CAPP 120	Introduction to Computers (Meets CAT IX Requirement)	3
EET 101	AC/DC Electronics I	3
EET 103	AC/DC Electronics II	3
EET 220	Electrical Power & Dstrbtion	3
EET 230	Electrical Power & Dstrbtn II	3
EET 240	Electronic Drive Systems	3
ELEC 111		
ELEC 250		
M 111		
M 121	College Algebra (Meets CAT II Requirement)	3
NRGY 101		
NRGY 110		
NRGY 120		
NRGY 130		
NRGY 210		
NRGY 220		
NRGY 230		
COMX 115	Intro to Interpersonal Communc	3
WRIT 104	Workplace Communications (Meets CAT I Requirement)	2
Total minimum credits required for degree		61

Certificate of Applied Science

Code	Title	Credits
Required Courses		
CAPP 120	Introduction to Computers	3
EET 101	AC/DC Electronics I	3
EET 103	AC/DC Electronics II	3
ELEC 111		
M 111		

NRGY 101		
NRGY 110		
NRGY 120		
NRGY 130		
COMX 115	Intro to Interpersonal Communc	3
WRIT 104	Workplace Communications	2
Total minimum credits required for degree		32

Water Quality Technology: Environmental Health

Water Distribution

Code	Title	Credits
AGTE 206	Applied Water Hydraulics	3
M 105	Contemporary Mathematics	3
TSCI 110	Intro to Water & Wastewater	4
TSCI 112	Wastewater Lagoon Systems	1
TSCI 114	Sm Public Drink Systems	1
TSCI 117	Pumps/Motor Operation	1
TSCI 205	Distribution Systems	3
COMX 115	Intro to Interpersonal Communc	3
TSCI 119	Valves and Hydrants	1
TSCI 208	Water & Wastewater School	2
TSCI 210	Backflow Prevention	3
WRIT 122	Business Writing	3
Advisor Approved Electives		3
Total Credits		31

Wastewater Treatment

Code	Title	Credits
AGTE 206	Applied Water Hydraulics	3
COMX 115	Intro to Interpersonal Communc	3
M 105	Contemporary Mathematics	3
TSCI 110	Intro to Water & Wastewater	4
TSCI 111	Env. Health/Safety Water/Waste	1
TSCI 112	Wastewater Lagoon Systems	1
TSCI 113	On-site Wastewater Systems	1
TSCI 115	Industrial Wastewater Systems	1
TSCI 208	Water & Wastewater School	2
TSCI 210	Backflow Prevention	3
TSCI 231	Wastewater Processes	3
TSCI 232	Wastewater Processes Lab	2
WRIT 122	Business Writing	3
Total Credits		30

Water Treatment

Code	Title	Credits
AGTE 206	Applied Water Hydraulics	3
COMX 115	Intro to Interpersonal Communc	3
M 105	Contemporary Mathematics	3
TSCI 110	Intro to Water & Wastewater	4
TSCI 111	Env. Health/Safety Water/Waste	1
TSCI 114	Sm Public Drink Systems	1

TSCI 208	Water & Wastewater School	2
TSCI 210	Backflow Prevention	3
TSCI 230	Intro to Groundwater Concepts	3
TSCI 233	Water Treatment Processes	3
TSCI 234	Water Treatment Processes Lab	2
WRIT 122	Business Writing	3

Total Credits **31**

Wastewater Collection

Code	Title	Credits
AGTE 206	Applied Water Hydraulics	3
M 105	Contemporary Mathematics	3
TSCI 110	Intro to Water & Wastewater	4
TSCI 111	Env. Health/Safety Water/Waste	1
TSCI 112	Wastewater Lagoon Systems	1
TSCI 116	Wastewater Coll Systems	3
TSCI 117	Pumps/Motor Operation	1
TSCI 208	Water & Wastewater School	2
TSCI 210	Backflow Prevention	3
COMX 115	Intro to Interpersonal Communc	3
WRIT 122	Business Writing	3

Total Credits **27**

Welding

The Welding Technology program at MSU-Northern is a nine month certificate program that prepares you for a successful employment in a variety of settings. As a welding school that integrates practical experience with welding theory, the program helps you build skills and knowledge that will give you an edge with employers.

Mission Statement

The mission of the Welding Technology program at MSU-Northern is to prepare students for successful employment in a variety of settings related to welding.

Learning Outcomes for Welding Technology, CAS

Upon completion of this program, students will be able to:

- Demonstrate safe use and care of welding equipment.
- Demonstrate foundational knowledge of oxy-acetylene gas welding and electric arc welding principles and practices.
- Demonstrate proper set-up and use of Gas Metal Arc, Flux Core Arc, and Gas Tungsten Arc Welding processes.
- Understand basic metallurgy.

Pass weld plate qualification test according to AWS D1.1

Certificate of Applied Science Welding Technology

First Year

Fall		Credits
DDSN 119	Technical Graphics I	3
WLDG 110	Welding Theory I	2
WLDG 111	Welding Theory I Practical	2
WLDG 114	Mig/Tig Welding	3
WLDG 195	Practicum: Welding	3
Elective		3

Term Credits **16**

Spring		
COMX 111 or COMX 115	Intro to Public Speaking or Intro to Interpersonal Communc	3
WLDG 180	Shielded Metal Arc Welding	3
WLDG 186	Welding Qual Test Prep w/Lab	3
WLDG 195	Practicum: Welding	3
WLDG 260	Repair Maintenance Welding	3
<hr/>		
Term Credits		15
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Total Credits		31

Admission

Students are encouraged to apply early to ensure a smooth transition to MSU-Northern. If you have questions about admission requirements or the application process, please contact the Admissions Office at 800.662.6132 x3704. Check out the online checklist at <https://www.msun.edu/admissions/checklist.aspx> to determine what other steps you still need to complete to become an MSU-Northern student.

Each student is responsible for knowing and complying with all regulations regarding admission procedures. A student's failure to be informed will not excuse a student from responsibility or from any penalty or difficulty which he or she may encounter. The falsification or omission of any information requested on the Application for Admission will be grounds for cancellation of registration.

Students may apply for admission at any time without all the necessary required materials. Applicants will be notified of missing or incomplete documents needed to complete the admissions process.

Campus Visits

VISIT US and see it for yourself! Visiting our campus while classes are in session allows you to experience life as a Northern student first hand. We are confident that you will appreciate the numerous advantages of a smaller university, including small class sizes, a community-oriented campus and quality academic programs that combine to create Northern's superior learning environment. During your visit, you will be able to meet with faculty and staff from your area of interest, view our facilities, and possibly have a meal in the dining hall or spend a night in a residence hall. You will also have the opportunity to discover our various special services, which range from learning assistance to financial aid counseling. This will allow you to get a feel for student life and Northern's campus environment. We invite you to schedule a visit to MSU-Northern by contacting the Admissions Office at 800.662.6132 x3704 and we look forward to hearing from you soon!

Because family members play an important role in college planning, they are welcome to learn more about the university by participating in the campus visit with you. If you have a disability and desire assistance, please notify the Admissions Office.

When to Apply

Applicants are encouraged to apply at least six to eight months prior to the first semester of attendance. This will allow adequate time for the student to request any academic credentials needed to complete the application file, make housing arrangements, process financial aid materials, and participate in New Student Orientation and Registration.

Applications should be on file in the Admissions Office according to the following priority dates:

Fall Semester	July 1
Spring Semester	December 1
Summer Session	May 1

Applicants will be notified of their admission status as soon as possible after all necessary credentials to determine a student's admissions status have been received by the Admissions Office.

Admission General Information

Students are encouraged to apply early to ensure a smooth transition to MSU-Northern. If you have questions about admission requirements or the application process, please contact the Admissions Office at 800.662.6132 x3703. Check out the online checklist at <https://www.msun.edu/admissions/checklist.aspx> to determine what other steps you still need to complete to become an MSU-Northern Student.

Each student is responsible for knowing and complying with all regulations regarding admission procedures. A student's failure to be informed will not excuse a student from responsibility or from any penalty or difficulty which he or she may encounter. The falsification or omission of any information requested on the Application for Admission will be grounds for cancellation of registration.

Students may apply for admission at any time without all the necessary required materials. Applicants will be notified of missing or incomplete documents needed to complete the admissions process.

Campus Visits

VISIT US and see it for yourself! Visiting our campus while classes are in session allows you to experience life as a Northern student first hand. We are confident that you will appreciate the numerous advantages of a smaller university, including small class sizes, a community-oriented campus and quality academic programs that combine to create Northern's superior learning environment. During your visit, you will be able to meet with faculty and staff from your area of interest, view our facilities, and possibly have a meal in the dining hall or spend a night in a residence hall. You will also have the opportunity to discover our various special services, which range from learning assistance to financial aid counseling. This will allow you to get a feel for student life and Northern's campus environment. We invite you to schedule a visit to MSU-Northern by contacting Student Central Office at 800.662.6132 x3704 and we look forward to hearing from you soon!

Because family members play an important role in college planning, they are welcome to learn more about the university by participating in the campus visit with you. If you have a disability and desire assistance, please notify the Admissions Office.

When to Apply

Applicants are encouraged to apply at least six to eight months prior to the first semester of attendance. This will allow adequate time for the student to request any academic credentials needed to complete the application file, make housing arrangements, process financial aid materials, and participate in New Student Orientation and Registration.

Applications should be on file in the Admissions Office according to the following priority dates:

Fall Semester	July 1
Spring Semester	December 1
Summer Session	May 1

Applicants will be notified of their admission status as soon as possible after all necessary credentials to determine a student's admissions status have been received by the Admissions Office.

Admission as an Undergraduate Student

Undergraduate students are first-time college students, student who have attempted college- level credits during high school and/or after graduating high school, or students who have not been awarded a bachelor's degree.

Applications are accepted from resident, non-resident, and international students. Eligible undergraduate students may attend full-time or part-time. MSU-Northern reserves the right to establish requirements which will ensure successful scholastic performance.

General Admission Information

Applicants are responsible for submitting applications for admission, financial aid and housing, and must provide verification of immunizations. Applicants should be aware of the following:

1. Applicants are requested to voluntarily provide their Social Security number, which permits the school to distinguish between individuals with the same or similar names.
2. Students intending to apply for financial aid may obtain appropriate forms from their high school guidance office, on-line at <https://studentaid.ed.gov/sa/fafsa> (<https://studentaid.ed.gov/sa/fafsa/>), or by contacting Financial Aid at 800.662.6132 x3787. MSU-Northern's FAFSA school code is 002533.
3. Students with less than 30 credits of college level coursework are required to live in the residence halls. Additional information about residence life and family housing should be referred to the Dean of Student Engagement/Director of Residence Life, 800.662.6132 x4113.
4. Before enrolling for an initial term, all post-secondary students must comply with immunization requirements of ARM 37.114.701-721:
 - a. Students born in 1957 or later must provide evidence that they have received two measles and two rubella immunizations, with dose one administered at 12 months of age or later and dose two administered at least 28 days after dose one. No measles vaccination before 1967 is valid. No rubella vaccination before 1969 is valid. As an alternative, a student may supply a laboratory report from a CLIA approved laboratory indicating that the student is immune to measles and/or rubella.
 - b. Under ARM 37.114.711, a student may be conditionally enrolled for an initial term if the student has not received the second dose of measles and/or rubella vaccine provided they receive the second dose at least 28 days after the first dose and before the beginning of the succeeding school term.
 - c. A student may be exempt from the above requirements for medical reasons (ARM 37.114.715) providing the student supplies a statement from a physician (MD or DO) holding a license to practice in the United States or Canada stating: a) The specific immunization that is contraindicated; b) The time period the immunization is contraindicated; and c) The reasons for the contraindication.

- d. A student may be exempt from the above requirements for religious reasons providing the student supplies a notarized statement that immunizations are contrary to the student's religious beliefs. This notarized statement must be submitted annually by any student claiming a religious exemption (ARM 37.114.716).
 - e. International students have additional immunization requirements. Please refer to the section entitled "INTERNATIONAL STUDENTS" for additional information.
5. Students with a health condition or a disability which should be brought to MSU-Northern's attention may submit a confidential letter of need to Disability Services (<http://www.montana.edu/wwwres/>) Cowan Hall Room 211B. Questions about services for disabled students should be referred to Disability Services 800.662.6132 x3704.

Freshmen (First-Time Undergraduates)

Freshmen students are those who have completed high school, or its equivalent, and have never attended a college or university. Students that have attempted less than 12 quarter or semester college-level credits at another regionally accredited college or university after high school graduation are considered an incoming freshman. Students who have earned college-level course credit, Advanced Placement, or International Baccalaureate credits while still attending high school are also considered incoming freshmen.

Academic Eligibility

Students who do not meet all freshman admission requirements listed below are still encouraged to apply for admissions and submit the necessary credentials. MSU-Northern is allowed a number of exemptions to the stated requirements and will examine each student's credentials on a case-by-case basis for admissibility.

Admission Requirements (Resident and Non-Resident)

1. 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. Students who complete their secondary education through home schooling or at unaccredited secondary schools, this requirement may be met by "satisfactory performance" on the ACT, SAT, or a recognized testing instrument defined in the Federal Register as indicative of a student's "ability to benefit."

Full Admission

To be fully admitted as first-time, full-time undergraduates into a four-year degree program (without conditions or provisions), students must meet the following requirements:

1. Completion of the Regents' College Preparatory Program:

Four years of English: in each year the content of the courses should have an emphasis upon the development of written and oral communication skills and study of literature.

Three years of mathematics including Algebra I, geometry and Algebra II (or the sequential content equivalent of these courses). Students are encouraged to take a math course in their senior year.

Three years of social studies which shall include global studies (such as world history or world geography); American history; and government, economics, Indian history or other third year courses.

Two years of laboratory science: one year must be earth science, biology, chemistry, or physics; the other year can be one of those sciences or another approved college preparatory laboratory science.

Two years chosen from the following:

- (a) foreign language (preferably two years)
- (b) computer science
- (c) visual and performing arts, or
- (d) career/technical education units which meet the office of public instruction guidelines.

1. Demonstration of Mathematics Proficiency:
 - a. A score of 22 or above on ACT mathematics; or
 - b. A score of 27.5 or above on SAT mathematics test; or
 - c. A score of 3 or above on the AP calculus AB or BC subject examination or a score of 4 on the IB calculus test; or
 - d. A score of 50 or above on the CLEP subject examinations in selected topics [college algebra, college algebra-trigonometry, pre-calculus, calculus, or trigonometry]; or

- e. Completion of a rigorous high school core including four years of mathematics in high school (Algebra I, Algebra II, geometry & a course beyond Algebra II) and three years of laboratory science; or three years of mathematics including a course beyond Algebra II and four years of laboratory science, in addition to English, social studies, and electives as described in the regents' college preparatory program, with grades of C or better in all courses. (See Appendix I.)
 - f. A cumulative high school GPA of 3.0 or higher; or
 - g. A cumulative high school GPA of 2.5 or higher AND an Algebra II (or the sequential content equivalent) course grade of C or better.
2. Demonstration of Writing Proficiency:
- a. A score of 7 or above on the writing test or 18 or above on the ELA (weighted composite based on the English, reading, and writing scores) of the optional writing test of the ACT; or
 - b. A score of 25 or above on the writing and language test of the SAT; or
 - c. A score of 3 or above on the AP English language or English literature examination; or
 - d. A score of 4 or above on the IB language A1 exam; or
 - e. A score of 50 or above on the (CLEP) subject examinations in composition.
 - f. A cumulative high school GPA of 3.0 or higher; or
 - g. A cumulative high school GPA of 2.5 or higher AND a course grade of C or better in an 11th grade English course
3. General preparation as demonstrated through at least one of the following:
- a. A composite score of at least 20 on the ACT or a score of at least 1050 on the total of mathematics, evidence-based reading, and writing scores on the SAT (Scholastic Aptitude Test) for admission to Montana State University-Northern;
 - b. A high school grade point average (GPA) of at least 2.5; or
 - c. A ranking in the upper half of the school's graduating class

Provisional Admission:

Students who do not demonstrate the ability to meet the mathematics and/or writing proficiency standards may be admitted provisionally to a four-year degree program on any campus of the MUS and without condition to a two-year degree program.

Operational rules pertaining to provisionally admitted students are:

1. Students must be informed of their admission status by letters that include the following points:
 - a. The minimum mathematics and/or writing score(s) required compared to their score(s) that did not satisfy this requirement;
 - b. An explanation of what they must do to attain full admission status
 - c. Academic support services available to students, such as tutoring centers.
2. Provisionally admitted students must attain full admission status by completing at least one college level mathematics and college-level composition course with grades of C- or better before completing 32 credits or 3 semesters, whichever comes last.
3. Provisionally admitted students may declare a major.
4. The term "provisional admission" has particular meaning in the Montana University System, under Board of Regents' Policy. It cannot be used to describe any other admissions status or situation in the System.
5. Provisional admission does not change existing rules within the Montana University System concerning financial scholarship eligibility, satisfactory academic progress, academic probation or suspension rules.

Montana State University-Northern seeks to offer admission into a two-year program to the following group of students:

- Students who seek admission into a four-year program who do not meet general preparation requirements will be admitted into MSU-Northern's equivalent two-year program. Once the student has completed the two-year program they will be admitted into the equivalent four-year program.

Transfer Students

A transfer student has graduated high school or its equivalent and completed 12 or more quarter or semester credits in college-level courses at a regionally accredited institution. College-level work means those courses that are applicable towards at least an associate degree and does not include remedial or developmental courses. Students who previously attended MSU-Northern and are returning after attending another institution should refer to the Former NMC/MSU-Northern Students section.

Academic Eligibility

Applicants will be considered for admission based on transferable credits from all regionally accredited colleges or universities previously attended. As determined by the Admissions Office, a 2.0 (or C) cumulative transferable GPA (on a 4.0 scale) is required in order to be accepted for admission in good academic standing. Transfer students start with a new GPA upon enrolling at MSU-Northern.

Students who do not meet the 2.0 cumulative transferable GPA are still encouraged to apply for admissions and submit the necessary credentials. MSU-Northern will examine each student's credentials on a case-by-case basis for admissibility. Some students who do not meet the requirements

may be admitted on scholastic probation and will need to earn a 2.0 or higher GPA during the first term attended at MSU-Northern to be placed in good academic standing.

Application Procedures

Receipt of the following credentials in the Admissions Office constitutes a complete application for admission. Requests to have final credentials sent to MSU-Northern must be initiated by the applicant. Requests should be made by contacting the high school, the registrar's office at the college/university, or agency. Credentials must be sent directly from the school to the Admissions Office. **Credentials received from the student are considered unofficial, working copies and will not be accepted as official documents.**

Application materials and fees will be retained for one year from the original application term. To apply for a semester other than the one originally intended, notify the Admissions Office as soon as possible.

Be sure to submit the following items (if applicable):

1. **Admissions Application:** An application may be submitted online at: <http://www.msun.edu/future/apply.aspx>. The application may also be obtained from the Admissions Office.
2. **Application Fee (nonrefundable): \$30.** Out-of-state residents will be charged a \$30 application fee. The application fee will not be waived or refunded.
3. **High School Transcript:** An official transcript must be sent directly from the high school to the Registrar's Office. Transcript must post all courses completed.
4. **GED or HiSET transcript:** A complete official General Educational Development (GED) or High School Equivalency Test (HiSET) score report/transcript must be sent directly from the Department of Education from the state in which the exam was given to the Registrar's Office.
5. **Test Scores:** ACT/SAT scores are no longer required for admission into a four-year degree program. However, applicants are still encouraged to provide them for math and writing placement, as well as scholarship eligibility. Students who did not graduate 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 may be required to provide additional test scores
6. **Official College/University Transcripts:** Applicants who have attended another college or university, whether credit was earned or not, **MUST** have an official transcript sent directly from each regionally accredited institution to the Registrar's Office. This academic information will be used to determine admission status as well as transfer credit. Applicants who are enrolled at a transfer school while applying to MSU-Northern will be considered for admission based on an incomplete official transcript showing all academic work completed and posted to date. A final official transcript must be received in the Registrar's Office by the 15th class day of the first term of attendance. Academic eligibility will be reviewed again upon receipt of that final transcript. For more information on how college/university courses will transfer to MSU-Northern, refer to the Transfer of Credits section of the catalog.
7. **Advanced Placement (AP):** Applicants who have completed an Advanced Placement Examination should request that the official scores be sent directly to the Registrar's Office. Scores of 3 or higher on an AP Exam will be granted college credit for the equivalent courses upon successful completion of 12 semester credits of coursework at MSU-Northern. This credit will be awarded to degree-seeking students. Grades will not be awarded. A notation of the award will be placed on the student's transcript.
8. **International Baccalaureate (IB):** Applicants who have completed an International Baccalaureate Examination should request that the official scores be sent directly to the Registrar's Office. IB Exams with scores of 4 or higher (Higher Level only) will be granted college credit with a Pass grade for equivalent courses. For more information on how IB courses will transfer to MSU-Northern, contact the Registrar's Office at 800.662.6132 x3703.

International Undergraduate Students

Students who are citizens of countries other than the United States are encouraged to apply to MSU-Northern as international first-time freshmen or transfer students. Those who have completed secondary school are considered freshmen. Those who have completed an equivalent of 12 credits or more of post-secondary university-level course work after secondary graduation are considered transfer students.

Academic Eligibility

Freshmen

Freshmen students will be considered for admission on the basis of their secondary school record and their English proficiency. Applicants who meet a TOEFL score of 63 iBT or 475 PBT for undergraduate and have a minimum cumulative grade-point average (GPA) of a 2.5 on a 4.0 scale will qualify for admission.

Transfer Students

Transfer students will be considered on the basis of their post-secondary education record and their English proficiency. Applicants who meet a TOEFL score of 63 iBT or 475 PBT for undergraduate or 66 iBT or 500 PBT for graduate and have a minimum cumulative transferable grade-point average

(GPA) of a 2.0 or C on a 4.0 scale will qualify for admission. On a case by case basis college courses taken in the United States displaying sufficient English proficiency will be accepted in place of TOEFL scores or completion of an ESL program.

Application Procedures

All application materials must bear the official school seal and signature and be sent directly from the institution or agency to the Admissions Office. Transcripts and test scores received from students are unofficial and not acceptable. To provide time for evaluation and for notice of acceptance to reach the applicant in a timely manner, the application and required credentials must be received by the Admissions Office according to the following deadlines:

Fall Semester - July 1
 Spring Semester - November 1
 Summer Session - April 1

Receipt of the following credentials in the Admissions Office constitutes a complete application for admission. Requests to have final credentials sent to MSU-Northern must be initiated by the applicant. To apply for a semester other than the one originally intended, notify the Admissions Office as soon as possible.

Be sure to submit the following items:

1. **International Undergraduate Application for Admissions:** A paper application can be obtained from the Admissions Office 800.622.6132 x3704. An on-line application may be submitted at: <https://www.msun.edu/admissions/docs/InternationalApplication.pdf>.
2. **Application Fee (nonrefundable):** U.S.\$30 paper application. The fee must be in U.S. currency. Checks should be made payable to MSU-Northern and must indicate the U.S. banking codes. The application fee will not be waived, deferred, or refunded.
3. **English Language Proficiency:** If the applicant's native language is not English, an English TOEFL score of 63 iBT or 475 PBT for undergraduate or 66 iBT or 500 PBT for graduate is required to qualify for admission. Only official score/grade reports sent directly from the language testing center will be accepted. Certificates of completion with official grade reports and the instructor's recommendation from English as a Second Language programs may be considered. Those students who are citizens of countries where English is the native languages do not need to submit proof of English language proficiency, unless English is not the student's native language.
4. **Evidence of Financial Support:** MSU-Northern requires a statement of financial support from a bank or financial institution regarding funds from a financial sponsor, the student or the parent. The statement must verify financial support available to the applicant in US Dollars based on current year cost of attendance budget, for each year of attendance. Contact the Admissions Office for current year cost of attendance budget for international students at 1.800.662.6132 x3704. Admission will not be considered until the signed statement of financial support is received.
5. **Educational Credentials:** International students must meet the equivalent of out-of-state admission requirements for the appropriate category of freshman, transfer, or graduate student. Official/certified transcripts and marks are required from all secondary and college or university education completed.
 - a. Freshmen must submit official secondary transcripts posting date of completion and must include an English translation. Certified true copies of original transcripts are acceptable.
 - b. Transfer Students must request official transcripts from each international or U.S. post-secondary institution attended, directly from the institution(s) to MSU-Northern. An English translation must be received for all non-English academic credentials.
 - c. All transcripts of academic work undertaken outside of the U.S. or in non-English speaking Canada must be submitted to **World Education Services (WES)** for evaluation of foreign educational credentials. For further information contact:
World Education Services
PO Box 745
Old Chelsea Station
New York, NY 10113-0745
 or visit <http://www.wes.org> (<http://www.wes.org/>).
6. Non U.S. Citizens must show a physician validated immunization record of measles (rubeola) and rubella immunity, Diphtheria-Tetanus (DT or Td), and skin testing for Tuberculosis that was completed within one year of the planned attendance date. This evidence must be presented before a student is permitted to register.

Notification of Admission

Applicants are reviewed for admission when all required final and official credentials have been received at the Office of International Programs. Successful candidates will promptly be issued a letter of acceptance and an I-20 form necessary for obtaining an F-1 student visa. A packet of information regarding orientation, the registration process, and other important information will follow directly in a separate mailing.

Special Admission Programs

Dual Enrollment

Dual enrollment is the broad term for various types of opportunities for high school students to take college coursework while they are enrolled in high school.

1. Dual Enrollment Models for Awarding of Credit
 - a. A dual-credit course awards both high school credit and college credit for a college course taken by the high school student. (The decision to award high school credit for the college course rests with the school district, provided that the decision is consistent with applicable laws, policies and administrative rules.)
 - b. A college-credit-only course awards college credit, but not high school credit, for a college course taken by the high school student.
2. Dual Enrollment Delivery Models
 - a. Early college: The college course is taught, typically on campus or online, by a college faculty member to a class that includes college students and dual enrollment students.
 - b. Concurrent enrollment: The college course is taught, usually at the high school, to a class of high school students by an appropriately qualified college faculty member, or, more commonly, by an appropriately qualified high school teacher serving as an adjunct faculty member for the college offering the course.

Academic Eligibility

To be eligible for a dual enrollment course, a student must:

1. Be enrolled in a Montana school district.*
 - a. Homeschool students may enroll in college credit-only courses through the college, or concurrent enrollment courses through their local high school. (See Homeschool Guidance for further information)
 - b. Foreign exchange students enrolled in a Montana school district that meet all other eligibility requirements are eligible for dual enrollment.
2. Be between the ages of 16 – 19 and/or junior/senior standing.**
 - a. Graduating students are not eligible for dual enrollment in any term after the term of their graduation. For example, a student that graduates in Spring 2020 is eligible for dual enrollment in Spring 2020, but not eligible for dual enrollment in Summer 2020 or any term after that, even if courses for the Summer 2020 term start prior to the students' graduation date.
3. Have successfully completed the required high school classes at their grade level and be on track for high school graduation within a four-year construct. A high school diploma is not a requirement for Dual Enrollment admission per BOR Policy 301 (see Appendix B).

*Enrollment in Montana high school district exceptions: The Commissioner's Directive on Early Enrollment and Tuition Waivers includes a provision allowing traditional high school age students enrolled in GED programs, home school students, and middle school students to qualify for the dual enrollment student tuition rate in a qualifying program.

**Age and graduation progress eligibility exceptions: Exceptional circumstances may exist for individual students. When students do not meet one or more of the dual enrollment eligibility requirements listed above, the high school's designated official may request an exception. The request must be in writing, explain the reason the exception is being requested, and provide evidence that the student can benefit from dual enrollment in the specific course, learn at the collegiate level in the course, and manage the combined high school and college course load. The designated college official or committee must concur in writing that an exception is warranted for the student to participate in the dual enrollment opportunity. In no case may exceptions be used to meet minimum class size requirements. Eligibility exceptions do not apply to required course prerequisites and required placement tests or scores (commonly required for mathematics and composition/writing courses). Homeschool students may request exceptions.

Application Procedure

1. **Application for Dual Enrollment:** applications are available online at <https://www.msun.edu/admissions/dual.aspx>.
 - a. Students only need to apply once, but they must complete registration paperwork for each semester they intend to enroll in courses.
 - b. Acceptance for dual enrollment does not constitute permanent or regular admission to the individual campuses offering the program.
 - c. Students must have approval signatures of a designated high school official and a parent or guardian (if the student is not yet 18 years of age) to participate in a dual enrollment course. A designated college official (generally dual enrollment program staff) must also approve students' participation.
2. Without exception, all dual enrollment students must meet the same prerequisites as on-campus students for courses that require specific placement tests, standardized test scores, or prerequisite courses. Students seeking placement in mathematics and composition courses, including those students seeking college credit in "honors" classes, must meet the requirements of BOR Policy 301.17.

Early Admission

A high school student may apply for admission to take regular university courses while concurrently enrolled in high school. High school students may be accepted for admission when academic ability and general maturity warrant acceptance. Such admission shall be based on providing educational opportunities not available in the high school setting.

Academic Eligibility

To be eligible for early admission, the applicant:

1. Must have completed their sophomore year in high school.
2. Must have a minimum grade point average of a 3.00 and/or a 20 ACT/SAT composite score or 1050 SAT score or higher.
3. Students attending non-accredited high schools must have taken the ACT and received a 20 composite score or 1050 SAT score or higher.

Application Procedure

Receipt of the following credentials in the Admissions Office constitutes a complete application for admission.

1. **Admissions Application:** An application may be submitted online at: <http://www.msun.edu/future/apply.aspx>. The application may also be obtained from the Admissions Office.
2. **Application Fee (nonrefundable): \$30 paper application.** Checks should be made payable to MSU-Northern. The application fee will not be waived or refunded. Applicants who have applied for Financial Aid, participate in a federally funded TRIO program or are receiving public assistance may apply to deferral of the application fee by contacting the Admissions Office at 800.662.6132 x3704.
3. **High School Transcript:** An official transcript must be sent directly from the high school to the Admissions Office. Transcript must post all courses completed and a minimum grade point-average (GPA) of 3.00 **and/or** test scores listed below.
4. **ACT/SAT scores:** An ACT score of a 20 or an SAT score of a 1050. Official ACT/SAT scores should be sent directly to the Admissions Office from the ACT/SAT testing agency.
5. **Letter of Recommendation:** A letter must be submitted from the high school principal and/or guidance counselor recommending the student for Early Admission.
6. **University Instructor Recommendation:** An approval letter must be obtained from the instructor and college dean for each course in which enrollment is planned stating that the student is apparently prepared to take the course in question and is granted permission to do so.

Adult Special

An applicant, 21 years of age or over, who is not a high school graduate, may seek admission as an Adult Special student by presenting evidence that s/he is adequately prepared to pursue a selected University program. Upon completing the work of the freshman and sophomore years with a grade average of "C" or better, an Adult Special student may, upon the recommendation of his/her faculty advisor and major academic College Dean, be accepted as a regular student and a candidate for a degree on the same basis as students who have been admitted upon graduation from an accredited high school. Adult Special students cannot enter the nursing program. Nursing students must have a minimum of a GED.

Application Procedure

Receipt of the following credentials in the Admissions Office constitutes a complete application for admission.

1. **Admissions Application:** An application may be submitted online at: <http://www.msun.edu/future/apply.aspx>. The application may also be obtained from the Admissions Office.
2. **Application Fee (nonrefundable): \$30 paper application.** Checks should be made payable to MSU-Northern. The application fee will not be waived or refunded. Applicants who have applied for Financial Aid, participate in a federally funded TRIO program or are receiving public assistance may apply to deferral of the application fee by contacting the Admissions Office at 800.662.6132 x3704.
3. **High School Transcript:** An official transcript must be sent directly from the high school to the Admissions Office. Transcript must post all courses completed and a minimum grade point-average (GPA) of 2.5 **and/or** test scores.

Non-degree Undergraduate Level

Non-degree Undergraduate Level

The undergraduate non-degree admissions status is designed to meet the needs of students who do not wish to pursue a degree at MSU-Northern. Once admitted to non-degree status, the student may retain that status indefinitely. Non-degree applicants will not be required to submit transcripts from previous institutions or ACT/SAT test scores. The applicant must certify that s/he has not been suspended from any post-secondary institution within the past 12 (twelve) months.

If the student wishes to change to regular status, the steps outlined under "Changing from Non-Degree Status (<https://www.msun.edu/admissions/nondegree.aspx>)" must be followed. An application form or a Change of Major form must be completed. A non-degree student in good standing (2.00 or higher cumulative GPA) may apply for a change from non-degree to regular status. Requirements for regular admission must be met at that time.

Professional Teacher Education, Nursing, and Graduate courses are not available to non-degree students. Non-degree status is not suitable for any person receiving financial aid or veteran's benefits. Non-degree students may not participate in intercollegiate athletics or any other program requiring regular admission status. Non-degree students are subject to the same University regulations as regular students.

Application Procedure

Receipt of the following credentials in the Admissions Office constitutes a complete application for admission.

1. **Admissions Application:** An application may be submitted online at: <http://www.msun.edu/future/apply.aspx>. The application may also be obtained from the Admissions Office.
2. **Application Fee (nonrefundable): \$30 paper application.** Checks should be made payable to MSU-Northern. The application fee will not be waived or refunded. Applicants who have applied for Financial Aid, participate in a federally funded TRIO program or are receiving public assistance may apply to deferral of the application fee by contacting the Admissions Office at 800.662.6132 x3704.

Changing from Non-Degree Status

To change from non-degree status to regular status, a student must have at least a 2.00 cumulative GPA and do the following:

1. Submit ACT/SAT scores if they would have been required at the time of first admission to Montana State University-Northern. (*for information on ACT & SAT tests, finding testing centers and more, visit the **ACT** and **SAT** websites*)
2. Submit high school and/or official college, university, or other post secondary transcripts from all other institutions attended. The student must submit transcripts from ALL institutions attended, whether or not credit was earned. A transcript will be accepted as official only when sent directly from the Registrar of the institution to the Admissions Office at Montana State University- Northern.
3. Show proof of two vaccinations against measles and two against rubella. Immunizations must have been given after 1967 and after the student's first birthday and must have been administered at least thirty days apart. Current immunizations must have been administered in the form of the MMR vaccine. Immunizations must be documented by a physician, registered nurse or school official.
"OR"
 Show documentation of having contracted measles and rubella. Documentation by a physician is required including dates of illness.
"OR"
 File a medical or religious exemption.

Former NMC/MSU-Northern Students (Readmission)

A former Northern Montana College/Montana State University-Northern student who did not attend the preceding semester must submit an Application for Re-Admission to the Admissions Office and official copies of transcripts from all institutions attended since his/her last registration at Montana State University-Northern. A transcript will be accepted as official only when sent directly from the Registrar of the institution(s) previously attended to the Admissions Office at Montana State University-Northern.

Western Undergraduate Exchange (WUE)

WUE is the Western Undergraduate Exchange, a program coordinated by the Western Interstate Commission for Higher Education (WICHE). Through WUE, resident students of participating states may enroll in two-year and four-year public college programs at a reduced tuition level: approximately 150 percent of the institution's regular resident tuition. **WUE tuition is considerably less than nonresident tuition.** Resident students from the following states may participate if they meet eligibility requirements: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

How to Apply

Information and a WUE program application for Montana State University-Northern may be downloaded at <https://www.msun.edu/admissions/wue.aspx> or obtained from the Admissions Office at 1.800.662.6132 x3704 or 406.265.3704. Or email: admissions@msun.edu.

1. Apply for Admission to MSU-Northern following the guidelines of the appropriate admissions category.
2. Duration of the WUE tuition rate is until completion of 180 credits.
3. Recipients of a WUE tuition rate must maintain good academic standing and be enrolled full-time during both fall and spring semesters at MSU-Northern.
4. Time as a WUE tuition rate recipient cannot be used toward fulfilling Montana residency requirements.

To obtain information about WUE programs in other states visit: <http://www.wiche.edu/states/>.

Send WUE application and supporting documents to:
 MSU-Northern Admissions Office
 PO Box 7751
 Havre, MT 59501

Conditions for Enrollment

Montana State University-Northern reserves the right to change the requirements for admission into the WUE program without notice.

1. To be eligible for a WUE tuition rate, applicants must be admitted to Montana State University-Northern and be a resident of a participating WUE state.
2. Duration of the WUE tuition rate is until completion of 180 credits.
3. Recipients of a WUE tuition rate must maintain good academic standing and be enrolled full-time during both fall and spring semesters at MSU-Northern.
4. Time as a WUE tuition rate recipient cannot be used toward fulfilling Montana residency requirements.

To obtain information about WUE programs in other states visit: <http://www.wiche.edu/states/>.

Western Regional Graduate Program (WRGP)

WRGP is the Western Regional Graduate Program, a program coordinated by the Western Interstate Commission for Higher Education (WICHE). Through WRGP, resident students of participating states may enroll in graduate programs at a reduced tuition level: approximately 150 percent of the institution's regular resident tuition. WRGP tuition is considerably less than nonresident tuition. Resident students from the following states may participate if they meet eligibility requirements: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming and The commonwealth of the Northern Mariana Islands.

How to Apply

Information and a WRGP program application for Montana State University-Northern may be downloaded at <https://www.msun.edu/admissions/graduate.aspx> or obtained from the Admissions Office at 1.800.662.6132 x3704 or 406.265.3704. Or email: admissions@msun.edu.

1. Apply for Admission to MSU-Northern following the guidelines of the appropriate admissions category.
2. Submit the WRGP program application.
3. Submit state photo ID for verification purposes.

Send WRGP application and supporting documents to:

MSU-Northern Admissions Office
PO Box 7751
Havre, MT 59501

Conditions for Enrollment

Montana State University-Northern reserves the right to change the requirements for admission into the WRGP program without further notice.

1. To be eligible for a WRGP tuition rate, applicants must be admitted to Montana State University-Northern, and be a resident of a participating WRGP state.
2. Recipients of a WRGP tuition rate must maintain good academic standing and be enrolled full-time during both fall and spring semesters at MSU-Northern.
3. Time as a WRGP tuition rate recipient cannot be used toward fulfilling Montana residency requirements.
4. Spring Semester WRGP applicants may be considered by the Admissions Office on a space-available basis.

To obtain information about WRGP programs in other states visit: <http://www.wiche.edu/states/> (<http://www.wiche.edu/states/>).

Veterans, Active-Duty, Reserve/National Guard and Dependents

The evaluation of previous post-secondary education and training is mandatory/required for VA beneficiaries. For students utilizing Veterans benefits who are approved for transfer credit as a result of this evaluation, the institution will grant appropriate credit, reduce the program length proportionately, notify the student and Veterans Affairs in writing of this decision, and adjust invoicing of the VA accordingly.

The Veteran Certifying Official is available to assist Veterans, Active-Duty, Reserve, or National Guard personnel, and their dependents with procedures on enrolling at Montana State University-Northern and applying for educational benefits under Chapters 30, 31, 33, 35, 1606, 1607, and the Yellow Ribbon program. The Certifying Official will act as an intermediary between Veterans and the Veterans Administration to assist with educational benefits. This individual is also the primary point of contact for all Federal Tuition Assistance. For more information on your benefits or what is needed to be certified, please visit our website at <https://www.msun.edu/stuaffairs/vets/>

All Veterans and eligible persons receiving educational benefits under federal guidelines are **required by law to report promptly** to the Veteran Certifying Official any changes that may affect the amount of money being received. These include adding or dropping courses, withdrawing from school, and not attending classes.

To be considered as full time, undergraduate students must carry 12 credits or the equivalent and graduate students must carry 9 graduate credits or the equivalent during Fall and Spring Semesters. The criteria for Summer Semester differ and Veterans should contact the Coordinator of Veterans Affairs.

The Veterans Administration expects Veterans to maintain Satisfactory Academic Progress, regularly attend classes, and pursue a final objective. The Coordinator of Veterans Affairs may notify the Veterans Administration if the Veteran does not comply.

MSU- Northern Admission Specialists, and other employees, **do not participate** in commission, bonus, or other incentive payment based directly or indirectly on securing enrollments or federal financial aid (including Tuition Assistance funds).

MSU-Northern Admissions Specialist, and other employees, **do not, and will not**, utilize high-pressure recruitment tactics such as making multiple unsolicited contacts (3 or more), including contacts by phone, email, or in-person, and engaging in same-day recruitment and registration for the purpose of securing Service member enrollments.

Admission as a Graduate Student

Students who wish to pursue graduate work at MSU-Northern should contact the Graduate Office for application materials.

Graduate Office
Montana State University-Northern
PO Box 7751
Havre, MT 59501
800.662.6132 x3738

All application materials should be returned to the Graduate Office one month prior to the proposed date of registration to allow adequate time for complete processing.

To be considered for admission to graduate study, an applicant must have been granted a baccalaureate degree from an accredited college or university. An undergraduate student who is within 16 credits of completion of the baccalaureate degree, and who has at least a 3.00 grade point average over the last 60 credits, may petition the Graduate Council for approval to take up to nine credits of graduate coursework which may apply toward a graduate degree. These credits may not be applied to the student's undergraduate program. Graduate credit earned in this manner will not become a part of the student's permanent record until all requirements for the baccalaureate degree have been met.

Admission to graduate studies does not constitute matriculation for degree candidacy. Students who wish to matriculate for advanced degrees must make proper application for the specific degree sought (see Graduate Studies Overview in the current catalog). Information regarding candidacy is available from the Graduate Studies Office.

How to Apply

1. Submit the Graduate Application for Admission to the Graduate Office. This form may be obtained from the Graduate Studies Office.
2. Complete an application for admission to Montana State University-Northern which may include a non-refundable application fee of \$30/ \$36. If the applicant is admitted but does not register, the \$30 application fee is valid for the subsequent twelve months.
3. One copy of the applicant's official transcript, showing a baccalaureate (or higher) degree must be sent directly to the Graduate Office by the college or university previously attended, if other than Montana State University-Northern. A transcript will be accepted as official only when sent directly from the Registrar of the institution to the Graduate Office at Montana State University-Northern.
4. Before enrolling for an initial term, all post-secondary students must comply with immunization requirements of ARM 37.114.701-721:
 - a. Students born in 1957 or later must provide evidence that they have received two measles and two rubella immunizations, with dose one administered at 12 months of age or later and dose two administered at least 28 days after dose one. No measles vaccination before 1967 is valid. No rubella vaccination before 1969 is valid. As an alternative, a student may supply a laboratory report from a CLIA approved laboratory indicating that the student is immune to measles and/or rubella.
 - b. Under ARM 37.114.711, a student may be conditionally enrolled for an initial term if the student has not received the second dose of measles and/or rubella vaccine provided they receive the second dose at least 28 days after the first dose and before the beginning of the succeeding school term.
 - c. A student may be exempt from the above requirements for medical reasons (ARM 37.114.715) providing the student supplies a statement from a physician (MD or DO) holding a license to practice in the United States or Canada stating: a) The specific immunization that is contraindicated; b) The time period the immunization is contraindicated; and c) The reasons for the contraindication.
 - d. A student may be exempt from the above requirements for religious reasons providing the student supplies a notarized statement that immunizations are contrary to the student's religious beliefs. This notarized statement must be submitted annually by any student claiming a religious exemption (ARM 37.114.716).
 - e. International students have additional immunization requirements. Please refer to the section entitled "INTERNATIONAL STUDENTS" for additional information.

Fees

Fees

A full listing of current tuition, fees, room and board, and other University-related expenses is available at either the Admissions or Business Office or on our website <http://www.msun.edu/busserv/tuitfees.aspx>

Course Fees

Section 1.02 In addition to the usual tuition and fees paid by students, special fees may be attached to specific courses. Those course fees are used to pay for materials that are damaged or consumed by students, particularly during the laboratory portion of the classes. As a consequence, course fees are most often attached to classes in the sciences, the arts, and technical programs.

On the Montana State University-Northern campus, students who take classes in the following degree areas will often have to pay additional fees because of the courses they take: Art, Automotive, Biology, Carpentry Technology, Civil Engineering Technology, Chemistry, Diesel, Design Drafting, Electrical Technology, Electronics Engineering Technology, Earth Science, Health and Physical Education, Metals Technology, Nursing, and Plumbing Technology. Course fees are also assessed in other program areas, but not as extensively as the previous listing.

To find out if a course fee will be assessed for a particular course, students should refer to the specific course descriptions (p. 138) listed in this catalog.

Due Dates

Fees are due as payments in full the Friday before classes begin.

MSU-Northern offers an Installment Payment Plan if needed (please contact Business Services for approval)

Installment Payment Plan

The following installment payment plan for tuition/fees, room and board is available:

1. At least ¼ of the total amount must be paid the Friday before classes begin.
2. One-half of the total due must be paid within 30 days.
3. Three-fourths of the total due must be paid within 60 days.
4. The full amount due must be paid within 90 days.
5. A late fee of \$15.00 will be assessed if the final payment is late.
6. An administrative charge of \$30.00 per semester will be levied for use of the installment plan.
7. Payments must be made even though the student withdraws from school. Any refund due the student because of withdrawal, either voluntary or involuntary, will be applied toward the satisfaction of the obligation. Should the refund be larger than the amount outstanding, the excess of refund due over balance outstanding will be returned to the student. Any unpaid balance of the obligation must be paid before the student may re-enroll, graduate, obtain a transcript, or transfer to another college and/or university.

Tuition/Fee Refunds

1. Refunds for withdrawals from school are made by the Business Office only after verification of enrollment status as of the 14th day of classes.
2. The registration fee is non-refundable. The health insurance fee will be refunded to the end of the 10th day of instruction.
3. Ninety (90) percent of all remaining fees (tuition, network, computer, equipment, building, gym use, SUB use, student activity, athletic, non-resident tuition, non-resident building, health service fee, internet fee, radio fee, distributed learning access fee, Great Falls fee, campus facilities fee, library fee) will be refunded to the end of the fifth day of instruction for students enrolled in full semester courses.
4. Seventy-five (75) percent of all remaining fees will be refunded to the end of the eighth day of instruction.
5. Fifty (50) percent of all remaining fees will be refunded to the end of the eleventh day of instruction.
6. No refunds for withdrawals from school are made after the eleventh day of instruction.
7. Drop/adds will be computed in accordance with regular institutional fee schedules. There will be no refund for classes dropped after the eleventh day of instruction.

Financial Aid

Financial Aid

Phone Number: 406.265.3787

Student financial assistance at Montana State University Northern is available in the form of loans, scholarships, tuition waivers, grants, and work opportunities. A typical Financial Aid package is a combination of several of these sources.

Most financial assistance is based on financial need and academic ability, although some scholarships are given on the basis of academic achievement only. All forms required to apply for Financial Aid may be obtained through the Financial Aid Office.

To apply for aid, students must complete a FAFSA (Free Application for Federal Student Aid). This form is found at studentaid.gov (<https://studentaid.gov>). It is used in determining the total amount of aid which a student may be eligible to receive. Aid eligibility is determined through an analysis of the student's family financial strength.

Determining Eligibility

The three components used to determine your eligibility for financial aid are:

1. Cost of Education or allowable expenses
2. Expected Family Contribution
3. Other Financial Resources available to you.

Cost of Education

This is the estimated average amount for expenses at Northern according to your residency classification, hours enrolled, and program of study. This budget uses average costs and includes everything from tuition and fees to miscellaneous expenses. Expense budgets may also include adjustments for childcare, and costs related to a disability or other non-discretionary expenses.

Since expense budgets reflect average costs, you may spend more or less than the amounts allowed. However, you may pay more for your personal expenses than the amount budgeted. The amount you spend, except for tuition and fees, is up to you and depends on your own individual lifestyle, priorities, and obligations.

The estimated expense budget for the 2021-2022 (nine months) academic year includes the following (fees will vary for graduate students):

	RESIDENT	NON-RESIDENT	WUE
Tuition/Fees	\$6180.00	\$19268.00	\$8604.00
Books/Supplies	\$1400.00	\$1400.00	\$1400.00
Room/Board	\$7700.00	\$7700.00	\$7700.00
Misc./Travel	\$3200.00	\$3200.00	\$3200.00
Loan Fee	\$64.00	\$64.00	\$64.00
TOTAL	\$18,544*	\$31,632.00*	\$20,968.00*

*

All amounts subject to change without notice.

Tuition and Fees: Average charges for basic instructional costs and mandatory fees. Actual fees paid may vary based on the number of credits carried each semester. Room and Board: An average amount for housing and food charges for students living on or off campus. Books and Supplies: A standard allowance for required books and supplies. Transportation and Personal Expenses: A modest allowance for non-local transportation, (such as a trip from campus to home), entertainment, medical, laundry, toiletries, clothing, etc. If attendance is less than or greater than nine months, or if enrollment is less than 12 credit hours per semester, budget components will be prorated accordingly. Please remember, financial aid often cannot meet all of your costs while attending college, so it is very important for you to manage your financial resources wisely.

Expected Family Contribution

Since financial aid is designed to assist with your educational expenses, Expected Family Contribution is the amount that you and your parents (if applicable) are expected to contribute toward your costs. This amount is determined from information provided on your Free Application for Federal Student Aid (FAFSA) according to a formula established by Congress.

Other Financial Resources

This component represents other known and expected financial resources you will have available to assist you with your educational costs, such as scholarships, Vocational Rehabilitation Benefits, etc.

Your eligibility (financial need) is calculated by subtracting your Expected Family Contribution and Other Financial Resources from your allowable Costs of Education.

How Aid is Awarded

Your award package is based on a combination of funds available and your eligibility. Your award package may not include funds from all aid programs. Some funds carry restrictions, and some are limited as to amounts that can be awarded. Financial aid packages are based on the level of eligibility from highest to lowest and files are worked generally in the order received by the Financial Aid office.

The Federal Pell Grant is the first program awarded, if you are eligible. The next programs awarded are grants (federal, state, institutional) and scholarships. Some awards stipulate further restrictions such as residency. MSU Northern funds are limited and awarded until funds are committed. Work-study funds are awarded after grants. PLUS Loans are the last category of aid to be awarded.

Your Financial Aid Offer

Your financial aid offer is designed to meet as much of your financial eligibility as possible. All offers are contingent on the following:

1. Availability of funds from federal, state, and institutional sources.
2. Accuracy of information provided on your application by you and/or your parents or spouse.
3. Adjustments to your offer when our office receives information that affects your eligibility. Any aid you receive, in addition to that listed on your offer, which exceeds your unmet eligibility will result in an adjustment.
4. Satisfactory academic progress toward your degree.
5. Compliance with our requests to send additional documentation to support your application.
6. Eligibility to receive funds. i.e., you are a U.S. citizen or eligible non-citizen, you have signed all required documentation, and you are enrolled in a degree-seeking program of study for the appropriate number of credit hours based on your funding status.

Accepting or Declining Your Financial Aid Offer

Unless otherwise indicated, the amounts listed on your Financial Aid offer represent funds based on your anticipated enrollment level. You must accept or decline each part of your aid package. It is important that you make your decision, sign the offer, and submit/return the document by the deadline date. If you want to accept a lesser amount, indicate the amount you wish to request. This is very important, particularly on the loan amounts. Think about the amount and type of loan being accepted. If you have more than one type of loan, you will likely be required to repay those loans simultaneously. Do not borrow more than you absolutely need.

If you have unique circumstances which may affect your costs of attending MSU-Northern, please contact the Financial Aid Office. We may be able to reevaluate your eligibility based on special conditions.

First time students may indicate your acceptance or rejection of the aid offered by returning one copy of your Financial Aid Offer Letter to:

Montana State University Northern
Financial Aid Office
P. O. Box 7751
Havre, MT 59501

Or electronically on our web site at <http://www.msun.edu> (<http://www.msun.edu/>)

Continuing students will not receive a copy of their award letter, and can accept, reject, or adjust their awards electronically on our web site at <http://www.msun.edu> (<http://www.msun.edu/>).

Financial Aid Programs

Financial aid is money in the form of loans, grants and employment available to students to help pay the cost of attending the institution of their choice. Financial aid comes from the Federal Government, which is the largest provider of aid, as well as state governments, the schools themselves, and a large variety of other public and private sources.

Federal Pell Grant

A Federal Pell Grant, unlike a loan, does not have to be repaid. Pell Grants are awarded only to undergraduate students who have not earned a bachelor's or professional degree. The maximum Pell Grant for the 2022-2023 award year is scheduled to be \$6,895. How much you receive will depend on your cost of attendance, whether you are a full-time or part-time student, and whether you attend school for a full academic year or less. You may not receive Pell Grant funds from more than one school at a time. Pell Grant funds will be credited to your student account once you confirm your attendance with the Business Office.

Federal Supplemental Educational Opportunity Grant (FSEOG)

A Federal Supplemental Educational Opportunity Grant (FSEOG) is for undergraduates with exceptional financial need, with priority being given to students who receive Federal Pell Grants. A FSEOG does not have to be paid back. FSEOG funds will be credited to your expenses in the registration process in the Business Office.

Student Employment and Work-Study

The Career Center, located in Cowan Hall, assists students attending MSU Northern to locate employment. Both work-study and other part-time employment are listed with the Career Center. On and off campus employment opportunity assistance is available. Referral systems are in place for you to choose jobs that interest you and assistance is available to help with interviews.

- You must receive work-study as part of your financial aid package in order to apply for a work-study job. It is not necessary that you accept work-study if you are successful in finding other part-time employment. If you accept work-study aid, please contact the Career Center for job fair, hiring policies and other information you may need to secure employment.

If you did not receive a work-study award as part of your financial aid package, you may have your name added to the work-study waiting list. If work-study funds become available, students on the waiting list will be considered for an award based on their eligibility. Being placed on the list in no way assures that you will receive a work-study award.

Work-study awards are not credited to your expenses in the Business Office. You are paid on scheduled pay days for the actual hours worked during the preceding two weeks. When you have earned the amount of your work-study award, your employer may decide to continue your employment as a regular student employee. If you still have a balance owing you may be required to make payment with your work study funds.

Federal Direct Loans

Direct Loans are either subsidized or unsubsidized. With a subsidized loan, the Federal Government pays interest on the loan until you begin repayment and during authorized periods of deferment. If you receive an unsubsidized loan, you will be charged interest from the time the loan is disbursed until it is repaid in full. If you allow the interest to accumulate, it will be capitalized (added to the principal which means the loan "grows") and the amount you repay can become very expensive. If you choose to pay the interest as it accumulates, you will repay less over the life of the loan. You can receive both a subsidized and an unsubsidized loan for the same enrollment period.

The 2022-2023 interest rate is fixed at 4.99% (subsidized and unsubsidized) for under graduate students and 6.54% (unsubsidized) for graduate students.

The borrower must also pay a loan fee of 1.057% of the amount borrowed for undergrad students, and 4.228% for graduate students, which is deducted from each disbursement. The loan fee is paid to the Department of Education.

Repayment begins after you graduate, leave school, or drop below half-time enrollment. You have six months before payments begin. This is called a "grace period". Contact the U.S. Department of Education for more information about repayment options. Federal Direct Loans will be credited to your student account once you confirm your attendance with the Business Office.

Federal Direct Plus Loans (Parent Loan)

Federal PLUS Loans enable parents with good credit histories to borrow to pay the education expenses of their children. To be eligible, the child must be a dependent undergraduate student enrolled at least half time. The yearly borrowing limit on the PLUS loan is equal to your cost of education minus any other financial aid you receive.

The interest rate is fixed at 7.54%. The interest is charged on the loan from the date that the first disbursement is made until the loan is paid in full.

The borrower must also pay a loan fee of 4.228% of the amount borrowed, which is deducted from each disbursement. The loan fee is paid to the Department of Education.

Repayment generally begins within 60 days after the second loan disbursement. There is no grace period. This means that interest begins to accumulate at the time of the first disbursement and repayment of both interest and principle begins while the student is in school.

Contact the Financial Aid Office for information on how to process this type of loan.

Scholarships

The Financial Aid Office awards scholarships. Committees make selections and application information is available at the Financial Aid Office.

Scholarships are awarded generally in the spring of each year for disbursement in the following year. These awards are made on the basis of academic achievement, financial need, or a combination of the two. Many scholarships have additional requirements as well. Institutional scholarships are provided to the institution by donors who specify the award criteria. The selection process is managed by a committee and awards are disbursed through the Financial Aid Office. The Financial Aid Office serves continuing, transfer and incoming potential scholarship students. Private scholarships are directly controlled by the donor, not the institution; the application process, selection criteria, and recipients are determined by the donor. The donor notifies you of the award, but usually sends the funds to the school for distribution.

How Scholarships Are Paid

Most scholarships are credited to your expenses each semester. Some may be sent directly to you, but this is the exception. Normally, the institution must confirm that you have enrolled before payment will be made. If your scholarship arrives after you have paid your bill for the semester, funds will be delivered to you after you sign the check and it is applied to your account. Generally, scholarships of more than \$500 are divided equally between

fall and spring semesters. Scholarships totaling less or equal to \$500 will be disbursed in full and applied to your current enrollment semester. If your scholarship is not available at the time of payment deadlines, you must make other arrangements to pay your bill to avoid cancellation of classes or late charges.

Disbursement of Funds

Provided you meet all qualifications to receive financial aid funds and you have accepted your charges, any scholarship, grant, or loan awarded to you will be automatically credited to your expenses (tuition, fees, room and board if you live on campus) and any other charges assessed by the institution.

If financial aid credited to your expenses exceeds allowable charges due for the term, a check or direct deposit will be prepared for the difference and will be mailed to your current address on file in BANNER or deposited to your bank account upon completion of processing. The refund will usually be available approximately 14 days after the first day of classes of each term.

Check your billing statement carefully. Some types of financial aid appear on your fee bill as credits and others (such as work-study) are paid at other intervals. Compare your receipts, which show your aid, against your award letter to reconcile funds awarded to you. NOTE: If for any reason you register for classes late or enroll for insufficient credits, your aid will be delayed and possibly adjusted. Loan funds will not be credited to your charges until all required documents have been processed.

Other aid, such as BIA grants and some scholarships arrive in the form of checks. These funds will be credited to your student account once you confirm your attendance with the Business Office. Please remember, fees and other charges must be paid when due or a late fee may be applied and/or your registration may be canceled. If a check does not arrive in time for you to pay your fees and other charges, you are responsible for payment of your bill on the due date. If you have specific questions regarding charges or distribution of refunds please contact the Business Office at 406.265.3733.

Your Rights and Responsibilities

- You have the right to privacy. All records and data submitted with your application for financial aid are treated as confidential information.
- You have the right to a complete explanation of the award process. If you do not understand your financial aid award, or feel your application has not been evaluated fairly, please contact the Financial Aid Office.
- You have the right to be notified of cancellation or withdrawal of aid and to be informed of why this action is being taken.
- You have the right to appeal. You may request a review of any decision concerning your financial aid eligibility. Please contact the Financial Aid Office and make an appointment. If necessary you may be directed to submit a written appeal and supporting documentation.
- You have the responsibility to report funds or benefits from any source (such as outside scholarships) that you receive or are promised (before and after you are awarded financial aid).
- The Financial Aid Office is required BY LAW to make adjustments to prevent or correct over awards. We take this responsibility seriously. You will save yourself frustration, inconvenience, and possible financial penalty by reporting any changes in your financial status promptly.
- You have the responsibility to report any change in your student status immediately. If you move, change your name, drop credits, withdraw from school, or do anything else that may affect your financial situation, please report that information to the Financial Aid Office and your student loan lender/servicer.
- You have the responsibility to keep copies of all correspondence regarding your financial aid, whether it is from the Financial Aid Office, governmental agencies, or outside lenders.
- You have the responsibility to use financial aid funds for educationally related expenses only, such as tuition and fees, books, supplies, and reasonable living costs.
- You have the responsibility to repay loans on time. Acceptance of any loan carries the serious obligation to repay. Failure to meet this obligation affects the availability of loans to future students. Before you accept any loans for financing your education, you should carefully consider the total amount and repayment requirements for which you will be responsible when you terminate your educational objectives.
- You have the responsibility to understand how the Financial Aid Office determines if you are making satisfactory academic progress and what happens if you do not maintain satisfactory progress.

How to Avoid Problems

- Come to the institution with some money of your own. Even if your aid is prepared on time, funds may not be available until classes begin and processing is complete. You will need money for housing, books, and other immediate expenses. If you are able to save money during the summer before school starts, these savings will be useful in meeting your beginning-of-the-semester expenses and protecting you from hardships if your aid is delayed.
- Register for the appropriate number of credits. You must register for the appropriate number of credits, which correspond to the funding level indicated on your Financial Aid Award letter.

- Be sure to complete a loan/debt management counseling session and complete your Master Promissory Note if you are a first-time borrower at MSU Northern. This may be completed online at <https://studentaid.gov> (<https://studentaid.gov/>). Your funds will be delayed until you complete this requirement.
- Pay your own fees and other charges by the due date if your aid is late. Fees are due at the beginning of each semester. If not paid when due, you are subject to a late fee and/or cancellation of registration. The Financial Aid Office may be able to offer assistance depending on the nature of the processing problem but cannot prevent cancellation for non-payment of fees. If you anticipate problems, see either the Financial Aid Office or the Business Office for assistance.

If you are not sure how dropping or adding classes will affect your aid status, do not drop any of your classes or withdraw from MSU-Northern without checking first with the Financial Aid Office. If you drop below the required minimum credit load or fail to complete the appropriate number of credits, your aid may be canceled and repayment of the aid may be required.

Dropping or Adding Credits

When an award letter is prepared for you, the Financial Aid Office has reviewed what you reported on the FAFSA (application) and the Student Data Form and funded you at the level you indicated. At the time of disbursement, your credit load and Satisfactory Progress status is reviewed. Coordination with the Registrar's Office, Business Office and Financial Aid Office will dictate whether or not aid can be released or adjusted. Not all award amounts are affected by changes in enrollment. If your award is affected, you will be notified.

Disbursement of your aid is based upon the number of credits for which you are enrolled at the time your aid is disbursed. Your award letter will indicate this information. If you add credits after your financial aid has been disbursed, you may be entitled to additional funds. You should check with the Financial Aid Office for a review of your funding level.

If you drop credits after all your financial aid funds have been disbursed, including a retroactive drop of credits, you may have received funds that you were not entitled to receive. You will receive a bill for any overpayments that may occur.

Satisfactory Progress Requirements

To remain eligible for financial aid at MSU Northern, you must make satisfactory academic progress toward your degree objective. Satisfactory Progress is a condition for continued eligibility and is measured by the following factors:

1. Students who receive financial aid assistance must complete the appropriate number of credit hours based on their aid funding level (credits funded). Failure to do so will result in one of two financial aid statuses, WARNING or TERMINATION. See the "Satisfactory Academic Progress" policy at <http://www.msun.edu/admin/policies/600/601-1.aspx>.
2. A student's eligibility is terminated at the point when maximum time frame parameters have been met. Generally, limitations are: 98 attempted credits for an Associate degree, 186 attempted credits for a bachelor's degree, or 60 attempted credits for an undecided degree seeking student. Graduate student eligibility expires at 68 attempted credits. Transfer credits will affect these time frames.
3. Students must meet a Grade Point Average (GPA) and a percentage of credits attempted (usually 67%) requirement to continue their eligibility. Minimum accumulative GPA is 2.00 for undergraduates and 3.00 for graduates. Satisfactory completion means a student has received a minimum grade of 'D' or 'P' (pass). Grades other than A, B, C, D, or Pass do not meet satisfactory academic progress requirements.
4. Students whose status is "Termination" will not be considered for aid while in the "Termination" status. A student's file will be reviewed and an award letter produced when a student is re-instated.
5. This policy is applicable to all students receiving institutionally administered aid. Any federal, state, and institutional aid (including scholarships, fee waivers, work-study and loans) are included in this policy. MSU-N Staff waivers are the only exception. The eligibility of students may be reviewed at any time during the semester.
6. Students declared ineligible for financial aid under this policy will have the opportunity to appeal. The appeal procedure must be initiated by the student by completing an appeal form and returning the form with appropriate documentation to the Financial Aid Office (Cowan Hall, Room 213).

A copy of the "Satisfactory Progress" policy is posted at our web site

<http://www.msun.edu/admin/policies/600/601-1.aspx>. You are responsible for knowing and understanding this policy thoroughly. The information in this policy provides more detailed instructions on how the institution monitors progress and on how to exercise the appeal process.

Withdrawing from MSU Northern

If you stop attending classes, you should officially withdraw to prevent assignment of grades of "F". For more information on withdrawal procedures, contact the Registrar's Office or Student Services, both located in Cowan Hall.

If you withdraw from all courses either officially or unofficially, your aid will be terminated and a withdrawal calculation will be performed by the Financial Aid Office to determine whether you received funding for which you were not eligible. A copy of this refund/ return of Title IV funds is available in the Financial Aid Office located in Cowan Hall. If you received funds for which you were not eligible, you will receive a bill from the institution for repayment of those funds. **Zero credit earned in any semester will result in immediate Financial Aid TERMINATION.**

If you have any student loans, your lender or servicer will be notified of your enrollment status change and you may enter a “grace period” or repayment status. In keeping with the terms of your loans, you are required to inform your lenders of changes in your enrollment status.

If you plan to return to MSU-Northern and apply for assistance, please refer to the Satisfactory Progress policy to determine your eligibility status for future applications for aid.

Special Circumstances

If you or your parent(s) have had a substantial change in family income or assets due to unemployment, disaster, disability, divorce, or the loss of other compensation or benefits since applying for financial aid, you and/or your parent(s) may be eligible for special consideration. In addition, if you have non-discretionary expenses, which may affect your ability to meet educational expenses, you may ask for reconsideration to increase your eligibility. All requests must be documented and reasons for the exception must be provided.

If you or your parent(s) have special circumstances, please contact the Financial Aid Office.

Reporting Changes in Circumstances

If your residency or student classification status changes, your aid eligibility may be affected. If you receive any new or additional aid from any source, your eligibility may be affected. Report these changes in writing to the Financial Aid Office as soon as you know of them. If these changes do not appear on your Financial Aid Offer, it is your responsibility to report them.

The office will follow up on changes made and, if necessary, recalculate your eligibility. If you are no longer eligible for any part of the aid you have been offered, the Office will work with you to resolve the over award. If, however, it is necessary that you repay a portion of your financial aid, you must repay it before you are eligible to receive further aid.

Verification of Information

Some applicants are selected at the federal level for verification of information contained on their application (FAFSA). This means that the Financial Aid Office needs additional information from you in order to determine your eligibility. You will be asked to data retrieve your tax information from the IRS or provide a tax return(s) transcript from the IRS of the student (and parent or spouse) when applicable. Failure to provide this requested documentation would stop further processing.

Additional Information

Our goal is to provide information for you, the student, to enable you to meet your educational objectives and long-term goals. We have a qualified staff of professionals to further assist you with questions beyond what is provided in this guide. If you have questions, please call us at 406.265.3787 or come in to the office located at Cowan Hall, Room 213 in Havre. Office hours are 8:00 a.m. to 5:00 p.m. weekdays. Although personnel usually are available on a walk-in basis, appointments are recommended.

Policies and procedures governing financial aid programs are subject to change at any time without prior notice or publication due to changes of policy by federal and state governments. MSU-Northern is an equal opportunity/affirmative action institution that does not discriminate on the basis of race, color, national origin, sex, sexual orientation or preference, marital status, age, physical or mental disability, creed or political belief, religion, or veteran status.

Academic Information

Students are responsible for meeting graduation requirements.

General Requirements and Academic Procedures

The catalog serves as a guide for students and advisors in planning academic programs and degrees offered at the University. Students are responsible for knowledge of and compliance with procedures and standards, but should seek guidance from their advisors or the Registrar when questions arise. The following procedures and policies have been adopted to help students, faculty, and administrators successfully carry out the academic program of the University. These policies reflect University policy when the catalog was published. Changes enacted after this date will be published by appropriate means. Exceptions and deviations from normal academic policy may be requested through petition procedures available from the Registrar’s Office.

Academic Advising

Montana State University-Northern is committed to the fundamental principle that the University exists to serve the students. All efforts of the University are aimed toward enabling students to realize their full potential in whatever field of endeavor they attempt. As a result of this commitment, Montana State University-Northern’s academic advising process is an integral component of the academic program and is considered to be a faculty responsibility. The academic advising program will enable students to:

1. Better understand the nature and purpose of higher education and its relevance to their future.
2. Become more sensitive to cultural differences.

3. Set and obtain individual goals, consistent with each person's interests and abilities.
4. Better plan appropriate educational programs.
5. Proceed through individual educational programs in an orderly fashion, with continual monitoring and evaluation.
6. Become familiar with the many University and community resources available (educational, financial, social, etc.).
7. Receive accurate information regarding University requirements, options, and procedures.
8. Make intelligent career choices based upon realistic and accurate information.

Students may select or change their major and/or minor program at any time through the Registrar's Office. The Change of Major form is located in the Registrar's Office or online.

All students at Montana State University-Northern will be assigned an advisor. This advisor will generally be a faculty member in the student's major program area. The faculty advisor will explain University academic requirements and assist individuals in selecting courses and fulfilling the steps necessary to satisfy graduation requirements. Students with questions about their majors are encouraged to contact their faculty advisor.

Admission to Classes

In order to be enrolled in a class, the student must register for the class by means of the procedures set out for registration. The student's name must appear on the official class roster. Students who fail to register for classes prior to the deadline for doing so will not receive credit for the classes, even if they attend the classes and meet course requirements.

Advanced Placement Program Policy

Applicants for Advanced Placement credit should ask the College Entrance Examination Board to submit official examination scores to the Registrar's Office. Credit will be granted for scores of 3, 4, or 5. This credit will be awarded to degree students for corresponding courses at the University. Grades will not be awarded. A notation of the award will be placed on the student's transcript.

Auditor

An auditor is a student who wishes to enroll in a course but does not wish to pursue the course for credit. Auditors will not be required to take examinations or meet course requirements. Audited courses are noted on the transcript as such. Enrollment as an auditor requires permission of the instructor after students pursuing course credit have had an opportunity to enroll. Auditors pay the same fees as credit students. Auditors may not change to credit enrollment after the last day to add classes.

Cancellation for Failure to Make Fee Arrangements

A number of students who pre-register for classes do not return for the following term as anticipated. In order to establish orderly administration of the financial affairs of the University and to open the positions of these non-returning students in classes for which they pre-registered, a deadline for making fee arrangements is set for each term and announced by the Business Office. Registrants who do not complete fee arrangements prior to the deadline are unregistered, and their positions in classes are made available to other students. Students whose registrations are canceled but who wish to attend the University for the canceled term must repeat the registration process. In addition, a late registration fee of \$40.00 may be charged to offset the additional administrative expense of late registration.

Challenge by Examination

Montana State University-Northern seeks to serve students who have achieved through nontraditional forms of study or work experience. The University awards credit based on Advanced Placement (AP) examinations, College Level Examination Program (CLEP) tests, DANTES transcripts, military training, [Trade Competency Examinations](#), and other faculty approved competency measures. The Registrar maintains a list of courses and the procedures a student must follow in order to be awarded credit.

Changes in Registration

See "Dropping and Adding Classes" later in this section.

Change of Grade

Grades submitted to the Registrar's Office by faculty members are final and may not be changed except in the case of clerical error, upon successful appeal, or if they were fraudulently obtained. Students who believe an error in grading has occurred should first consult with the instructor. Final grade changes may not be used to extend the time for completion of a course, to allow a student to submit late work, or to retake examinations after the term is completed. A grade change is not meant to substitute for an "Incomplete" when an Incomplete cannot be justified. Grade changes made under this policy must be submitted to the Registrar by the faculty through use of forms and procedures available in the Registrar's Office. The College Dean must approve these forms.

Class Attendance

Each student is responsible for attending all classes regularly. Individual professors establish attendance policies for their courses. While a professor may not withdraw a student from a course, excessive absences may result in a grade of "F."

Classification of Students

Students are classified as follows:

By year in school:

Freshman:	0-29 semester credits earned. May not enroll in an upper division course with the permission of the instructor.
Sophomore:	30-59 semester credits earned.
Junior:	60-89 semester credits earned.
Senior:	90 semester credits and above.
Post-Graduate:	Baccalaureate students earning additional hours of undergraduate or graduate credit, but not following a master's degree program
Graduate:	Baccalaureate students enrolled in a master's degree program.

By credits:

Undergraduate Students

Full-Time:	Enrolled for 12 or more semester credits with 15 to 16 semester credits being considered a normal load depending on the degree.
Half-Time:	Enrolled for 6 or more semester credits, but fewer than 12.
Part-Time:	Enrolled for fewer than 6 semester credits.

Graduate Students

Full-Time:	Enrolled for 9 or more semester credits.
Half-Time:	Enrolled for more than 5 semester credits, but fewer than 9.
Part-Time:	Enrolled for fewer than 5 semester credits.

Student Status

Degree-Seeking:	A student who plans to pursue a degree at Montana State University-Northern.
Non-Degree Seeking:	A student who does not plan to pursue a degree at Montana State University-Northern.
Adult Special:	A student 21 years of age or over, who is not a high school graduate, has not received their GED, and is not a transfer student, but wants to pursue a degree at Montana State University – Northern.
Continuing:	A student who completed the last regular semester at Montana State University-Northern. The spring or summer term is considered the last regular semester for the students returning for fall semester.
Former:	A student who has previously attended the Montana State University-Northern but did not complete the last regular semester and who has not enrolled at another institution of higher learning since last attending the University. Former students must file an application for readmissions.
Transfer:	Any student who was last registered for 12 or more credits at another institution of higher learning.

CLEP (College Level Examination Program)

The College-Level Examination Program (CLEP) is a national credit by examination program. This program provides students with the opportunity to demonstrate college-level achievement by taking an exam. Each institution determines which CLEP test and passing score it will accept for a specific course. All CLEP testing at MSU-Northern is online and costs a total of \$75.00. Each exam is approximately 90 minutes long, and except for English Composition with Essay, is made up primarily of multiple-choice questions; however, some exams do have fill-ins. Credit earned through CLEP is

assigned a grade of "Pass" and does not affect the grade point average. All CLEP credits awarded appear on the transcript and may apply towards graduation. CLEP credits may not be used for financial aid purposes or athletic eligibility.

For a complete list of exams that have equivalent courses at Northern or to schedule an exam please visit the Vande Bogart Library Room 208 or call 406.265.3544.

Continuing Education Courses

Continuing education courses may be offered for credit. However, no more than 30 such credits may be applied toward a bachelor's degree. At the graduate level, no more than 12 credits may be applied toward a Master's degree.

Cooperative Education

Cooperative Education is a program that allows students to earn academic credit and gain on-the-job experience in positions related to their field of study. Most disciplines include cooperative education courses, numbered 298 or 498. Cooperative Education is initiated with learning objectives defined through an agreement between the student, faculty, Director of Career Center, and the work supervisor. To be eligible for Cooperative Education, students must have completed two semesters at the University and maintain a cumulative 2.00 grade point average. Students pursuing an associate degree may apply a total of 12 credits of Cooperative Education toward their degree requirements with the exception of Engineering Technology programs. Students pursuing a bachelor's degree may apply a total of 18 credits of Cooperative Education toward their degree requirements with the exception of Engineering Technology programs. These courses are taken Pass/Fail only.

Course Numbering System

001-099	Development courses, not considered for graduation credit and not computed in credits earned or grade point average. These credits may be considered for financial aid and certification purposes.
100-299	Lower division courses.
300-499	Upper division courses.
500-599	Graduate division courses only.
1390	Undergraduate level Continuing Education courses.
1590	Graduate level Continuing Education courses.

Course Repetition

Students repeating a course will forfeit the original grade and will receive the new grade. The previous grade will remain on the transcript, but will not be counted in the students GPA.

Credit Load

Students must complete 15 - 16 credits each semester in order to complete a two-year or four-year degree within the minimum time. The following table explains the rules governing maximum credit loads:

...If a student's cumulative grade point average is:	...then he/she may take the following semester credits without approval	...then he/she must have approval to carry the following semester credits:
3.00 and above	1-22	More than 22
2.50-2.99	1-20	More than 20
2.00-2.49	1-18	More than 18
Below 2.00	1-12	More than 12

First-time University students may not take more than 18 credits during their first semester.

Transfer students: In determining the maximum credit load that a transfer student can carry during his or her first semester at Montana State University-Northern, the University will use the cumulative grade point average earned by that student before he/she came to Northern. Once a student has earned credits at Northern, his/her Northern grade point average will be used to determine credit load. Students may request to take more than their pre-determined credit load by submitting a petition to the Admissions and Standards Committee. Petitions may be obtained from the Registrar's Office.

The rules for credit load are different during summer semester, and students should consult the summer semester bulletin for an explanation.

Credit Not Pertaining to a Traditional Term

The posting of credit earned outside of a traditional academic calendar term to Northern transcripts will be governed by the following rule: The credit will be posted to the Northern term during which the official transcript or report of the credit is received. If the official transcript or report is received

when no Northern term is in progress, the credit will be posted to the Northern term following the receipt of the official transcript or report. In order to be considered an “official” transcript or report of credit, it must:

1. Be an original document produced by the issuing agency or institution. It must contain sufficient information to be identified as such. Telephone reports are not acceptable. Faxes are not acceptable. Documents transmitted by other electronic means, such as electronic mail, are only accepted from National Student Clearinghouse or Parchment.
2. Be received directly from the issuing agency or institution without passing through the hands of the student. The transcript can pass through the hands of an official agent of the institution, however, such as a Dean or the administrative support personnel of an academic college.

Distance/Extended Learning

Students who are not able to physically attend classes on the Montana State University-Northern campus may still take courses leading to a degree by utilizing Northern’s distance learning options. For more information about distance learning options please contact Admissions at 406.265.3704.

Double Major

A student may earn a second major and have it noted on his or her transcript by completing all course work for the second major. Students whose second majors fall within another degree type must follow procedures for a second undergraduate degree. Students should consult the policy on second undergraduate degrees, on page 207 of this catalog, to make sure they understand and satisfy the requirements of that policy if it applies to their additional program of study. Students who are applying for graduation with two majors will not be required to complete additional requirements for a minor required by either program.

Dropping and Adding Courses

Withdrawing from All Classes and Refunds

The following refund schedule applies to the standard semester format. See the Business Office website at <https://www.msun.edu/busserv/tuitfees.aspx> (https://www.msun.edu/busserv/tuitfees.aspx) 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 3rd classroom day.
3. 75 percent of all remaining mandatory fees will be refunded to the end of the 5th classroom day.
4. 50 percent of all remaining mandatory fees will be refunded to the end of the 6th classroom day.
5. Refunds will not be made after the 6th 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.

MSU Northern 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 Northern 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.

Final Examination Week Policy

The last week of each regular semester will be set aside for final examinations. The Registrar will publish an examination schedule every semester. The final examination week is the only time when final exams may be given for full semester classes. The University expects every class to meet at its scheduled time for final exams. There will be no scheduled extra-curricular activities or meetings during finals week. Each scheduled exam period will be two hours.

If students are scheduled for more than two (2) final examinations on the same day, they may ask for an adjustment. They should contact the instructors in their classes, and try to arrange alternative test times during the final exam week. If those negotiations are unsuccessful, students should ask their College Dean to mediate the conflict.

Fresh Start Policy

Montana State University-Northern students may eliminate part of their previous coursework at the institution under this “fresh start” option. The policy is subject to several restrictions, and may not be available to all students. Under the policy, students may erase a maximum of two consecutive semesters or three consecutive quarters of previous Montana State University-Northern coursework. The coursework will remain on the student’s academic record,

but the credits and the grades will not be carried forward into the student's cumulative GPA. Once a student has elected to exercise the Fresh Start policy, the effects of the policy may not be rescinded.

Students must meet the following conditions to apply for the fresh start option:

1. they must be undergraduates; they may only exercise the fresh start option once at Montana State University-Northern;
2. they must not have been enrolled at Montana State University-Northern for at least one calendar year;
3. they must apply for the fresh start option during the first year of their return to Montana State University-Northern.

Grades

The quality of a student's work in each course is represented by a letter grade. In computing scholastic averages, each letter grade is assigned a specific number of grade points for each credit.

Faculty at Montana State University-Northern may use the following scale when assigning final grades to students in courses. Criteria for assigning these grades are left to the discretion of course faculty, and shall be clearly communicated to the students in the course using the course Syllabus or any other means of official course communications. These criteria should be provided to the students during the first week of class during each semester. Use of plus and minus grading is left to the discretion of course faculty.

Grades	Description of Grades	Grade Points
A	Excellent	4
A-		3.7
B+		3.3
B	Above Average	3
B-		2.7
C+		2.3
C	Average	2
C-		1.7
D+		1.3
D	Below Average	1
D-	Passing	.7
F	Failure	0
P	Pass	0
I	Incomplete	0
I**SEE BELOW	Incomplete grade subsequently finished	0
AUDIT	Audit	
W	Withdrawal	0
X	Continuation	
NR	Not Reported by Instructor	
PF	Failure Due to Academic Dishonesty	0
(P)	Passing-developmental courses-not counted in GPA	0
IP	In Progress-developmental courses-not counted in GPA	0
NP	Not Passing-developmental courses-not counted in GPA	0

**

(I/* = I/A, I/A-, I/B+, I/B, I/B-, I/C+, I/C, I/C-, I/D+, I/D, I/D-, I/F)

Explanation of Grades and Notations

P

Indicates that the student registered for the course on a "Pass-Fail" basis and passed the course. Pass grades are computed in the earned hours only; however, failures are computed in the grade point average like any other F.

I	Indicates that the work of the course is more than three-fourths complete, not finished, but may be completed. An incomplete is given only to a student who has a proper excuse for not having completed all the requirements of a course. The faculty member and student must arrange to complete the work prior to the ending of the following term. Arrangements must be completed in the next resident semester, or the "I" is changed to an "F." If the student is not in residence, two semesters are given to complete the work, or the incomplete becomes an "F." The final grade for the course will replace the notation of "I" in the semester in which the course was originally registered, and the credit for the course will be counted in that semester. The final grade will affect the grade point average of that semester, just as if the work had originally been completed in that semester.
I/*	Incomplete grade subsequently finished. The * represents the final grade. Points are those appropriate to the final grade.
Audit	Indicates that the student registered as an auditor for the course. This course is computed in the attempted hours; however, no credit is given and it is not used to calculate the cumulative gpa.
W	Indicates that the student withdrew from the course or University after 20% of the course had been completed but before 60% of the class time was completed.
X	Indicates that the final grade for the course will be assigned when the sequence is completed and may extend beyond one semester. Only graduate students receive this notation.
(P)	Indicates that the student has passed the developmental course.
IP	Indicated that the student's work is still in progress.
NP	Indicates that the student was not passing remedial course work at the time the grades were turned in.
NR	Indicates that the instructor did not report the grade. This is a temporary notation and a grade report will be issued as soon as possible.
PF	Indicates that the student failed due to Academic Dishonesty.

Grade Reports

Following each semester students and their advisors may see a report of the students' grades by logging onto Northern's website and getting into "My Info" on Banner. Students performing unsatisfactory work during the semester may also be notified. Grade point average (GPA) is computed by dividing the cumulative number of grade points by the total number of GPA hours.

Graduation Academic Latin Honors

Graduation academic Latin honors levels are based on **all higher education work** completed at the time the program was printed. This does not include work completed at the end of the Spring Semester of commencement. If work completed after the commencement program was printed changed any honors levels, every effort will be made to provide the proper cords, and the new honors levels will be read as the graduates during commencement are introduced.

Latin Honors	Minimum GPA
Cum Laude	3.50
Magna Cum Laude	3.75
Summa Cum Laude	4.00

Honor Cords: Montana State University-Northern recognizes associate and baccalaureate students with excellent grades by awarding traditional Latin academic honors at graduation. Honored graduates wear honors cords and their names are noted in the commencement program. Cord colors are as follows:

Cum Laude	Maroon
Magna Cum Laude	Silver
Summa Cum Laude	Gold

Incompletes

An incomplete grade must be completed in the next resident semester, or the "I" is changed to an "I/F". If the student is not in residence, two semesters are given to complete the work, or the incomplete becomes an "I/F".

Independent Study

Independent study courses are offered at the discretion of individual faculty members and their Dean. Students who wish to enroll in independent study courses must first discuss the requested coursework with the instructor, then obtain the approval of the instructor's dean.

Such approval is based on a preliminary plan of the intended nature, duration, and scope of the project. The work may be a regular catalog course or a course designed to meet the special needs of an individual student. Independent study courses will be numbered 292, 392, 492, 592, or 692 and will not appear on the regular schedule of classes. Students may not add independent study courses after the deadline for adding full-semester classes. No more than 6 independent study credits may apply toward a Master's degree, no more than 9 independent study credits may be applied toward a bachelor's degree and no more than 6 independent study credits may be applied toward an Associate or associate of applied science degree. Independent study forms are available in the Registrar's Office.

Major, Minor or Advisor Changes

Degree-seeking students may change their academic majors and minors by completing a change of major form and return it to the Registrar's Office.

Non-degree-seeking students may apply for degree-seeking status at the Registrar's Office.

For students who have not declared a major, their faculty advisor provides advising to help students fulfill their general education requirements and to select a major field of study. Montana State University – Northern will allow students to remain undeclared until they have earned 45 semester hours. After a student has earned 45 semester hours, the student must declare a major, or petition the Admissions and Standards Committee to continue attending without a declared major. Some academic majors require that specific courses be taken during the freshman and sophomore years. Students should, therefore, declare their intended major as early as possible to ensure proper advisement.

Those who have selected a major are assigned faculty advisors by the academic College which administers their chosen major and may request a change of advisor from the Registrar's Office.

Pass-Fail Grades

Students may take classes on a pass-fail basis. When considering that option, students should keep the following limitations in mind, however:

1. Courses that satisfy the requirements of a major, a minor, an area of concentration, or the professional education core cannot be taken on a pass-fail basis. Graduate courses cannot be taken on a pass-fail basis.
2. Students can only use eighteen (18) semester credits of pass-fail work in a bachelor's degree program; they can only use nine (9) semester credits of pass-fail work in an associate or associate of applied science degree program.
3. The two previous restrictions do not apply to specific coursework that is only offered on a pass-fail basis. That coursework would include cooperative education classes, student teaching, Advanced Placement, CLEP, Military Experience, and challenge exams and trade competency tests.
4. Some academic Colleges have their own rules governing the use of pass-fail credits, and students should consult their faculty advisors for those limitations.
5. Students may change from a grade to pass or pass to a grade prior to the close of the "add" period for the class by means of forms and procedures available from the Registrar's Office. Once pass-fail has been elected, the election cannot be reversed.

Faculty members are not notified when courses are taken on a pass-fail basis. Letter grades turned in by the instructor are converted to Pass or Fail when the grades are recorded on the student's permanent record. A passing grade is defined as a "C-" or better. A failing grade is an "F." Pass grades are not counted in the grade point average but the credit may meet graduation requirements subject to the limitations set out above. Grades of "F" are counted in the grade point average.

The University cautions students that some graduate and professional schools and some employers do not recognize non-traditional grades (i.e., those other than A, B, C, D, F) and students who use the pass/fail option may be at a disadvantage in such situations.

Petitions

Exceptions and deviations from normal academic policy may be requested through petition forms and procedures available from the Registrar's Office. Petitions and requested waivers are reviewed in a timely manner and students are notified of their approval or disapproval.

Prior Learning Assessment (PLA)

The Prior Learning Assessment is designed to provide opportunities to earn university credit for what has been learned through life and work experiences. Students who wish to pursue this means of earning credit will complete portfolios demonstrating how their competencies contribute toward degree requirements. Details concerning the PLA program may be found in the university policy and procedures manual (MSU-N Policy 405).

The only academic programs that currently accept PLA credit are business and community leadership and criminal justice. Students may also ask to have PLA credits evaluated as distribution coursework under the general education program.

Privacy Rights

In accordance with the *Family Educational Rights and Privacy Act of 1974*, the Registrar informs students that the University may disclose information from the education record of a student who is or has been in attendance at Montana State University-Northern. The following information is considered by the University to be public in nature:

1. Name
2. Address
3. Telephone number
4. Year in school
5. Major
6. Scholarships awarded
7. Degrees conferred
8. Honors granted
9. Dates of attendance

Currently enrolled students have the right to refuse to permit the University to disclose the above information by submitting a "Privacy Rights" form. This form is the means by which the student notifies the Registrar of his/her intentions concerning the above information. The student is herewith notified that:

1. If the student signs the request to have the Registrar keep the above information private, the University will not even acknowledge the fact of the student's enrollment to third parties, except in cases otherwise provided for, such as written requests for transcripts.
2. Emergency messages will not be taken for or relayed to the student.
3. The student's name will not appear on any lists released to third parties, including honor rolls and graduation.
4. This is an "*all or nothing*" policy. The student may not select certain information or certain circumstances for non-disclosure.
5. Non-disclosure requests may be reversed by submission of notification to the Registrar's Office.

Registration Restrictions

A student classified as a freshman may not enroll in an upper division course without the permission of the instructor.

Scholastic Honor Roll

In recognition of scholastic achievement, the University publishes at the conclusion of each semester an honor roll of undergraduate students who have earned a minimum grade point average of 3.25 in twelve or more credits of work. Students with a grade of Incomplete or "F" are not included on the honor roll listing.

Scholastic Probation/Suspension Review

Students whose semester and/or cumulative grade point average falls below 2.00 will be placed on academic suspension or probation according to the following guidelines. Suspended students may appeal for readmission prior to their elapsed suspension period by means of forms and procedures available from the Registrar's Office.

1. **Scholastic Warning:** Applies only to first-time freshmen or new students who have earned less than twelve credits from a regionally accredited post-secondary institution. Such students are placed on scholastic warning at the end of their first semester of enrollment if they earn less than a 2.00 cumulative grade point average. A student may be on academic warning a maximum of one semester. Probation or suspension status applies to all subsequent enrollments in which the cumulative grade-point average remains below a
2. **Scholastic Probation:** Students (other than those described in situation 1 above) are placed on probation at the end of a semester of enrollment when their cumulative grade point average falls below a 2.00. Transfer students (admitted under special conditions) who have earned 12 or more semester credits and whose transcript(s) indicates less than a 2.00 cumulative grade point average are admitted on scholastic probation.
3. **Continued Scholastic Probation:** Students may continue to enroll while on probation provided they earn at least a 2.00 semester grade point average, even though their cumulative grade point average remains below a 2.00.
4. **Restrictions in enrollment while on Scholastic Warning or Scholastic Probation status:** No student on scholastic warning or probation may enroll for more than 12 credits during the semester without approval of the Admissions and Standards Committee.
5. **Removal of Scholastic Probation:** Such academic standing is removed when the cumulative grade point average is raised to a 2.00 or higher.

Scholastic Suspension: Students currently enrolled on scholastic probation or continued on scholastic probation are suspended when both the semester and cumulative grade point average are below 2.00. The first suspension from Montana State University-Northern will be for one semester. The second

suspension will be for one calendar year. Students suspended for a third time, or those seeking early re-admission from a first or second suspension, must appeal by petition to the Admissions and Standards Committee.

A student re-admitted after a period of suspension will be placed on scholastic probation.

Suspended students may attend classes until their appeal is decided.

Second Undergraduate Degrees

To earn an additional degree, students must complete all coursework required in the degree program. A second degree will be awarded only when it differs from the student's first degree. For example, if the second major is a bachelor of science degree and the first was a bachelor of arts degree, then a second degree would be awarded.

A second associate or associate of applied science degree requires a minimum of twelve additional credits; and a second baccalaureate degree requires a minimum of thirty additional credits. Normal residency requirements and all other academic regulations also apply. Students wishing to earn a second associate, associate of applied science, bachelor, or bachelor of applied science degree must complete the regular admission procedures. For double major, i.e., a second major within the same degree type, see the section entitled "Double Major" on page 203.

Semesters

Semester: Northern has three semesters in an academic year: Fall, Spring, and Summer. Students normally attend two semesters in an academic year: Fall and Spring. When a policy refers to a number of semesters, or to "regular" semesters, it is referring to the Fall and Spring semesters only, to the exclusion of Summer semester, unless the policy expressly indicates to the contrary.

Special Topics

Experimental courses and courses for special topics may be offered from time to time. Such courses are numbered 291, 391, 491, and 591 and will not be offered more than twice, excluding summer sessions or continuing education offerings, which may be offered more often.

Substitutions

Course substitutions are exceptions and deviations from normal academic policy and may be requested on forms available from the Registrar's Office. A substitution requires the approval of the student's faculty advisor, the academic College Dean of the student's major, and the Dean of the academic College that offers the course. A course description or syllabus must accompany the form. They are then returned to the Registrar's Office for processing.

Trade Competency Test

Students who have had five or more years of work experience in an apprenticeable trade or licensed occupation may have their experience evaluated through a written and performance test administered by the National Occupational Competency Test Institute (NOCTI). This testing process, coupled with a committee evaluation of job success, may generate up to 39 credits toward earning a degree. Contact the Registrar or Dean of Education and Graduate Studies for more information.

Transcript of Academic Record

A transcript is the complete academic record of a student's work and status. The official transcript bears the signature of the Registrar and the seal of Montana State University-Northern. Beginning March 1, 2016 Montana State University Northern will accept electronic transcripts from The National Student Clearinghouse and Parchment. Electronic Transcripts must be address to the Registrar's office or registrar's email (registrar@msun.edu). Electronic transcripts received from other departments or emails will not be honored and will be considered unofficial. Another other copies are unofficial as well. The University retains a permanent transcript. Official transcripts are issued only upon the written request of the student. Transcripts will not be released until all University admissions or financial obligations have been met.

The education records, as defined by federal right-to-privacy laws, of deceased persons in the custody of Montana State University-Northern will be released only to individuals who document themselves as personal representatives of the deceased's estate or remaining next-of-kin. The death of the alumnus must also be documented.

Transfer of Credits

Transfer students should read these policies carefully, so they are comfortable with the process of transcript evaluation and understand its steps.

1. The Registrar's Office will begin the evaluation of transfer credits when the transfer student has been admitted to the University as a degree-seeking student.
2. Transfer students must submit official transcripts from every post-secondary school they have attended before they may be admitted.

3. The Registrar determines the acceptability of course work from other post-secondary institutions, using these rules. The Registrar also determines the acceptability of transfer credit to meet general education requirements. Faculty in the respective majors and minors determine whether transfer credit will meet specific program-area degree requirements.

Acceptability of Credits

1. The University accepts all college and/or university level courses from institutions accredited by regional association of schools and colleges. This does not include remedial or developmental courses.
2. If an institution was not accredited at the time the transfer student enrolled there, but accreditation has subsequently been granted by a regional association, the student may petition to have the credits accepted.
3. If the institution was a candidate for accreditation at the time the transfer student took classes, credit will be granted after successful completion of 20 semester credits at Northern.
4. Credit will be granted for college-level continuing education, correspondence and extension courses successfully completed at regionally accredited institutions.
5. International coursework must be evaluated by a professional foreign transcript-evaluating agent, designated by the Office of the Registrar, or by other means approved by university policy.
6. Credit may be granted for military service and for completed military service schools based on the recommendations of "A Guide to the Evaluation of Educational Experiences in the Armed Forces." See the Registrar for details.
7. Credit may be granted for education received from non-collegiate institutions on the basis of recommendations published by the American Council on Education.

Evaluation of Degree Requirements

1. The Registrar determines the acceptability of transfer credits toward general education requirements at the University. Academic Colleges may also be consulted.
2. The academic College that awards the student's degree will determine applicability of transfer courses to specific program-area degree requirements.
3. Secondary education majors may work with two different academic Colleges. The Department of Education will determine how transfer of credits fit into the education core. The major and minor academic Colleges will determine how transfer credits fit into major or minor curricula.
4. Articulation agreements may have been negotiated between Northern and the transfer student's institution. Those agreements will determine the use of credits in a student's degree program.
5. Transfer students are encouraged to assist academic College faculty in evaluating previous coursework. Catalog descriptions, course syllabi and classroom work can all be used to document the content and rigor of transfer credits.
6. Courses with grades of less than C- will not be applicable to general education, major or minor requirements.

Transfer Grades

Transfer credit will be given for courses in which satisfactory grades were received. A satisfactory grade for transfer purposes is defined as A, A-, B+, B, B-, C+, C, C-, D+, D, D- or S. Transfer Grade-point

1. The transfer grade point average will be used to determine eligibility for acceptance at Montana State University-Northern. Coursework from all higher education institutions will be used to calculate that grade point average.
2. Transfer grade point averages will not be computed for students whose 1st term of attendance at Northern is Fall 1989 or after. Student course work completed at the College of Technology in Great Falls will be treated as resident course work and included in MSU-Northern's grade point average.
3. University honors may be based on the combined grade point average for all higher education work completed.

Waivers

Course waivers are exceptions and deviations from normal academic policy and may be requested on forms available from the Registrar's Office. A waiver requires the approval of the student's advisor, the academic Director of the student's major. A waiver does not constitute a reduction of required credits. Students who receive a waiver for a course do not receive the credit hours for that course.

Withdrawals from the University

Students may withdraw from the University by completing the procedures and forms available in the Registrar's Office. Course grades will be determined as set out in the Drop and Add Policy (see Drop and Adds).

Special Transfer Program

Students may complete preparatory course work at Montana State University Northern for the Dental Hygiene program at Great Falls College-MSU.

Dental Hygiene. For many years, Montana was the only state in the United States without a dental hygiene program. That educational deficit was corrected in 2001, when the Montana Board of Regents approved such a program at Montana State University-Great Falls College-MSU in Great Falls, Montana(now Great Falls College-MSU).

Students complete 93-98 credits to earn the associate of applied science degree in Dental Hygiene. Fourteen (14) students each year are admitted to the Dental Hygiene program under a competitive process. Preference is given to Montana residents. Employment prospects for dental hygienists are quite good, however, and graduates may earn a salary in the \$52,000 - \$68, 000 range for full-time employment.

Students interested in the program can complete the pre-requisite courses required for the degree at campuses other than the Great Falls College-MSU campus. At Montana State University-Northern, for instance, the following classes can be completed at this institution and transferred to the Great Falls Dental Hygiene program. Some of the classes are pre-requisites and others are courses with the program:

Code	Title	Credits
BIOM 250	Microbiology for Hlth Sciences	3
BIOM 251	Microbiology Hlth Sciences Lab	1
BIOH 201	Human Anat Phys I	4
BIOH 211	Human Anatomy & Physiology II	4
CHMY 141	College Chemistry I	3
CHMY 143	College Chemistry II	3
M 121	College Algebra	3-4
or M 105	Contemporary Mathematics	
PSYX 100	Intro to Psychology	3
or PSYX 230	Developmental Psychology	
SOCI 101	Introduction to Sociology	3
or COMX 111	Intro to Public Speaking	
WRIT 101	College Writing I	3
M 105	Contemporary Mathematics	3

Students who are interested in the Dental Hygiene program, and who would like to complete the 9 classes outlined above, should consult with a faculty advisor on the MSU-Northern campus. The MSU-Northern faculty advisor assigned to the Dental Hygiene program are:

Terri Hildebrand
Hagener Science Center Room 205

Students are also encouraged to consult the Great Falls College-MSU web site for current information about the actual program.

Faculty

AMENDE, Kalin (2021)

Assistant Professor, Counselor Education

Ph.D., Counselor Education, Idaho State University, 2021; M. Coun., Idaho State University, 2018; B.S., Lewis-Clark State College, 2015

BACHMEIER, Randy (2017)

Assistant Professor, Community Leadership

Ed. Ph.D., Regent University, 2009; M.S. Ed., Montana State University-Northern, 2004; B.A., Montana State University-Northern, 1993

BALEMBA-BROWNLEE, Samantha (2016)

Associate Professor, Criminal Justice

Doctorate of Philosophy, Simon Fraser University, 2014; Master of Arts, Criminology, 2010

BIEGER, Jack (2016)

Assistant Professor, Criminal Justice

Doctorate Organizational Leadership, University of Phoenix 2010; M.S., University of Phoenix 2010; B.S., University of Phoenix, 2008

BILLMAYER, Karyn (2022)

Assistant Professor, Agriculture

B.S., Agricultural Education, Montana State University 2020

BOWKER, Ann (2019)

Assistant Professor, Civil Engineering Technology

BOWKER, Grant (2018)

Assistant Professor, Mathematics

B.S., University of North Dakota, 2013; M.S., Mathematics University of North Dakota, 2017

BRADSHAW, Andy (2020)

Assistant Professor, Automotive Technology

B.S. Automotive Technology, B.S. Diesel Technology, Montana State University Northern, 2014

BOYSUN, Wane (1997)

Professor, Automotive Technology and Agricultural Mechanics

B.S., M.Ed., Montana State University-Northern, 1996, 1999

CARLSON, Kevin S. (1986)

Professor, Business

B.T., Northern Montana College, 1983; M.B.A., University of Montana, 1986

CLOUSE, Gregory S. (1987)

Professor, Diesel Technology

B.T., M.Ed., Northern Montana College, 1984, 1989

CORTESE, Guiseppe (2022)

Associate Professor, Biology

Ph.D., Neuroscience & Psychology, University of Colorado, 2013

DON, Steven (2003)

Chair College of Technical Sciences

Professor, Automotive and Diesel Technology

A.S., Montana State University-Northern, 1994; B.C., University of Canterbury, 1984; M.Ed., Montana State University-Billings, 2008

DONOVEN, Casey (2020)

Assistant Professor, Mathematics

Ph.D., Mathematics, University of St. Andrews, 2017; B.S., Mathematics, Montana State University, 2012.

DUKE, Jaime (2016)

Assistant Professor of Nursing

Interim Dean, College of Health Sciences

B.S., Nursing, Walden University, 2013; M.S., Walden University, 2016; Doctor of Nursing Practice, Walden University, 2021

ELESWED, Muath (January 2023)

Associate Professor, Business

Ph.D., Organizational Leadership, University of Maryland, 2008

FAST, Stacey (2019)

Assistant Professor, Nursing

B.S. Biology, Montana State University, 1999; Bachelor of Science in Nursing, University of Mary, 2003; Master of Science in Nursing-Ed, Jacksonville University, 2017

GOMEZ, Laura (2018)

Assistant Professor, Accounting

CPA License, State of Montana; M.S., Professional Accounting, Colorado State University, 2020; B.S. Business Administration- Accounting, 2007, B.A., English Literature, University of Montana, 2004

GRYFFIN, Tony (2021)

Assistant Professor, Integrated Health Sciences

B.S., Dual Degree, University of Wisconsin-River Falls, 1992; M.S, University of Wisconsin-Stevens Point, 2002; Doctorate, Northern Illinois University, 2011

GUYANT, Valerie (2016)

Associate Professor, English

B.S., Dual Degree, University of Wisconsin-River Falls, 1992; M.S, University of Wisconsin-Stevens Point, 2002; Doctorate, Northern Illinois University, 2011

HART, Gwen (2020)

Assistant Professor, English

PH.D., English, Ohio University, 2009

HILDEBRAND, Terri (2014)

Professor of Biology,

B.S. Biology/Math, Black Hills State University, 1991; Ph.D. Botany, University of Kansas, 2005

HOLZWORTH, Kevin (2015)

Assistant Professor, Automotive Technology

B.S. Automotive Technology, Montana State University Northern, 2010; M.Ed., Montana State University-Northern, 2022

HOWLAND, James C. (1990)

Professor, Computer Information Systems

B.S., Oregon State University, 1986; M.I.S., City University, 1992

HUSE, Shawn (2002)

Head Men's Basketball Coach

Assistant Professor, Education

B.S., Montana Tech of the University of Montana, 1995; B.A., University of Montana, 1997; M.A., University of Nebraska-Kearney, 2002

JENSEN, Keith (2018)

Assistant Professor, Diesel Technology

B.S., Diesel Technology, Montana State University Northern, 2004

KEGEL, Gregory D. (1982)

Chancellor

Professor, Design Drafting and Manufacturing Technology

B.S., Northern Montana College, 1976; M.S., Central Washington University, 1987

KALLENBERGER, Doug (2021)

Assistant Professor, Agriculture

B.A. Agriculture Operations Technology, MSU-Northern, 2005; Associate Business Technology and Agriculture, MSU-Northern, 2005

KIRKPATRICK, James (2010)

Instructor of Electrical Technology

Inside Wireman, North Dakota State School Of Science, 1996

KLINE, Thomas (2020)

Instructor, Plumbing

MACK, Charlie (2017)

Assistant Professor, College of Technical Science

A.A.S., Montana State University Northern, 2014; B.S., Montana State University Northern, 2014

MAGELSSSEN, Trygve (2006)

Professor, Electrical Technology

B.S., Montana State University-Northern, 2002; M.S., University of North Dakota, 2004

MATSON, Brandon (2016)

Assistant Professor, Diesel Technology

National Academy of Railroad Science (NARS), 2007; B.S., Montana State University-Northern, 2004

MEYER, Joshua (2013)

Associate Professor, Automotive/Diesel Technology

A.S., Waubensee Community College, 2004; B.S., Southern Illinois University, 2006

MOUAT, Chris (2005)

Head Women's Basketball Coach

B.Ed., University of Montana-Missoula, 1993; M.Ed., Montana State University-Northern, 2016

MPHANDE-FINN, Joyce (2020)

Associate Professor, Counselor Education

Ph.D. Counselor Ed, University of MT, 2004; MA Mental Health Counseling, University of MT, 1999; BS Business Administration, Berea College KY, 1994; BA Education Univ of Malawi, Zomba, Malawi, 1983.

OBERQUELL, Christian (2001)

Head Athletic Trainer/Athletic Director

Instructor, Education

B.S., University of Mary, 1994; NATA Certified, 1995; M.S., California University of Pennsylvania, 2010

OLSON, Grant (2020)

Assistant Professor, Theatre/Communication

B.A., MSU-Northern, 2002; M.A., King's College of London, 2003; Ph.D, Kingston University, 2015

PULA, Jennifer (2022)

Assistant Professor, Nursing

B.S. Nursing, MSU Northern, 1999

RIGGIN, Aaron (2015)

Assistant Professor, Design Drafting

SEIFFERT, Mark A. (1994)

Professor, Speech Communication

B.A., Montana State University, 1984; M.A., Texas Tech University, 1985; Ed.D., West Virginia University, 1990

SIEMENS, Jeremy (2005)

Associate Professor, Automotive Technology

B.S., Montana State University-Bozeman, 1994

SMEBY, Curtis (1998)

Professor, Curriculum and Instruction

B.A., Acadia University, 1980; M.S., University of Oregon, 1981; Ed. Specialist University of Southern Mississippi, 1990; Ph.D, University of Wyoming, 1996; B.S., Northern Montana College, 1990; M.S. Montana State University, 1993

SOISETH, Joel K. (1988)

Professor, Art

B.A., B.F.A., M.F.A., University of North Dakota, 1970, 1980, 1983

SPANGLER, Chad (2014)

Associate Professor of Health Promotion

B.S., Montana State University- Northern, 1995; M.S., University of Montana, 2002; Ph. D., Walden University, 2012

SUCCAW, Gary (2012)

Professor, Chemistry

Ph.D. Chemistry, University of Oregon, 2004, M.S. Chemistry, Michigan State University, 1994, B.S. Chemistry, Grand Valley State University, 1990;

TANNER, Jason (2019)

Instructor, Welding

TERRY, Charles (2016)

Instructor of Welding

C.A.S. Welding Technology, Montana State University-Northern, 2018; A.A.S. Pipefitters, Montana State University-Northern, 2022

THIVIERGE, Tyson (2008)

Head Wrestling Coach, Instructor

B.S., Montana State University Northern, 2003

TODD, Joseph (2014)

Associate Professor in Teacher Education

B.S., Metropolitan State College, 2007; MBA, Colorado Technical University, 2009; Ed. PhD. Montclair State University, 2015

UDAYKUMAR, Kasthuri (2016)

Assistant Professor, Nursing

M.S., Nursing, Valparaiso University, 2015; B.S., Nursing, Amrita Institute of Medical Sciences and Research Centre, 2008

WAGNER, Jerry (2019)

Head Volleyball Coach

WARD, Mary E. (2019)

Assistant Professor of Graphic Design

B.A., Montana State University, 2009; M.A., University of Montana, 2014; BFA; MFA

WILKE, Lanny (1996)

Professor, Business

A.A., Pensacola Junior College, 1981; B.A., B.S., M.Ed., Montana State University-Northern, 1995, 1996, 1998

ZUCK, Barbara (2008)

Professor, Business

B.A., Luther College; M.P.A., Portland State University; Ed.D., Montana State University-Bozeman. 2007

ZUCCALA, Frank (2021)

Assistant Professor, Nursing

B.S., Idaho State University, 2018; B.A. International Studies & Arabic, The Ohio State University, 2010; M.A. Criminal Justice American Military University, 2014

Emeriti Faculty List

EMERITI FACULTY

ANDERSON, Dale E. (1962-1982)

Associate Professor Emeritus, Drafting/ Construction Technology

B.S., Northern Montana College, 1966; M.Ed., Montana State University, 1971

BARBER, Roger (1980-2003)

Professor Emeritus, Business

B.A., M.B.A., J.D., University of Montana, 1967, 1971, 1983

BLACK, Amy A. (1969-1987)

Associate Professor Emerita, Nursing

B.S., Montana State University, 1957; M.S., University of California, 1966

BLEW, Mary R. (1969-1987)

Professor Emerita, English

B.A., M.A., University of Montana, 1962, 1963; Ph.D., University of Missouri, 1969

BORCHERT, Horace F. (1959-1988)

Professor Emeritus, Science

B.S., Valley City State Teachers College, 1949; M.S., University of Colorado, 1956; Ph.D., Montana State University, 1969

CHRISTECK, Robert P. (1977-2008)

Professor, Chemistry

B.S., St. Cloud State College, 1964; M.N.S., University of South Dakota, 1968; M.S., University of Wisconsin-LaCrosse, 1968; Ph.D., University of Colorado-Boulder, 1972

CROWLEY, Joseph R. (1959-1961) (1962-1975)

President Emeritus; Professor Emeritus, Psychology

B.A., University of Washington, 1937; M.A., Ed.D., University of Montana, 1951, 1963

DANLEY, William H. (1973-2019)

Associate Professor; Professor Emeritus, Agricultural Technology

B.S., M.S., New Mexico University, 1971, 1973

EDWARDS, James R. (1988-1996)

Professor Emerita, Economics

B.A. Brigham Young University, 1966; Ph.D. University of Utah, 1983

ERICKSON, James H.M. (1978-1985)

President Emeritus; Professor Emeritus, Education

B.S., University of Minnesota, 1949; M.Ed., University of Colorado, 1949; Ed.D., University of Wyoming, 1954

EVENSON, Vivian W. (1975-1996)

Professor Emerita, Nursing

B.S., M.N., M.S., Montana State University, 1970, 1971, 1979; Ed.D., University of Montana, 1989

GREENWOOD, David H. (1969-1989)

Professor Emeritus, Health and Physical Education

B.S., Southern State Teachers College, 1959; M.S., South Dakota State University, 1961; Ed.D., University of New Mexico, 1969

HAWKINSON, Virgil C. (1984-2013)

Professor Emeritus, Manufacturing and Metals Technology

B.A., M.S., St. Cloud State university, 1969, 1978; Ed.D., Montana State University-Bozeman, 2000

HOLMES, Charles H. (1972-1990)

Professor Emeritus, Social Science

B.S., M.S., Utah State University, 1950, 1956; Ph.D., Syracuse University, Maxwell Graduate School, 1960

KAFTAN, Robert E. (1966-1990)

Professor Emeritus, Education

B.A., University of North Dakota, 1950; M.S., University of Wisconsin, 1960; Ed.D., University of Montana, 1967

KLARICH, Duane A. (1986-2002)

Associate Professor Emeritus, Chemistry and Biology

B.S., Eastern Montana College, 1965; M.S., Ph.D., Montana State University, 1967, 1977

KORB, August W. (1955-1994)

Assistant Vice President for Academic Affairs and Professor Emeritus, Education

B.S., Northern Montana College, 1959; M.Ed., Colorado State University, 1965; Ph.D., Ohio State University, 1972

LOCKWOOD, Stephen P. (1988-2020)

Professor, English

B.A., San Jose University, 1970; Ph.D., Indiana University, 1985

NYSTROM, Conrad O. (1968-2000)

Professor Emeritus, Metals Technology

B.S., Walla Walla College, 1955; M.Ed., Northern Montana College, 1980

OPHUS, L. Lynn (1966-1988)

Instructor Emerita, Health and Physical Education

B.A., Montana State University, 1954

PAPPAS, Mary M. (1986-2015)

Professor Emeritus, Nursing

B.S., Ed.D., Montana State University, 1982, 2006; M.S. University of Portland, 1989

PARKER, Reno L. (1988-2005)

Professor Emeritus, Biology

B.A., University of Minnesota, 1963; M.S., Montana State University, 1966; Ph.D., Kent State University, 1970

PETERSON, Hans J. (1966-1987)

Professor Emeritus, History and Social Science

B.A., University of Louisville, 1959; M.A., Ph.D., University of Denver, 1961, 1966

PHILLIPS, Laura L. (1971-1988)

Assistant Professor Emerita, Nursing

B.S., M.S. Nurs., Montana State University, 1968, 1982; R.N.

PITT, C. Everett (1967-1988)

Professor Emeritus, Biology and Science Education

B.S., M.S., Ed.D., University of Utah, 1954, 1955, 1969

ROUSH, Allan (1966-1990)

Associate Professor Emeritus, Industrial Arts

B.S., Northern Montana College, 1959; A.M., University of Northern Colorado, 1966

SHELLENBERGER, William Carl (1966-1994)

Professor Emeritus, Science

B.S., Bloomsburg Teachers College, 1958; M.S., Syracuse University, 1961

SMITH, Terry James (1965-1994)

Associate Professor Emeritus, Math

B.S., Montana State University, 1959; M.A., University of Denver, 1964

SKORNORGOSKI, Brenda (1986-2010)

Associate Professor of Business;

BS, MBA, University of Montana 1980, 1984

STALLKAMP, Lloyd E. (1988-2008)

Professor, Electronics Engineering Technology

B.A., St. Cloud State University, 1970; B.S., Bemidji State University, 1982; M.Ed., South Dakota State University, 1986

STILGER, Lynn (1990-2010)
Professor of Diesel Technology
 BS, Northern Montana College, 1977

STONE, Roger D. (1988-2007)
Associate Professor Emeritus, Computer Technology
 B.A., College of Great Falls, 1983; M.I.S., City University, 1992

THACKERAY, JR, William W. (1965-2006)
Professor Emeritus, English
 B.S., Northern Montana College, 1958; M.A., University of Utah, 1964; D.A., Idaho State University, 1985

VALDEZ, Valdamar E. (1968-1978; 1986-1991)
Professor Emeritus, Drafting
 B.A., M.S., Kearney State College, 1957, 1965

VARNUM, John P. (1963-1986)
Associate Professor Emeritus, Music
 B.M., M.M., University of Montana, 1958, 1959

WELCH, Thomas M. (1981-2020)
Professor; Professor Emeritus, Agricultural Technology
 B.S., South Dakota State University, 1979; M.S., Montana State University, 1984

WESTENSKOW, David L. (1966-2001)
Professor Emeritus, Languages
 B.A., M.A., Brigham Young University, 1963, 1967

WIBERG, Janice L. (1979-2009)
Professor, Music
 B.M.E., M.M., D.M.A., University of Missouri-Kansas City, 1968, 1972, 1979

WOJTOWICK, Michael J. (1967-1995)
Associate Professor Emeritus, Automotive Technology
 B.S., Northern Montana College, 1967; M.Ed. Oregon State University, 1970

YEAGER, Francis E. (1952-1977)
Associate Professor Emeritus, Chemistry
 B.A., Intermountain Union College, 1936; M.A., University of Northern Colorado, 1949

Directory

Board of Regents of Higher Education

Greg Gianforte, Governor	Ex-Officio
Elsie Arntzen, Superintendent of Public Instruction	Ex-Officio
Clayton Christian, Commissioner of Higher Education	Ex-Officio
Loren Bough, Big Sky	2027
Todd Buchanan, Billings	2028
Joyce Dombrowski, Missoula	2026
Casey Lozar, Helena - Chair	2025
Robert A. Nystuen, Kalispell	2022
Brianne Rogers, Bozeman	2024
Amy Sexton, Student Regent	2022

Commissioner of Higher Education

The Board of Regents appoints a Commissioner of Higher Education as the chief administrative officer of the Montana University System. The current commissioner is:

Clay Christian, Commissioner of Higher Education

2500 Broadway Street
 PO Box 203201
 Helena, Montana 59620-3201

Administration

Greg Kegel, Chancellor	406.265.3720
R. Neil Moisey, Provost and Vice Chancellor for Academic Affairs	406.265.3726
Dave Krueger, Dean of College of Technical Sciences	406.265.3736
Beth Durodoye, Dean of College of Arts, Sciences, and Education	406.265.3735
Corey Kopp, Dean of Student Engagement/Residence Life	406.265.4113
, Vice Chancellor Administration & Finance	406.265.3733
Lourdes Caven, Accounting Associate	406.265.3509
Marianne Hoppe, Interim Chief Information Officer	406.265.3765
Cindy Small, Director of Financial Aid	406.265.3545
Belinda Potter, Interim Director of the Library	406.265.3544
Dan Ulmen, Facilities Operations Manager	406.265.3532
Suzanne Hunger, Director of Human Resources	406.265.3568
Alisha Schroeder, Registrar	406.265.4191
Jamie Duke, Interim Dean, Health Sciences	406.265.3582
James Potter, Director of University Relations	406.265.3727
Maura Gatch, Vice Chancellor of Enrollment Management	406.265.3566
, Director of Foundation	406.265.3711
Christian Oberquell, Athletic Director	406.265.4109
Wanda Meredith, Director of Student Health Services	406.265.3599
Joseph Todd, Chair, College of Arts, Sciences, and Education	406.265.3524
Steven Don, Chair, College of Technical Sciences	406.265.4185

Phone Directory

Frequently called numbers

- Police 406.265.4361
- Fire 406.265.6511
- Campus Operator 406.265.3700
- Chancellor 406.265.3720
- Provost/Vice Chancellor for Academic Affairs 406.265.3726

A

- Accessibility Services 406.265.3783
- Admissions Office 406.265.3704
- Alumni Affairs 406.265.3761
- Athletics 406.265.3761

B

- Bookstore 406.265.3728
- Business Services 406.265.3733

C

- CAD Lab 406.265.3700 ext.3370
- Career Center 406.265.4198
- Chancellor 406.265.3720
- College of Education, Arts and Sciences 406.265.3735
- College of Technical Sciences 406.265.3740

D

- Dean of Students406.265.4113
- Distance Learning406.265.3730

F

- Farm Mechanics Building406.265.3700 ext. 3195
- Financial Aid406.265.3787
- Food Service406.265.3796
- Foundation406.265.3711

G

- Graduate Studies406.265.3735
- Great Falls Campus406.771.4302

H

- Housing406.265.3539
- Human Resources406.265.3568

I

- Information Technology Services (ITS)406.265.3765
- Intramural Sports406.265.3539

K

- KNMC Radio Station406.265.3709

L

- Library (Vande Bogart)406.265.3706

M

- METC406.265.3763
- MacKenzie Residence Hall406.265.3503
- Media and Reprographics406.265.3702
- Morgan Residence Hall406.265.3579
- Multi-cultural Center406.265.3589

O

- OTLE406.265.3710

R

- Registrar406.265.3703
- Risk Management406.265.3509

S

- Student Health Services406.265.3599
- Student Senate406.945-9230
- Student Support Services406.265.3783
- Student Union Building406.265.3561
- Summer Session406.265.3730
- Switchboard406.265.3700

T

- Technical Sciences406.265.3736
- Theater406.265.3700 ext 3121

U

- University Relations 406.265.3727

V

- Veteran's Services 406.265.4190
- Veteran's Upward Bound (Billings) 1.877.356.2075

W

- Wellness 406.265.3599

Important Notice

This general bulletin is published by Montana State University-Northern in, Havre, Montana, as a guide for students and others interested in the institution.

Students are expected to be familiar with all University regulations and information set forth in this publication or any amendments to or modifications thereof. Montana State University-Northern reserves the right, AT ANY TIME AND WITHOUT ADVANCE NOTICE, to change the University regulations, academic offerings, and the contents of this publication, including but not limited to the right to:

- Withdraw or cancel, courses or programs,
- Change fee schedules,
- Change admission and registration requirements,
- Change the regulations and requirements governing instruction and graduation from Montana State University-Northern,
- Change any other regulations affecting students.

This list is meant to be illustrative only and not exhaustive. Changes shall go in to effect whenever the proper authorities so determine and shall apply not only to prospective students but also to those who are already attending the University. Degree programs and course sequences contained in this bulletin are models and may or may not reflect actual course scheduling patterns.

Montana State University-Northern places full responsibility upon the student for registering for the proper courses and for fulfilling all requirements for a degree as set forth in this bulletin, as amended from time to time. No agent or employee of the University has the authority to warrant graduation, the attainment of any type of license, or the attainment of any other career goal. The institution does not accept responsibility for delays in graduation or attainment of career goals resulting from errors in graduation, canceled courses, time schedule changes, changes in degree requirements, or similar changes, or for errors resulting from consultation with and reliance upon any information acquired from any University employee. Advisor's signatures on pre-registration, drop-add, or similar cards or forms do not necessarily indicate agreement with or approval of the student's choice of courses, nor may they be construed in any way as a warranty that the student's choice of courses is sufficient for graduation or attainment of any career goals.

Other University documents may contain official University policies. For example, academic college or program handbooks may contain University policies that supplement those found in this catalog. The reader is herewith notified that this catalog is not an exhaustive source of official University policy and is encouraged to refer to the college or program handbooks of any academic area in which he/she is interested.

Montana State University-Northern also reserves the right to deny a student the privilege of re-registering and the right not to release a student's records or any information based on them, when the student has failed to satisfy any obligations to Montana State University-Northern. Students may verify the status of their financial obligations by checking with the Business Office in Cowan Hall.

Montana State University-Northern is accredited by the Northwest Association of Schools and Colleges.

Montana State University-Northern is committed to a program of equal opportunity for education, employment, and participation in University activities without regard to race, color, national origin, sex, age, religion, sexual orientation or preference, marital status, physical or mental disability, creed or political belief, or status as a Vietnam era or disabled veteran. This right shall be guaranteed to all students presently enrolled, students applying for admission, employees, and applicants for employment at Montana State University-Northern. Persons with inquiries or complaints regarding discrimination should contact the Director of Human Resources, Cowan Hall 204, 406.265.4147 at Montana State University-Northern, or Director, Office of Civil Rights, Federal Office Building, Denver, Colorado.

Course Descriptions

Accounting (ACCT)

Accounting (ACTG)

ACTG 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ACTG 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ACTG 201. Principles of Fin Acct. 3 Credits.

This course introduces the student to financial accounting. It includes recording transactions, making adjustments, and preparation of financial statements. Detailed coverage of accounting for cash, receivables, inventories, property, plant and equipment, payroll, and other current liabilities is included. The course covers the various forms of ownership including sole proprietorships, partnerships, and corporations.

ACTG 202. Principles of Mang Acct. 3 Credits.

This course completes the introduction to financial accounting by covering long-term investments and liabilities. Students learn to prepare and understand a statement of cash flows and perform financial statement analysis. The course then turns its focus to managerial accounting: Cost analysis and decision making, job costing, process costing, capital budgeting, cost-volume-profit analysis, and variance analysis. Prerequisite: ACTG 201.

ACTG 205. Computerized Accounting. 3 Credits.

This course presents qualities in manual and computer accounting systems. Students will learn how to establish a system to give them more detailed information for decision-making. Internal controls to safeguard both assets and records will be emphasized. Prerequisite: ACTG 201. (offered even numbered years).

ACTG 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ACTG 292. Independent Study. 3 Credits.

Provides an opportunity to receive credit for individualized or special experiential learning opportunities.

ACTG 301. Intermediate Accounting I. 3 Credits.

The class emphasizes accounting principles and theory as they relate to the balance sheet and income statement. This course is primarily concerned with the conceptual basis of accounting, current and noncurrent assets, liabilities including lease obligations, and deferred taxes. Prerequisite: ACTG 202. (offered even numbered years).

ACTG 302. Intermediate Accounting II. 3 Credits.

This class completes the financial accounting sequence. It focuses on problem areas including pension obligations, various equity instruments, counting for inflation, earnings per share, and Statement of Cash Flows. Prerequisite: ACTG 301. (offered even numbered years).

ACTG 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ACTG 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ACTG 401. Federal Income Taxation. 3 Credits.

This course examines the fundamental principles of the federal income tax system primarily as they apply to business entities. A decision-making approach guides students in understanding the ways in which taxes affect both the planning process and financial outcomes. Topics include income and expense determination, property concepts and transactions, and specific applications to various forms of business entities as well as to individuals. Tax planning is a primary theme. Prerequisite: ACTG 202 (Offered odd numbered years).

ACTG 410. Cost/Mgmt Acct I. 3 Credits.

This course emphasizes the use of accounting information in managerial decision-making. Content includes cost-volume-profit analysis, budget preparation, analysis of variances, relevant costs, and pricing decisions. Prerequisite: ACTG 202.

ACTG 411. Auditing 1. 3 Credits.

Presents a theory of auditing by considering the auditing environment, auditing standards, professional ethics, techniques of internal control, audit evidence, audit approaches and the auditor's report. Prerequisite: ACTG 202 (Offered odd numbered years).

ACTG 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ACTG 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ACTG 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

Activities (ACT)

ACT 102. Recreational Activities. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature.

ACT 104. Beginning Bowling. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature. Course Fees: \$15.75

ACT 106. Beg Conditioning and Fitness. 1 Credit.

These courses are designed to teach lifetime activities which will promote fitness and wellness for a healthy lifestyle.

ACT 107. Beginning Aerobic Dance. 1 Credit.

These courses are designed to teach lifetime activities which will promote fitness and wellness for a healthy lifestyle.

ACT 109. Beginning Racquetball. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature.

ACT 110. Beginning Weight Training. 1 Credit.

These courses are designed to teach lifetime activities which will promote fitness and wellness for a healthy lifestyle.

ACT 113. Beginning Softball. 1 Credit.

Courses contained in this area will include those activities found to be reflective of what is generally considered team sports.

ACT 114. Beginning Rock Climbing. 1 Credit.

Courses contained in this area will include those activities which take place in the outdoors and can be given lifelong consideration.

ACT 115. Soccer. 1 Credit.

Courses contained in this area will include those activities found to be reflective of what is generally considered team sports.

ACT 116. Wallyball. 1 Credit.

Courses contained in this area will include those activities found to be reflective of what is generally considered team sports.

ACT 117. Floor Hockey. 1 Credit.

Courses contained in this area will include those activities found to be reflective of what is generally considered team sports.

ACT 119. Beginning Nordic Skiing. 1 Credit.

Courses contained in this area will include those activities which take place in the outdoors and can be given lifelong consideration.

ACT 120. Beginning Alpine Skiing. 1 Credit.

Courses contained in this area will include those activities which take place in the outdoors and can be given lifelong consideration.

ACT 140. Beginning Basketball. 1 Credit.

Courses contained in this area will include those activities found to be reflective of what is generally considered team sports.

ACT 146. Beginning Golf. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature. Course Fees: \$21.50

ACT 150. Beginning Yoga. 1 Credit.

These courses are designed to teach lifetime activities which will promote fitness and wellness for a healthy lifestyle.

ACT 151. Beginning Billiards. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature. Course Fees: \$10.75

ACT 153. Beginning Badminton. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature.

ACT 157. Beginning Martial Arts. 1 Credit.

These courses are designed to teach lifetime activities which will promote fitness and wellness for a healthy lifestyle.

ACT 169. Beginning Tennis. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature.

ACT 170. Beginning Swimming. 1 Credit.

These courses are designed to teach aquatic activities, which will provide lifetime skills, safety skills, and training skills for instructors of aquatic activities.

ACT 174. Introduction to Backpacking. 1 Credit.

Courses contained in this area will include those activities which take place in the outdoors and can be given lifelong consideration.

Course Fees: \$5.35

ACT 178. Canoeing. 1 Credit.

These courses are designed to teach aquatic activities, which will provide lifetime skills, safety skills, and training skills for instructors of aquatic activities.

ACT 180. Beginning Volleyball. 1 Credit.

Courses contained in this area will include those activities found to be reflective of what is generally considered team sports.

ACT 191. Special Topics. 2 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ACT 203. Flag Football. 1 Credit.

Courses contained in this area will include those activities found to be reflective of what is generally considered team sports.

ACT 210. Intermediate Weight Training. 1 Credit.

These courses are designed to teach lifetime activities which will promote fitness and wellness for a healthy lifestyle. Prerequisite: ACT 110.

ACT 217. Frisbee. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature.

ACT 250. Pilates. 1 Credit.

This course is a Pilates-based mat class combining core alignment, posture, and flexibility exercises to build strength and to improve flexibility, agility, body awareness and posture.

ACT 287. Archery. 1 Credit.

Courses contained in this area will be reflective of activities generally regarded as recreation and can be individual, dual, or group in nature.

ACT 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Education, Arts and Sciences, and cooperative education coordinator. Pass/Fail only.

ACT 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Education, Arts and Sciences, and cooperative education coordinator. Pass/Fail only.

Activities - Varsity (ACTV)

ACTV 110. Football I-Varsity. 1 Credit.

Courses in this series reflect participation in varsity athletics and may be repeated up to four times.

ACTV 120. Basketball I-Varsity. 1 Credit.

Courses in this series reflect participation in varsity athletics and may be repeated up to four times.

ACTV 125. Cross Country Varsity. 1 Credit.

Courses in this series reflect participation in varsity athletics and may be repeated up to four times.

ACTV 160. Rodeo I-Varsity. 1 Credit.

Courses in this series reflect participation in varsity athletics and may be repeated up to four times.

ACTV 170. Volleyball I-Varsity. 1 Credit.

Courses in this series reflect participation in varsity athletics and may be repeated up to four times.

ACTV 180. Cheerleading I-Varsity. 1 Credit.

Courses in this series reflect participation in varsity athletics and may be repeated up to four times.

ACTV 185. Golf I-Varsity. 1 Credit.

Courses in this series reflect participation in varsity athletics and may be repeated up to four times.

ACTV 191. Varsity Sport. 1 Credit.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ACTV 250. Wrestling-Varsity. 1 Credit.

Courses in this series reflect participation in varsity athletics and may be repeated up to four times.

ACTV 291. Varsity Sports. 1 Credit.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ACTV 391. Varsity Sport. 1 Credit.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

Ag Business & Economics (AGBE)

AGBE 105. Ag Marketing. 3 Credits.

Principles of economics and agricultural marketing functions, agencies, services, and economic problems associated with production agriculture in Montana. The course includes an overview of commodity trading and the futures market.

AGBE 125. Intro to Farm Management. 3 Credits.

Agricultural development and advancement; managerial balance of land, labor, capital, and implementation to provide for greatest returns; also includes farm business organization and arrangements, estate planning, credit, and farm business analysis.

AGBE 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

AGBE 305. Ag Commodity Marketing. 3 Credits.

An examination of marketing tools available to farmers and ranchers, including futures and options. The course addresses costs of production, storage and transportation, risk management, financial planning, and means of securing market information. Prerequisite: AGBE 105 or AG 150.

AGBE 353. Co-op Business Prin & Practice. 2 Credits.

This course is an exploration of issues facing rural areas and the impacts of those issues on conducting business. The focus will include agriculturally dependent cooperatives with particular emphasis given to issues most relevant to Montana. Prerequisite: Junior standing.

AGBE 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

AGBE 499. Capstone. 3 Credits.

This course is an examination of past and contemporary agricultural issues as they affect the producer, agribusiness, and the consumer.

Agricultural Education (AGED)

AGED 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

AGED 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Agricultural Mechanics (AGMT)

AGMT 114. Small Engines and RVs. 3 Credits.

Basic theory and principles of two and four stroke engines. Service, repair, and reconditioning of small bore engines. Units include mechanical, lubricating, electrical, cooling, and recreation vehicle applications. Lab work includes engine overhaul and troubleshooting.

Course Fees: \$15.75

AGMT 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

AGMT 350. AG-Tractor & Equip App Tech. 4 Credits.

This is an applied technology course designed to measure tractors and equipment efficiencies, which will include: Ballasting, weight ratios, fuel consumption and PTO horsepower. Prerequisites: DST 264 & 274.

Course Fees: \$15.75

AGMT 370. Adv Grain Harvesting Equip. 4 Credits.

This is an advanced combine class designed to cover the following: diagnosis and repair of hydraulic and electronic components; a study of the application of hydraulics and electronic components; diagnosis and repair of major internal combine components. Prerequisites: AGTE 225, DST 104/114, DST 204/214.

Course Fees: \$15.75

AGMT 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Cooperative Education 298 or Junior standing and approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

Agricultural Operations Tech (AOT)

AOT 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

AOT 301. Global Positioning Systems. 3 Credits.

This course is a study of global positioning systems (GPS) technology and how it can be used in agriculture, outdoor activities, orienteering, land resources, transportation and in a large number of other applications. Class participants will use handheld and mapping grade GPS receivers and become familiar with GPS data collection, DGPS or differential correction, processing of spatial data, map types, coordinate grinds, map datum, and waypoints. Students will learn how to link GPS receivers with computers and equipment, manage GPS data with software, upload and download coordinate information and create printouts of spatial data, locations and routes.

AOT 315. Geographic Information Systems. 3 Credits.

This course will involve the study of Geographic Information Systems (GIS) for natural resource and land management. Students will develop an understanding of spatial reasoning and methods used to visually inventory and analyze land based resources. GIS software, images and data sources commonly used for natural resource management by industry and government agencies will be featured in this class.

AOT 392. Independent Study. 12 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

AOT 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in agricultural business, agricultural production, or government agencies related to agriculture. Prerequisites: Junior standing and approval of minor advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

Agricultural Science (AGSC)

AGSC 102. Agricultural Plant Science. 3 Credits.

A general introductory class covering basic plant structure, physiology, reproduction, ecology, geography and evolution. Emphasis will be on crops relating to Montana agriculture.

AGSC 218. Crop Production. 4 Credits.

Art and science of crop production; growth, development, and management of various agricultural field crops; emphasis given to crops important to the Northern Great Plains. Includes yield estimation, storage and handling facilities, tillage and harvesting methods, and practical applications in grading grains. Prerequisite: AGSC 102.

AGSC 219. Crop Production Lab. 0 Credits.

Art and science of crop production; growth, development, and management of various agricultural field crops; emphasis given to crops important to the Northern Great Plains. Includes yield estimation, storage and handling facilities, tillage and harvesting methods, and practical applications in grading grains. Prerequisite: AGSC 102.

Course Fees: \$5.35

AGSC 230. Agricultural Pest Management. 4 Credits.

This is a study of pest management for common Montana agriculture crops. Chemical and non-chemical controls will be discussed. Topics will include pest identification, biology and control; chemicals, safety and application. There will be an opportunity to qualify for private and commercial pesticide applicator certification as required by the State of Montana.

AGSC 231. Agricultural Pest Management Lab. 0 Credits.

This is a study of pest management for common Montana agriculture crops. Chemical and non-chemical controls will be discussed. Topics will include pest identification, biology and control; chemicals, safety and application. There will be an opportunity to qualify for private and commercial pesticide applicator certification as required by the State of Montana.

AGSC 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

AGSC 310. Soil & Water Management. 2 Credits.

This course is a study of soil and water and plant relationships. Emphasis will be on dry land soil practices, irrigation principles and practices, point source pollution, and measurement and methods of control.

AGSC 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in agricultural business, agricultural production, or government agencies related to agriculture. Prerequisites: Junior standing and approval of minor advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

Agricultural Technology (AGTE)

AGTE 120. Forage Implements. 3 Credits.

Introduction to maintenance, repair, and adjustment of balers, swathers, rakes, and other forage harvesting equipment.

AGTE 130. Intro to Agricultural Tractors. 3 Credits.

Introduction of AG tractors covering sizes, types, efficiencies, preventative and minor maintenance of tractor components and applications of AG tractors.

Course Fees: \$10.75

AGTE 206. Applied Water Hydraulics. 3 Credits.

An applied course in hydraulics which includes topics of water and wastewater collection and distribution, maintenance, and safety. This course includes lecture and laboratory hours, but the laboratory hours are not the kind of experience that satisfies the laboratory science requirement. This course does not meet the laboratory science requirement.

AGTE 210. Tlg, Plntg, Spray Implements. 3 Credits.

This course will cover the repair, maintenance, adjustments, and calibrations of tillage, seeding and spraying equipment. Electronic control systems will be examined on all systems.

AGTE 225. Intro to Grain Harvstng Equip. 3 Credits.

Introduction to theory, preventative maintenance, repair, and adjustment of conventional and rotary combines.

Course Fees: \$10.75

AGTE 230. Intro to Ag Machines & Equip. 2 Credits.

This course is an introduction to agricultural machines and equipment. Agricultural machine uses, terminology, components, efficiencies, characteristics, and maintenance will be studied. Topics relating to safety, power transfer principles (gears, belts, chains, and fluid drives), field operations, hitching, operator manuals, trends in machinery, and basic machinery management will be examined.

AGTE 292. Independent Study. 1-12 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

AGTE 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

AGTE 410. Agriculture Technology Mgt. 4 Credits.

This course is a study in the use of agricultural technologies from a management perspective. Topics will include a study in the use of technologies in the management of agricultural finances, land, machinery, crops and livestock. Computer and software technologies will be used for budgeting, enterprise accounting, enterprise analysis, recordkeeping, and to analyze machinery decisions and costs. FINPACK and other farm/ranch financial planning and machinery analysis software will be featured.

AGTE 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Agriculture (AG)

AG 100. Leadership Development. 2 Credits.

Students will learn how to be more effective as a member, officer and leader in meetings and groups. Emphasis will be placed on developing parliamentary procedure skills for effectively conducting meetings. Leadership skill development, characteristics of leaders, and ways to become a more effective leader will be explored. Active participation in a campus club or organization is required for those enrolled in this class.

AG 150. Intro to Ag Computing. 3 Credits.

This is a class designed to acquaint students with a number of agricultural computer applications and features agricultural specific software. Emphasis is placed on software useful to the farmer, rancher and agri-business. Livestock, cropping, financial management, digital mapping of land resources and other agricultural based computerized applications will be featured.

AG 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

AG 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

AG 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in agricultural business, agricultural production, or government agencies related to agriculture. Prerequisites: Junior standing and approval of minor advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

Allied Hlth: Athletic Training (AHAT)

AHAT 210. Prev and Care Athletic Injur. 3 Credits.

A study of conditioning and evaluation to prevent injuries; recognition and evaluation of injuries; treatment and rehabilitation of injuries. Additional topics of nutrition, ergogenic aids, and risk management are included. Lab will involve the application of evaluation and rehabilitation skills as well as the practice of basic taping techniques. Prerequisite: BIOH 104 and 105 or BIOH 201 and 202.

Course Fees: \$50.00

AHAT 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

AHAT 495. Practicum: Sports Medicine. 3 Credits.

An internship in Athletic Training is available to those students interested in the prevention, recognition, treatment and rehabilitation of athletic injuries. This hands-on experience compliments those students interested in coaching, athletic training, or physical therapy. Prerequisites: Athletic training/taping course (HS level accepted); First Aid/CPR certification. Restricted entry: Consent of instructor required. May be repeated for credit up to three times.

Course Fees: \$25.00

Animal Science (ANSC)

ANSC 100. Introduction to Animal Science. 3 Credits.

A general introductory class on animal agriculture dealing with livestock terminology, breeds, beef, sheep, swine, poultry, horses, and dairy animals. Livestock marketing, market classes and grades, and the industry as a whole will be covered.

ANSC 202. Livestock Feeding & Nutrition. 4 Credits.

Principles of animal nutrition and practical feeding of livestock; comprehensive information concerning the composition, properties, and uses of feeds, application of balanced rations incorporating the use of substitution, Pearson Square, and Computerized ration formulation for private and commercial use.

ANSC 203. Livestock Feeding & Nutrition Lab. 0 Credits.

Principles of animal nutrition and practical feeding of livestock; comprehensive information concerning the composition, properties, and uses of feeds, application of balanced rations incorporating the use of substitution, Pearson Square, and Computerized ration formulation for private and commercial use.

Course Fees: \$5.35

ANSC 262. Range Livstck Prod. 3 Credits.

This is a course that correlates and applies the art and science of production of the four-footed meat animals - beef, sheep, and swine. Topics include breeding and selection, reproduction and physiology, disease, sanitation and pollution control, housing and confinement production, and marketing and processing. Prerequisite: ANSC 100 or consent of instructor.

Art (ART)

ART 290. Special Topics. 1-12 Credits.

Art - Visual & Studio Arts (ARTZ)

ARTZ 105. Visual Language - Drawing. 3 Credits.

Study and supervised practice in observational drawing focusing on accurate representation of observed subject matter.

ARTZ 106. Visual Language - 2-D Fndtns. 3 Credits.

A lecture/studio course in investigating basic design elements: line, shape, texture, and value. The elements considered in the context of compositional principles.

Course Fees: \$15.75

ARTZ 107. Visual Language - 2-D Fdtns II. 3 Credits.

A lecture/studio course investigating the elements of color: hue, value, and intensity. Color harmony and contrasts studied in compositional context.

ARTZ 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ARTZ 221. Painting I. 3 Credits.

A beginning studio course in still life painting in oil or acrylic. Drawing, color, and design emphasized. Prerequisite: ARTZ 105.

ARTZ 224. Watercolor I. 3 Credits.

A beginning studio course in watercolor painting. Research of the medium and observed material toward appropriate use of the transparent medium.

Prerequisite: ARTZ 105.

ARTZ 231. Ceramics I. 3 Credits.

Elementary studio practice involving hand building and wheel techniques of forming functional and nonfunctional stoneware.

Course Fees: \$26.50

ARTZ 284. Photo I-Techs and Processes. 3 Credits.

Basic introduction to photography. Use of the camera, film, compositional techniques, and fundamental darkroom procedures.

Course Fees: \$43.00

ARTZ 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ARTZ 363. Metal Sculpture. 3 Credits.

Metal sculpture is a lecture/studio course which is team taught by art and welding faculty. The course examines all phases of the creative process from concept to criticism of the finished form. Both abstract and representational sculpture will be examined with emphasis on welding fabrication.

Course Fees: \$110.00

ARTZ 384. Photo II-Theory, Crit, Prctice. 3 Credits.

A lecture/studio course emphasizing individuality in the conception and preparation of projects. Course content includes aesthetics, experimental darkroom techniques, color concepts, and a basic history of photography. Prerequisite: ARTZ 284 or consent of instructor.

Course Fees: \$43.00

ARTZ 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ARTZ 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ARTZ 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Art History (ARTH)

ARTH 160. Global Visual Culture. 3 Credits.

A slide-lecture survey of the visual arts and architecture. Analytical study of specific works and techniques, and consideration of broad contexts and principles.

ARTH 303. History of Renaissance. 3 Credits.

This course is intended to be a survey of the development of the visual arts in northern and southern Europe and the artwork created from the 14th century to the 16th century.

ARTH 322. History of Baroque/Rococo. 3 Credits.

This course is intended to be a survey of the development of the visual arts (including painting, sculpture and architecture) in Western Europe in the 17th and 18th centuries.

ARTH 330. Art Hist of Western Civ I. 3 Credits.

A survey of the development of the visual arts of the Western World from Prehistoric through Gothic Art.

ARTH 340. Art History of Western Civ II. 3 Credits.

A survey of the development of the visual arts of the Western World from the Renaissance through Post-Modernism.

ARTH 342. History of Modern Art. 3 Credits.

This course is intended to be a survey of the development and history of the Modern Era in visual art (including painting, sculpture, etc.) from the late 18th century to the late 1900's.

ARTH 391. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ARTH 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Auto Service Tech (AST)

AST 100. Consumer Mechanics. 2 Credits.

An awareness course for the passenger car owner-operator. A study of the operation and minor maintenance and repair techniques used in service stations and garages. Also a study of the cost of repair, purchasing, financing, and insuring an automobile.

Course Fees: \$4.30

AST 102. Intro to Automotive Service. 1 Credit.

An introductory course designed to assist the novice automotive technician in adjusting to the demands of an automotive service facility. This course will expose the students to the flat rate method of shop pay. Students will also develop a portfolio which showcases the student's technical expertise and human relation skills for obtaining cooperative education and full-time employment. This course meets the human relation component of related instruction for Certificates of Applied Science and Associate of Applied Science degrees. Students will fulfill human relations requirements for the Automotive Certificate of Applied Science and Associate of Applied Science by completing this course.

AST 106. Auto Manual Drive Train/Axles. 5 Credits.

This course examines automotive manual power trains. It includes the construction maintenance, diagnosis, and repair of manual transmissions and transaxles, transfer cases, rear axles, drive shafts, and clutches. Driveline angles and Noise, Vibration and Harshness (NVH) will be discussed. Lab application of service procedures is included.

AST 107. Auto Man Drive Train/Axles Lab. 0 Credits.

This course examines automotive manual power trains. It includes the construction maintenance, diagnosis, and repair of manual transmissions and transaxles, transfer cases, rear axles, drive shafts, and clutches. Driveline angles and Noise, Vibration and Harshness (NVH) will be discussed. Lab application of service procedures is included.

Course Fees: \$21.50

AST 114. Automotive Brakes. 5 Credits.

This course examines automotive braking systems, including hydraulic and friction theory. The construction, maintenance, diagnosis, and repair of disc, drum and antilock braking systems are studied. Use of off-the-car and on-the-car-brake lathes are included in lab. Lab application of service procedures is included.

AST 115. Automotive Brakes Lab. 0 Credits.

This course examines automotive braking systems, including hydraulic and friction theory. The construction, maintenance, diagnosis, and repair of disc, drum and antilock braking systems are studied. Use of off-the-car and on-the-car-brake lathes are included in lab. Lab application of service procedures is included.

Course Fees: \$97.50

AST 160. Automotive Engine Repair. 5 Credits.

This course is an overview of the design, operation, diagnosis, and service procedures of modern automotive engines. Students participate in the disassembly and the reassembly of engines. Students will participate in the removal and installation of engines in school vehicles. Service and technical engine data are presented to prepare the students for practical experience in engine service and repair.

AST 161. Automotive Engine Repair Lab. 0 Credits.

This course is an overview of the design, operation, diagnosis, and service procedures of modern automotive engines. Students participate in the disassembly and the reassembly of engines. Students will participate in the removal and installation of engines in school vehicles. Service and technical engine data are presented to prepare the students for practical experience in engine service and repair.

Course Fees: \$21.50

AST 164. Auto Diagnosis & Tune Up. 6 Credits.

This course examines the theory and diagnosis of gasoline engines and related systems. These systems include engine mechanical testing, ignition systems, fuel delivery, emission control systems and an introduction to computerized fuel injection systems. Students will use the latest diagnostic equipment available to test and diagnose these systems during the lab.

AST 165. Auto Diagnostics & Tune Up Lab. 0 Credits.

This course examines the theory and diagnosis of gasoline engines and related systems. These systems include engine mechanical testing, ignition systems, fuel delivery, emission control systems and an introduction to computerized fuel injection systems. Students will use the latest diagnostic equipment available to test and diagnose these systems during the lab.

Course Fees: \$21.50

AST 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

AST 220. Auto Steering and Suspension. 5 Credits.

This course examines automotive suspension and steering systems. The theory of operation, construction, maintenance, diagnosis and repair of steering and suspension systems is examined. Alignment procedures, wheel balancing, steering, suspension, headlight aiming, and structural damage diagnosis will be discussed. Lab application of service procedures is included.

AST 221. Auto Steering & Suspension Lab. 0 Credits.

This course examines automotive suspension and steering systems. The theory of operation, construction, maintenance, diagnosis and repair of steering and suspension systems is examined. Alignment procedures, wheel balancing, steering, suspension, headlight aiming, and structural damage diagnosis will be discussed. Lab application of service procedures is included.

Course Fees: \$97.00

AST 266. Computerized Engine Control. 6 Credits.

This course examines the theory and diagnosis of computerized gasoline fuel injected engines. Students will work with the latest diagnostic equipment to test and repair computerized engine control systems on Toyota, Ford, General Motors and Chrysler vehicles. Prerequisites: AST 160, AST 164, ATDI 134.

Course Fees: \$21.50

AST 285. ASE Exam Prep: Section One. 1 Credit.

Students will prepare for ASE tests in Engine Repair (A1), Brakes (A5), Suspension and Steering (A4) and Manual Drive Train and Axles (A3). At the conclusion of this class students will take their ASE certification tests. Prerequisite: AST 106, AST 114, AST 220, AST 160, AST 164.

Course Fees: \$144.00

AST 286. ASE Exam Prep: Section Two. 1 Credit.

Students will prepare for ASE tests in Automatic Transmission/Transaxle (A2), Electrical/Electronic Systems (A6), Heating and Air Conditioning (A7) and Engine Performance (A8). At the conclusion of this class students will take their ASE certification tests. Prerequisite: ATDI 134, ATDI 257, ATDI 264, ATDI 265, AST 266.

AST 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

AST 408. Current Trends Mobility Tech. 2 Credits.

This course presents an examination of current model year design and trends in the mobility industries. Extensive undergraduate research and the latest techniques for presenting material will be employed.

AST 450. Advanced Engine Performance. 4 Credits.

Students in this course will use advanced diagnostic equipment to dynamically test and analyze computer-controlled emission, fuel delivery and ignition systems. Students will follow manufacturer drive cycles to see what effect the alternative fuels, additives and trouble codes have on drivability, emissions and performance. The ASE L1-Advanced Engine Performance Specialist will be heavily emphasized during this course. Prerequisite: AST 266.

Course Fees: \$21.50

AST 457. Advanced Power Trains. 4 Credits.

This course examines advanced component operation and diagnosis in automotive power trains. Topics covered in the class are automatic transmissions, automatic transaxles, all-wheel drive systems, CVT (constant variable transmissions), power train electronic control systems and NVH (noise, vibration and harshness) diagnosis. Prerequisites: AST 106 and ATDI 257.

Course Fees: \$21.50

AST 495. Automotive Practicum. 3 Credits.

Individualized research practicum selected by the student and an automotive instructor. Survey of literature available, testing and evaluation of project with an oral defense of the resulting paper. Prerequisites: WRIT 101, COMX 111, all required AST courses, and Senior standing.

AST 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Automotive/Diesel (ATDI)

ATDI 134. Electrical/Electronic Sys I. 6 Credits.

A beginning course in the study of electrical/electronic fundamentals applied to mobile and transportation technology. The course will create the foundation of electrical systems and will include theory, design, diagnosis, and repair of wiring and circuits, batteries, alternators, starters and electrical circuits. The use of test instruments and electrical troubleshooting manuals currently recommended by industry will be emphasized.

Course Fees: \$36.00

ATDI 191. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ATDI 257. Automatics. 4 Credits.

A course in automatic transmissions including lecture, demonstration, and student participation in disassembling and reassembling of selected transmissions for the purpose of understanding the function, construction, operation, servicing, and troubleshooting procedures. Prerequisite: AUTO 117 or DIES 216.

Course Fees: \$21.50

ATDI 262. Automatics Remove and Repair. 1 Credit.

A course in Automatic Transmissions designed to Remove and Install selected automatic transmissions or transaxles from a vehicle. Students will learn to adjust, diagnose, and test for proper operation and also correct industry troubleshooting procedures.

ATDI 264. Electrical/Electronic Sys II. 6 Credits.

This course is a continuation of the study of electrical/electronic systems in use on current automotive and heavy equipment. The course will be study industry recommended diagnostic and repair procedures on systems including charging and cranking systems, ignition systems, power accessories, networking systems and microprocessor-based engine, powertrains, and brake/suspension control systems. Prerequisite: ATDI 134.

Course Fees: \$21.50

ATDI 265. Heating and Air Conditioning. 4 Credits.

Theory of heating and basic air conditioning equipment in automotive, heavy truck, and farm applications; servicing and repairing of these units.

Prerequisite: ATDI 134.

Course Fees: \$21.50

ATDI 291. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ATDI 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

ATDI 383. Alt Auto Power Systems. 4 Credits.

This course examines a variety of alternative power sources used in the automotive transportation industry. Topics covered in the class are compression ignition engine systems, propane and CNG systems, hybrid electric systems, and electric propulsion systems. Prerequisites: AUTO 128 and ATDI 264.

Course Fees: \$10.25

ATDI 384. AT/DI Elctrcl/Elctrn Sys III. 4 Credits.

This course provides an in-depth study of microprocessor-based vehicle control systems, diagnostic systems, and development/testing systems. Students will experience oral and written reporting on current applications. Topics include multiplexed communications, bi-directional scanners, data structures and PC-based service bay systems, and test cells. Prerequisites: ATDI 134 and ATDI 264.

Course Fees: \$21.50

ATDI 400. Shop Procedures. 3 Credits.

This is a lecture course addressing diesel and automotive shop management issues. Students will be exposed to shop management environments and issues including customer relations, parts inventory, repair order preparation, shop efficiency and productivity, shop organization, work flow, labor guides, work ethics and stewardship. Computerized shop management software will be integrated throughout the course. Prerequisites: Junior standing, ATDI 134, ATDI 264, AST 164, AST 266, DST 264, DST 274, DST 273.

ATDI 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Biochemistry (BCH)

BCH 360. Fundamentals of Biochemistry. 3 Credits.

Principles of modern biochemistry. Prerequisite: CHMY 321 or consent of instructor. This course does not meet the laboratory science requirement.

Biology: Ecological (BIOE)

BIOE 110. Intro to Environmental Health. 3 Credits.

An orientation to the field of environmental health and human interactions with the environment, including a survey of topics of environmental protection, food and water, wastewater processes, solid waste disposal, living and working environments, epidemiology of environmentally associated diseases, and pollution control policy. Current federal and state regulations are reviewed. This course does not meet the laboratory science requirement.

BIOE 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOE 370. General Ecology. 4 Credits.

Integrated principles of ecology with special emphasis on terrestrial ecosystems. Some attention directed to selected ecological methods and statistical evaluations via laboratory activities. Prerequisites: BIOB 160 or BIOB 101 and 102, or BIOC 220 and 221. Concurrent enrollment in BIOE 371 Lab is required.

BIOE 371. General Ecology Lab. 0 Credits.

Laboratory for BIOE 370. Laboratory exercises that include selected ecological methods and statistical evaluations. Concurrent enrollment in BIOE 370 is required. This course taken in conjunction with the lecture portion of the course (BIOE 370) meets the laboratory science requirement.

Course Fees: \$40.00

BIOE 410. Field Biology Methods. 4 Credits.

This course provides experience in using various ecological techniques to measure certain parameters of populations of organisms found in Montana. The course emphasizes careful observation and measurement and allows students to develop an understanding of using statistical methods and demographic data to interpret biological processes and population trends. The course will include such topics as using taxonomic keys, reviewing and evaluating technical literature, habitat surveys, population census methods and others. Prerequisite: BIOB 101 and 102 or BIOE 370 and 371 or BIOB 380 or consent of the instructor. Concurrent enrollment in BIOE 411 Lab is required.

BIOE 411. Field Biology Methods Lab. 0 Credits.

Laboratory for BIOE 410. Concurrent enrollment in BIOE 410 is required. This course taken in conjunction with the lecture portion of the course (BIOE 410) meets the laboratory science requirement.

BIOE 417. Ecological Methods. 3 Credits.

Study of methodologies used by ecologists to examine the environment. Laboratory and field procedures are stressed, together with review of associated ecological concepts. Prerequisite: Basic ecology course. Concurrent enrollment in BIOE 418 is required.

BIOE 418. Ecological Methods Lab. 0 Credits.

Laboratory for BIOE 417. Laboratory and field procedures provide practical experiences in applying ecological concepts to study of the environment. Concurrent enrollment in BIOE 417 is required. This course taken in conjunction with the lecture portion of the course (BIOE 417) meets the laboratory science requirement.

BIOE 428. Freshwater Ecology. 4 Credits.

This course will demonstrate and provide an opportunity for students to develop skills in selected techniques used in the examination, identification and classification of a wide variety of the freshwater organisms that live in Montana's aquatic systems. Extensive laboratory work and field trips are required. Prerequisites: BIOB 160 and 161 or BIOB 101 and 102 or approval of instructor. Concurrent enrollment in BIOE 429 is required.

BIOE 429. Freshwater Ecology Lab. 0 Credits.

Laboratory for BIOE 428. Concurrent enrollment in BIOE 428 is required. This course taken in conjunction with the lecture portion of the course (BIOE 428) meets the laboratory science requirement.

BIOE 491. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

BIOE 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Biology: General (BIOB)

BIOB 101. Discover Biology. 4 Credits.

An introduction to biology, including chemical principles; cell structure and function; classification and characteristics of bacteria, protists, fungi, plants, and animals, and such ecological concepts as ecosystems, energy relationships, cycles, succession, and populations. Concurrent enrollment in BIOB 102 Lab is required.

BIOB 102. Discover Biology Laboratory. 0 Credits.

Laboratory for BIOB 101. Concurrent enrollment in BIOB 101 is required. This course taken in conjunction with the lecture portion of the course (BIOB 101) meets the laboratory science requirement.

Course Fees: \$10.75

BIOB 160. Principles of Living Systems. 4 Credits.

The structure and function of plant and animal cells, including respiration, photosynthesis, reproduction, genetics, and protein synthesis. Other topics considered are tissues, embryology, and unicellular organisms. Concurrent enrollment in BIOB 161 lab is required.

BIOB 161. Principles Living Systems Lab. 1 Credit.

Laboratory studies in cell structure and function, respiration, photosynthesis, reproduction, genetics, tissues, embryology, and unicellular organisms. Must be taken concurrently with BIOB 160. This course taken in conjunction with the lecture portion of the course (BIOB 160) meets the laboratory science requirement.

Course Fees: \$25.00

BIOB 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOB 272. Genetics & Evolution. 4 Credits.

This course presents an introduction to the principles and mechanisms of inheritance and evolution. It includes analyses of variability at the level of individuals and populations. Included are discussions on changes in chromosomes and how those changes move through generations. Variability in populations, the units of evolution, is examined, especially in light of how differences can lead to molecular evolution, speciation, extinction. Emphasis is on discussions of current and relevant topics and examples. Includes an interactive lab.

BIOB 290. Undergraduate Research. 3 Credits.

Opportunity to perform undergraduate research under the counsel and guidance of departmental staff. Students will summarize research results in scientific papers and oral presentations. Prerequisite: consent of instructor. This course does meet the laboratory science requirement.

BIOB 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOB 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Education, Arts & Sciences, and Nursing, and cooperative education coordinator. Pass/Fail only. This course does not meet the laboratory science requirement.

BIOB 420. Evolution. 4 Credits.

This course provides a comprehensive introduction to modern evolutionary biology, which explains the unity and diversity of life. This integrative course synthesizes principles from molecular, cellular, and organismal biology in an analysis of biological diversity in the context of evolutionary patterns and processes. Class periods include lecture/seminar, group activities, and discussion of journal articles from the primary literature. A literature review and research paper using peer-reviewed primary literature is required. Prerequisites: BIOB 160, BIOB 161.

BIOB 450. Molecular Biology Techniques. 3 Credits.

Introduction to such techniques of molecular biology as electrophoresis and chromatography as these methodologies are employed in the fields of cytology, molecular genetics, and physiology. Graduate credit requirements are described in the course syllabus. Concurrent enrollment in BIOB 451 Lab is required.

BIOB 451. Molecular Biology Technqus Lab. 0 Credits.

Laboratory for BIOB 450. Concurrent enrollment in BIOB 450 is required. This course taken in conjunction with the lecture portion of the course (BIOB 450) meets the laboratory science requirement.

BIOB 485. Molecular Biology and Genetics. 4 Credits.

Structure and function of cells emphasizing molecular aspects at cellular, organelle, and physiological levels. Molecular composition of cell organelles, structure of eukaryotic genomes including chromosomes, recombination, gene structure and transcription, gene control during development, hormonal influence on gene expression, chemical synthesis, and factors influencing inheritance patterns. Emphasis is on animal cells. Prerequisite: BIOB 160 or equivalent: one semester of college chemistry. Concurrent enrollment in BIOB 486 is required. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

BIOB 486. Molecular Biology Genetics Lab. 0 Credits.

Laboratory for BIOB 485. Concurrent enrollment in BIOB 485 is required. This course taken in conjunction with the lecture portion of the course (BIOB 485) meets the laboratory science requirement.

Course Fees: \$40.00

BIOB 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOB 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Cooperative Education 298 or Junior standing and approval of advisor, Dean of the College of Education, Arts & Sciences and Nursing, and cooperative education coordinator. Pass/Fail only. This course does not meet the laboratory science requirement.

Biology: Human (BIOH)

BIOH 104. Basic Human Biology. 4 Credits.

An introduction to the organ systems of the human body, including chemical principles, cell and tissue study, and the organ systems: integumentary, digestive, circulatory, immune, respiratory, excretory, nervous, muscular, skeletal, endocrine, and reproductive. Includes lecture and laboratory hours. This course does meet the laboratory science requirement.

BIOH 105. Basic Human Biology Lab. 0 Credits.

An introduction to the organ systems of the human body, including chemical principles, cell and tissue study, and the organ systems: integumentary, digestive, circulatory, immune, respiratory, excretory, nervous, muscular, skeletal, endocrine, and reproductive. Includes lecture and laboratory hours. This course does meet the laboratory science requirement.

Course Fees: \$8.55

BIOH 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOH 201. Human Anat Phys I. 4 Credits.

An introduction to the form and function of the parts of the human body, with studies on the tissues, bones, muscles, respiration, and circulation. Includes lecture and laboratory hours. Prerequisite: High School Biology. This course does meet the laboratory science requirement.

BIOH 202. Human Anat & Phys I Lab. 0 Credits.

An introduction to the form and function of the parts of the human body, with studies on the tissues, bones, muscles, respiration, and circulation. Includes lecture and laboratory hours. Prerequisite: High School Biology. This course does meet the laboratory science requirement.
Course Fees: \$13.75

BIOH 211. Human Anatomy & Physiology II. 4 Credits.

Emphasis on the regulations of the energy supply and the internal environment. Units covered are nerves, endocrine, digestion, respiration, blood, cardiovascular, immune, cell metabolism, excretion, acid base balance and reproduction. Includes lecture and laboratory hours. Prerequisites: BIOH 201 or equivalent course. This course does meet the laboratory science requirement.

BIOH 212. Human Anatomy & Physiology II Lab. 0 Credits.

Emphasis on the regulations of the energy supply and the internal environment. Units covered are nerves, endocrine, digestion, respiration, blood, cardiovascular, immune, cell metabolism, excretion, acid base balance and reproduction. Includes lecture and laboratory hours. Prerequisites: BIOH 201 or equivalent course. This course does meet the laboratory science requirement.
Course Fees: \$13.75

BIOH 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOH 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

BIOH 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOH 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOH 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Biology: Micro (BIOM)

BIOM 250. Microbiology for Hlth Sciences. 3 Credits.

This course provides a survey of the microbial world including the organisms included in the group making up microorganisms and the relationship of microorganisms to humans. The course presents the fundamental concepts of cellular structure, metabolic functions, genetics and control of microbial growth.

BIOM 251. Microbiology Hlth Sciences Lab. 1 Credit.

This course will provide students with the opportunity to learn and utilize basic microbiological laboratory skills used for isolation, culturing and identification of bacteria. The student will have the opportunity to fully use these skills in the identification of an unknown as a final laboratory project.
Course Fees: \$26.50

BIOM 291. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

BIOM 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOM 400. Medical Microbiology. 3 Credits.

Review of the microbial world involving bacteria and viruses and their impact on human immune function, disease prevention, environmental and industrial applications, and microbial ecology. Designed for students interested in continuing in science, particularly in pharmacy and pre-med. Prerequisites: BIOB 160 and BIOM 250. Concurrent enrollment in BIOM 401 Lab is required.

BIOM 401. Medical Microbiology Lab. 0 Credits.

Laboratory for BIOM 400. Concurrent enrollment in BIOM 400 is required. This course taken in conjunction with the lecture portion of the course (BIOM 400) meets the laboratory science requirement.

Biology: Organismal (BIOO)

BIOO 220. General Botany. 3 Credits.

Introduction to the plant kingdom that primarily focuses upon the cytology, anatomy, morphology, and general physiology of the flowering plants. Concurrent enrollment in BIOO 221 is required. Prerequisite: Basic college biology course.

BIOO 221. Gen Botany Lab. 2 Credits.

Laboratory activities that primarily focus upon the cytology, anatomy, morphology, taxonomy of the flowering plants. Concurrent enrollment in BIOO 220 is required. This course taken in conjunction with the lecture portion of the course (BIOO 220) meets the laboratory science requirement.

Course Fees: \$30.00

BIOO 320. General Botany. 4 Credits.

A general survey of the plant kingdom and plant classification with special emphasis on bryophytes, and the non-flowering tracheophytes and their reproductive processes, together with an introduction to algae and the fungi. Offered alternate years. Prerequisite: Basic college biology course. Concurrent enrollment in BIOO 321 Lab is required.

BIOO 321. General Botany Laboratory. 0 Credits.

Laboratory for BIOO 320. Offered alternate years. Concurrent enrollment in BIOO 320 is required. This course taken in conjunction with the lecture portion of the course (BIOO 320) meets the laboratory science requirement.

BIOO 335. Rocky Mountain Flora. 3 Credits.

Study of flowering plants found in prairie, foothill, mountain, riparian, and aquatic habitats. Graduate credit requirements are described in the syllabus. Concurrent enrollment in BIOO 336 is required.

BIOO 336. Rocky Mountain Flora Lab. 0 Credits.

Methods of collection, general identification, and preservation of a series of plant specimens, including development of a herbarium are included. Concurrent enrollment in BIOO 335 is required. This course taken in conjunction with the lecture portion of the course (BIOO 335) meets the laboratory science requirement.

Course Fees: \$40.00

BIOO 380. Zoology. 3 Credits.

A survey of invertebrate and vertebrate animal phyla including classification, morphology, physiology, characteristics, and natural history. Concurrent enrollment in BIOO 381 required. Prerequisite: BIOB 160 or equivalent.

BIOO 381. Zoology Lab. 2 Credits.

The laboratory component of BIOO 380. Microscopic and macroscopic studies of animals. Dissection of squid, earthworms, crayfish, sea stars, dogfish sharks, frogs, fetal pigs, and others. Concurrent enrollment in BIOO 380 required. This course taken in conjunction with the lecture portion of the course (BIOO 380) meets the laboratory science requirement.

Course Fees: \$13.75

BIOO 391. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

BIOO 391A. Special Topics Lab. 1 Credit.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

BIOO 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BIOO 462. Entomology. 3 Credits.

An introduction to the anatomy, characteristics and classification of insects. Offered alternate years. Prerequisite: BIOO 380 or consent of instructor. Concurrent enrollment in BIOO 463 Lab is required.

BIOO 463. Entomology Lab. 0 Credits.

Laboratory for BIOO 462. Methods of collecting, preserving, identifying and displaying insects. Preparation of an insect collection is required. Offered alternate years. Concurrent enrollment in BIOO 462 is required. This course taken in conjunction with the lecture portion of the course (BIOO 462) meets the laboratory science requirement.

Course Fees: \$9.75

BIOO 470. Ornithology. 3 Credits.

The biology of birds, including their morphology, physiology, behavior, ecology, and classification. Offered alternate years. Prerequisite: BIOO 380 or consent of instructor. Concurrent enrollment in BIOO 471 Lab is required.

BIOO 471. Ornithology Lab. 0 Credits.

Laboratory for BIOO 470. The field identification of birds with emphasis on the recognition of Montana species developed through the use of photos, preserved skins, and local field trips. Concurrent enrollment in BIOO 470 is required. This course taken in conjunction with the lecture portion of the course (BIOO 470) meets the laboratory science requirement.

Course Fees: \$45.00

BIOO 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Body (BODY)**Business (BUS)****Business Education (BUED)****Business Finance (BFIN)****BFIN 205. Personal Finance. 3 Credits.**

Provides the student with the tools to make them better financial consumers. Class will examine the techniques of budgeting, investing, using credit, and purchasing capital goods. Additionally, students will be provided with the option of investigating retirement programs and estate planning as well as tax preparation. A number of projects are required to help students apply information from the class to their own real-life situation.

BFIN 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BFIN 322. Business Finance. 3 Credits.

This course teaches broad analytical skills to future managers to help them make financial decisions. The student learns basic skills like break-even analysis, budgeting, time-value of money, risk and financial statement analysis. They will apply those concepts to more sophisticated problems like capital budgeting projects, working capital management, and choosing sources of capital. Prerequisites: ACTG 201 and ACTG 202.

BFIN 410. \$50,000 Portfolio. 3 Credits.

This course is devoted to the study of various types of investments including stocks, bonds, real estate, insurance, IRAs, commodities, collectibles, and limited partnerships. The course will also examine tax implications of investments, investment analysis, and investment strategies. Prerequisite: Junior standing or consent of instructor and BFIN 322.

BFIN 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Business: General (BGEN)**BGEN 105. Introduction to Business. 3 Credits.**

Fundamental concepts of terminology in the business administration field: covers such areas as management, marketing, accounting, production, purchasing, data systems, personnel, and finance with practical application of fundamental principles.

BGEN 110. Applied Business Leadership. 3 Credits.

Leadership for First Line Management. Study of the practices, roles, attributes, challenges, and principles of leadership. The implementation of the qualities of leadership - kindness, justice, self-control, and energy.

BGEN 112. Creative Problem Solving. 3 Credits.

The course teaches the application of the basic elements of reasoning to common business scenarios. The student will identify reasoning abilities that are necessary for developing management skills. The student will be introduced to the standards used in evaluating their reasoning and a variety of case studies will be used to apply the concepts of the course.

BGEN 235. Business Law. 3 Credits.

The course serves as both a basic introduction to the legal system and a general overview of specific legal topics. In the introductory phase of the class, students will study the different kinds of law that make up our legal system, the courts, and the steps in a court case. The class will cover traditional legal topics like contract law, property law, torts, and business organizations. Students will also study newer areas of law like sales contracts, product liability law, and consumer protection law.

BGEN 253. Business Statistics & Research. 3 Credits.

This course builds on the basic mathematical skills learned in M 121 and adapts them for statistical analysis used by business and industry to aid decision making. Topics covered include data gathering, descriptive statistics, probability, inferential statistics, analysis of variance and regression analysis. Autocorrelation analysis, nonparametric statistics, decision making under uncertainty and business forecasting are introduced. Prerequisite: M 105 or M 121 or consent of instructor.

BGEN 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BGEN 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

BGEN 360. International Business. 3 Credits.

Differences in culture, including religion, social structure, language, education, economic philosophy, and political philosophy are discussed. Students will examine cultural and ethnic group differences and change from both a historical and current issues perspective. The functional, economic, political, and financial aspects of international business are explored. Prerequisite: WRIT 101.

BGEN 468. Contemp Issues in Bus Ethics. 3 Credits.

An analysis of the technical, social, and environmental forces which influence business activities and decision-making. The impact of business decisions on society and the influence and impact of society on business, social responsibility, business and society in the role of business decision making are discussed. The role of personal and organizational values and beliefs on business ethics.

BGEN 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BGEN 494. Seminar. 3 Credits.

The Business Program's capstone course is the culmination of the courses building up to the bachelor's degree. In the course, students will demonstrate their knowledge of the program learning outcomes through testing, evidence, and case analysis. Prerequisite: Senior standing.

BGEN 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Business: Management (BMGT)

BMGT 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BMGT 245. Customer Service Management. 3 Credits.

The course is designed to be a first exposure to the ideas of identifying and fulfilling customer needs. It leads the students through steps on getting to know the customer, developing a customer report card, examining customer satisfaction through customer eyes versus company eyes, and building a customer satisfaction measuring system.

BMGT 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BMGT 322. Operations Management. 3 Credits.

Management processes applied to design and operation of a production or service system. This course includes various methods of forecasting sales, linear programming, inventory and material management, physical facilities design, critical path and PERT scheduling, and quality control. Prerequisite: BGEN 253.

BMGT 329. Human Resource Management. 3 Credits.

An analysis and description of present day personnel practices; stresses labor supply sources, equal employment opportunity, employee selection processes, management and employee training, collective bargaining, grievances, job description and job evaluation analysis, and judging effectiveness of the labor force in the public and private sector. Prerequisite: BMGT 335.

BMGT 335. Management & Organization. 3 Credits.

A study of the basic management and organizational principles within business entities. Direct application of management theory is examined with consideration of the functional aspects of decision making, planning, application of ethics, implementation of change and corporate culture. Course will examine and evaluate organizational change with particular interest in individuals, groups and team processes as applied in the domestic business operations and international business.

BMGT 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BMGT 422. Project Management. 3 Credits.

This course will teach students the essential skills they need to make effective contributions to projects in which they are involved. Thinking critically about project management principles and applying them within the context of the real world is stressed. Project management software programs will be evaluated and utilized by students.

BMGT 448. Entrepreneurship. 3 Credits.

An introduction to the subjects of background research, financial analysis and business plan development necessary for the start of a new business or venture. Analysis of entrepreneurial skills, the formation of the venture management teams, and dealing with venture capital sources are also covered in the course. Prerequisite: Senior standing or permission of instructor.

BMGT 461. Small Business Management. 3 Credits.

Practical analysis of principles of small business management and owner-operated business are covered including management methods, location decision making, financial support for startups, marketing management, common administration and control problems, and analysis trends, professional practices, and family applications. Prerequisites: BMGT 335 and BMKT 325.

BMGT 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BMGT 494. Seminar/Workshop. 3 Credits.

The Business Program's capstone course is the culmination of the courses building up to the bachelor's degree. In the course, students will demonstrate their knowledge of the program learning outcomes through testing, evidence, and case analysis. Prerequisite: Senior standing.

BMGT 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Business: Management Info Sys (BMIS)

BMIS 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

BMIS 311. Management Information Systems. 3 Credits.

Concepts of Management Information Systems from a business perspective. Major areas of business and the information systems that support those areas are investigated. MIS projects utilizing database and spreadsheets will be completed. You must have access to Microsoft Office software including MS Access, Excel, and Word.

BMIS 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

BMIS 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BMIS 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BMIS 498. Internship. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Business: Marketing (BMKT)

BMKT 112. Applied Sales. 3 Credits.

The purpose of this course is to acquaint the student with the sales methods available for the professional sales arena and to develop the framework for preparing professional sales plans. The students will work their way through basic one-on-one small item sales to counter sales, to retail floor sales, to single item industrial sales, to multi-item sales. An emphasis will be put on fast moving technology that requires detailed specifications in sales activities. Formerly TSS 246.

BMKT 244. Retail/Distributorship. 3 Credits.

This course addresses issues that would be of concern to a person interested in a retail career as an owner, a manager of an enterprise, or an employee looking to the future. Such topics as organizing and financing, location decisions, merchandise and expense planning, inventory management, pricing, materials handling, design and layout, and promotions will be discussed. Part of the course will focus on the distributorship as a special form of retail franchising. Formerly TSS 248.

BMKT 325. Principles of Marketing. 3 Credits.

Study and analysis of the elements of marketing and marketing strategy, stressing product-development, policies, pricing strategies, promotion, distribution strategies, and market and institution structures and middlemen according to the functions they perform and other marketing information systems.

BMKT 337. Consumer Behavior. 3 Credits.

Basic perspectives of consumer behavior; interdisciplinary approach using the fields of economics, psychology, sociology, and anthropology as they relate to marketing; emphasizes the fundamental process of motivation, perception and learning, as well as analysis of individual and group behaviors and influences in marketing. Prerequisite: BMKT 325.

BMKT 338. Advertising and Promotion. 3 Credits.

Advertising and promotion form the means by which organizations communicate the distinctive characteristics of their offerings to potential buyers. This course examines the theory and practice of promotions and advertising. The primary focus is on how advertising and promotions contribute to the overall marketing plan. While this course is not intended to train students to be proficient at the skills of creating effective advertising, they will gain a working knowledge of those skills by designing and implementing a full range of ads using various media as part of an overall advertising campaign.

BMKT 341. Advanced Marketing Application. 3 Credits.

This course is a marketing applications course that adds depth to student understanding of marketing concepts. The course uses the case study approach, a comprehensive marketing project, and a marketing simulation that requires the application of concepts learned in the Principles of Marketing class. Case studies that apply directly to the four P's of Marketing (Product, Price, Place, Promotion) will be used to emphasize pertinent concepts and procedures used in the marketing of products and services. The project and the simulation require the synthesis of all marketing knowledge to application situations. Prerequisite: BMKT 325. Formerly BUS 341.

BMKT 345. Marketing Trends. 3 Credits.

This advanced marketing course builds on the basic marketing course (BMKT 325) in that it will teach students to understand how the field of Marketing is changing, and how the impact of this evolutionary process will change the practice of marketing on a daily basis. The focus of the class will be to understand and apply the new concepts, ideas and technologies to the world of business in the 21st century.

BMKT 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BMKT 436. Sales and Sales Management. 3 Credits.

The course will provide a strong foundation in professional selling and sales management. The course will introduce such topics as: Developing a Personal Sales Philosophy, Developing a Product Strategy, Developing a Customer Strategy, and Developing a Professional Presentation. The course will also introduce the concepts of sales management and address such topics as management of the sales force, personal productivity, and the ethical aspects of personal selling.

BMKT 441. Advanced Marketing Application. 3 Credits.

This course is a marketing applications course that adds depth to student understanding of marketing concepts. The course uses the case study approach, a comprehensive marketing project, and a marketing simulation that requires the application of concepts learned in the Principles of Marketing class. Case studies that apply directly to the four P's of Marketing (Product, Price, Place, Promotion) will be used to emphasize pertinent concepts and procedures used in the marketing of products and services. The project and the simulation require the synthesis of all marketing knowledge to application situations. Prerequisite: BMKT 325.

BMKT 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

BMKT 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Career & Technical Education (CTE)

CTE 350. Prin of Indust Tech Education. 3 Credits.

An introductory course designed for the industrial technology student to provide a survey and appreciation for the social and economic values of all forms of education in a democratic society. Major areas of inquiry will center around program requirements, historical development, career opportunities, methods of organizing and advising youth groups, and the major academic clusters of the degree, i.e., energy power transportation, production technology, communication technology, and construction technology. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course. Formerly VOED 350.

CTE 360. Analysis and Prep Lab Mgmt. 3 Credits.

This course will provide the student the opportunity to gain an understanding of the basic materials and design applications that form the foundation of our technological society and environment. The course will also provide the 5-12 technology education teacher with information related to effective planning, organizing and controlling of technology facilities. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course. Formerly VOED 360.

CTE 370. Methods Tchng Indust Tech Edu. 3 Credits.

This course is designed to develop skills in teaching industrial technology education. The course will provide a study of the curriculum materials and techniques needed for effective instruction. Prerequisites: Level I Admission to Teacher Education, EDU 380, EDU 383, VOED 350 and VOED 360 (VOED may be concurrent). Co-requisite: EDUC 339. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course. Formerly VOED 370.

Carpentry Technology (CARP)

CARP 230. Adv Roof/Floor/Wall/Stair Sys. 4 Credits.

This course 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. Prerequisites: CARP 130 or CARP 150, or instructor's approval.

CARP 240. Adv Topics/Comm. Applications. 3 Credits.

This course introduces the basic structural components, fastening methods, and assembly techniques for metal buildings. It provides an overview of the materials and procedures used in application of roofs, wall panels, windows, doors and flashings relating to metal buildings. 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. Co-requisite: CSTN 260. Prerequisites: IT 115, IT 111, and CSTN 120 or instructor's approval. Course Fee: \$25.00.

Chemistry (CHEM)

Chemistry (CHM)

Chemistry (CHMY)

CHMY 121. Intro to General Chemistry. 3 Credits.

This course introduces students to the science of chemistry. The course covers the physical states of matter, including the nomenclature used in chemistry, along with atomic structure, elements, the periodic chart, chemical bonding, chemical reactions, and acid-base theory. This course is a general overview for non-science. It must be taken concurrently with CHMY 122.

CHMY 122. Intro to Gen Chem Lab. 1 Credit.

This course must be taken concurrently with CHMY 121. The course does meet the laboratory science requirement.
Course Fees: \$21.50

CHMY 123. Intro to Organic & Biochem. 3 Credits.

Basic topics in organic chemistry and biochemistry; chemistry as it relates to the human body--functional groups, nomenclature, categories of compounds, and reactions, metabolism, cellular processes, nutrition, and foods. Prerequisite: High School Chemistry or CHMY 121 and CHMY 122. Second of a two-semester sequence for majors that do not require a strong background in chemistry. It must be taken concurrently with CHMY 124.

CHMY 124. Intro to Organic & Biochem Lab. 1 Credit.

This course must be taken concurrently with CHMY 123. This course does meet the laboratory science requirement.
Course Fees: \$21.50

CHMY 141. College Chemistry I. 3 Credits.

An introductory survey of chemistry. This is the first semester of a two-semester sequence. The sequence provides an introduction to the principles of physical and inorganic chemistry appropriate for the level of knowledge necessary for students who plan on majoring in medicine, pharmacy, engineering, or the sciences. A major theme of the course is to introduce students to the chemist's view of the universe, with an emphasis on making connections between the macroscopic and the particulate levels of matter. This course is primarily for science majors and other students planning to take more than one year of chemistry. Includes laboratory. Prerequisite: High School Algebra. CHMY 142 must be taken concurrently to fulfill the laboratory science requirement.

CHMY 142. College Chemistry Lab I. 2 Credits.

This course must be taken concurrently with CHMY 141. This course does meet the laboratory science requirement.
Course Fees: \$23.50

CHMY 143. College Chemistry II. 3 Credits.

An introductory survey of chemistry. This is the second semester of a two-semester sequence. The sequence provides an introduction to the principles of physical and inorganic chemistry appropriate for the level of knowledge necessary for students who plan on majoring in medicine, pharmacy, engineering, or the sciences. A major theme of the course is to introduce students to the chemist's view of the universe, with an emphasis on making connections between the macroscopic and the particulate levels of matter. This course is primarily for science majors and other students planning to take more than one year of chemistry. Includes laboratory. Prerequisite: CHMY 141. This course meets the laboratory science requirement.

CHMY 144. College Chemistry Lab II. 2 Credits.

This laboratory will demonstrate the concepts encountered in College Chemistry II. Prerequisite: High School Algebra. CHMY 143 must be taken concurrently to fulfill a laboratory science requirement, unless CHMY 143 has already been successfully completed.
Course Fees: \$26.50

CHMY 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CHMY 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CHMY 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CHMY 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Education, Arts and Sciences, Nursing, and cooperative education coordinator. Pass/Fail only. This course does not meet the laboratory science requirement.

CHMY 321. Organic Chemistry I. 3 Credits.

Organic chemistry for science and related majors with emphasis on the structure of molecules, chemical and physical properties, and reactions mechanisms of hydrocarbons, alkyl halides, and alcohols. Examines the nature of alkanes, alkenes, alkynes, cyclic alkanes, and aromatic hydrocarbon compounds. Concurrent enrollment in CHMY 322 is required. Prerequisites: CHMY 143 and CHMY 144.

CHMY 322. Organic Chemistry Lab I. 2 Credits.

Laboratory portion of Organic Chemistry I. Experiments in organic techniques of distillation, extraction, and recrystallization, preparation and identification of hydrocarbons, alcohol, cyclic alkanes, and alkyl halides compounds. Concurrent enrollment in CHMY 321 is required. Prerequisite: CHMY 144. This course taken in conjunction with the lecture portion of the course (CHMY 341) meets the laboratory science requirement.

Course Fees: \$26.50

CHMY 323. Organic Chemistry II. 3 Credits.

Examination of molecules, their chemical and physical properties, reactions mechanisms of ether, carboxylic acids and their derivatives, aldehydes, ketones, amines, aryl halides, phenolic compounds, and introduction into biochemistry. Concurrent enrollment in CHMY 344 is required. Prerequisite: CHMY 321.

CHMY 324. Organic Chemistry Lab II. 2 Credits.

Laboratory portion of Organic Chemistry II. Preparation and identification of ether, carboxylic acid, esters, amines, aldehydes, ketone, other compounds, and reaction mechanisms. Concurrent enrollment in CHMY 323 is required. Prerequisite: CHMY 322. This course taken in conjunction with the lecture portion of the course (CHMY 323) meets the laboratory science requirement.

Course Fees: \$26.50

CHMY 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CHMY 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CHMY 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CHMY 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CHMY 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: CHMY 298 or Junior standing and approval of advisor, Dean of the College of Education, Arts and Sciences, Nursing, and cooperative education coordinator. Pass/Fail only. This course does not meet the laboratory science requirement.

Civil Engineering (ECIV)

ECIV 230. Cnst Mgmt & Bid Estimation. 3 Credits.

Preparing cost estimates of construction projects. Introduction to construction contracts. Construction planning and scheduling. Using software for estimating and scheduling. Prerequisite: ETCC 173.

Civil Engineering Technology (CET)

Coaching (COA)

COA 205. Introduction to Coaching. 3 Credits.

An introductory course encompassing the general duties and responsibilities of coaches in all sports including philosophy, organization, administration, and supervision.

COA 210. Intro to Sports Officiating. 2 Credits.

Students will learn the current rules/regulations of the major team sports offered by schools in Montana and proper techniques of officiating these sports. Sports included are football, basketball, volleyball and softball. Students will also learn the process/requirements of becoming a MOA official for these and other sports.

COA 215. Basic Athletic Taping. 1 Credit.

Practical experience in learning basic athletic taping techniques. Some injury evaluation and exercise rehabilitation included. Course Fee: \$15.00
Formerly HPE 215.

COA 240. Coaching Volleyball. 2 Credits.

A study of training techniques, offensive and defensive strategy, selection of team, methods of conducting practice, and utilization of personnel.

COA 242. Coaching Football. 2 Credits.

A study of training techniques, offensive and defensive strategy, selection of team, methods of conducting practice, and utilization of personnel.

COA 245. Coaching Basketball. 2 Credits.

A study of training techniques, offensive and defensive strategy, selection of team, methods of conducting practice, and utilization of personnel.

COA 246. Coaching Softball/Baseball. 2 Credits.

A study of training techniques, offensive and defensive strategy, selection of team, methods of conducting practice, and utilization of personnel. Formerly HPE 345.

COA 256. Coaching Track/Field. 2 Credits.

A study of training techniques, strategy, selection of team, methods of conducting practice, and utilization of personnel. Formerly HPE 342.

COA 258. Coaching Wrestling. 2 Credits.

A study of training techniques, offensive and defensive strategy, selection of team, methods of conducting practice, and utilization of personnel.

COA 260. Coaching Gymnastics. 2 Credits.

A study of training techniques, selection of team, methods of conducting practice, and utilization of personnel. Formerly HPE 346.

COA 262. Coaching Swimming. 2 Credits.

A study of training techniques, selection of team, methods of conducting practice, and utilization of personnel. Formerly HPE 347.

COA 291. Special Topics: Coaching. 2 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

COA 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

COA 407. Issues in Competitive Athl. 3 Credits.

A study of individual administrative, supervisory, and organizational problems directly related to athletics as they affect the coach, athletic director, or profession.

COA 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Communication (COMX)

COMX 111. Intro to Public Speaking. 3 Credits.

A study and utilization of the principles and techniques of oral communication. Problems of research, preparation, content, organization, argument, and delivery are examined.

COMX 115. Intro to Interpersonal Communc. 3 Credits.

A study of the theory and application of verbal and nonverbal communication as they occur in relatively unstructured person-to-person settings.

COMX 210. Communication in Small Groups. 3 Credits.

An introduction to the theory and practice of purposeful leadership and participation in group, committee, conference, and public discussion. A focus of this course will include analysis and participation in small groups, how small groups function and an examination of conflict management in small groups. Group interaction will focus on a service learning activity that has outreach components.

COMX 212. Intro to Intercultural Comm. 3 Credits.

The purpose of this course is to develop the skills necessary to build and maintain positive communication and relationships across cultures. Students will focus on similarities and differences in communication. Perceptions, language usage, nonverbal style, thinking modes, and values all will be explored to see how they influence face-to-face communication between individuals of different cultures.

COMX 291. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

COMX 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

COMX 320. Prin of Organizational Comm. 3 Credits.

This course features the study of the communication process in an organizational society. This study includes an examination of contrasting theories of organization. The class will also examine the role of communication in different types of organizational structures, the impact of organizational culture and performance, and the nature of communication on different levels within the organization. Particular attention will be paid to the constituting nature of communication in contemporary organizations.

COMX 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

COMX 400. Communication Theory. 3 Credits.

Examination of the current state of representative theorizing about communication. Includes a summary of communication theories and examination of the root assumptions, conceptualizations, and explanatory power of the major theories of the nature of communication.

COMX 412. Communication and Conflict. 3 Credits.

Designed to explore research and practice about conflict as a process of social interaction. This course focuses on communication-oriented perspectives, key properties of conflict interaction, strategies and tactics for moving through conflict, self-regulation and third-party intervention.

COMX 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

COMX 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Community Health (CHTH)

CHTH 262. Community Health. 3 Credits.

Evaluation of personal health in relation to the services available throughout a community. Application to K-12 teachers for coordinating/utilizing community services in a health enhancement curriculum.

CHTH 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CHTH 355. Theory Pract Comm Hlth Ed. 3 Credits.

Health Promotion is the art and science of assisting individuals in their progress toward a greater level of personal wellness. This course will introduce various theories of health promotion and allow for the exploration and practice of a variety of techniques used in the field. Prerequisite: Junior standing.

CHTH 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CHTH 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CHTH 440. Principles of Epidemiology. 3 Credits.

Epidemiology is focused on understanding the distribution of health outcomes across populations. This epidemiology course delivers a brief review of basic concepts and then offers several opportunities to practice different applications such as outbreak management, hospital epidemiology, case control and cohort analyses, data collection and descriptive analysis with Microsoft Excel. There are no prerequisites for this course, but completion of college algebra and/or statistics along with Microsoft excel familiarity will be very helpful.

CHTH 445. Prgm Planning Comm Health. 3 Credits.

This course is designed to follow CHTH 335 (Theory and Practice of Community Health Education) because it allows students to apply what they've learned toward the development of pilot programs. Throughout this course, students will work in teams as they identify and assess a target population on campus, plan a pilot program, administer that program and evaluate it.

CHTH 450. Worksite Health Promotion. 3 Credits.

Worksite promotion provides an overview of developing and implementing personal wellness as it relates to health and human performance. This course is designed for candidates to learn the various ways to administer, analyze, interpret and utilize various applications and tests in health and physical education.

CHTH 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CHTH 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Health Sciences, and cooperative education coordinator. Pass/Fail Only.

Community Leadership (CMLD)

CMLD 101. Intro to Community Leadership. 3 Credits.

This course provides a survey of leadership theories, as well as an introduction to basic concepts relating to the structure and function of communities. Students focus on developing their ability to think scientifically within the social sciences by applying analytical frameworks and methodologies to understand foundational concepts in systems theory, change theory, and civic engagement.

CMLD 260. Fndtns of Civil Engagement. 3 Credits.

This course provides an overview of the theoretical, ethical, and historical bases for civic engagement. The course emphasizes the development of community building skills required for professional careers of public service in a diverse and dynamic society. Specific applications include analysis of current issues in democracy, civil rights, human rights, and civil discourse, including practice composing the statement of need for formal proposals.

CMLD 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CMLD 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CMLD 301. Concepts in Comm Leadership. 3 Credits.

Students will analyze relationships between systems theory, theory of change, and relevant theories of leadership in order to enhance their understanding of the dynamics of communities. The course will also introduce basic concepts and procedures in strategic planning and program evaluation, as students apply these theories to develop a formal, persuasive policy proposal and action plan.

CMLD 355. Assmnt & Dsgn Comm Programs. 3 Credits.

This course focuses on concepts and procedures related to the design, management, and formative assessment in community-based programs. The course introduces concepts related to research methods, strategic planning, and project management. Students will compose the program design component of a formal proposal, based upon community assets and needs assessments, and with an emphasis on facilitating social change.

CMLD 360. Eval of Comm-Based Programs. 3 Credits.

This course focuses on concepts and procedures related to the summative evaluation of community-based programs, with an emphasis on "closing the loop" in an action research paradigm. The course introduces concepts related to data, measurement, and statistics, as they apply to research designs and hypothesis testing. Students will compose the program evaluation component of a formal proposal, as well as a report of findings and recommendations.

CMLD 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CMLD 401. Seminar in Comm Leadership. 3 Credits.

As the capstone for the Community Leadership program, this course focuses primarily on the role of community-based action research in professional and public life. Students will be introduced to the principles and practices of action research applied to social issues as a vehicle to facilitate change. The course will also provide preparation in both the transitional skills necessary to enter field and to continue lifelong development as a professional in community leadership.

CMLD 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CMLD 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Community Service (CMSV)

Computer Applications (CAPP)

CAPP 120. Introduction to Computers. 3 Credits.

A literacy-based approach is used to survey the computer and the computer industry. Topics covered include: Microcomputer applications, input, processor, output, auxiliary storage, file and database management, communications, information system life cycle, program development and systems software, and trends, issues and career opportunities in the computer industry. An opportunity for hands-on work with standard software packages including word processors, electronic spreadsheets, database systems, and graphics packages is presented in lab sections.

Course Fees: \$5.35

CAPP 151. MS Office. 3 Credits.

An in-depth integrated application using the case method will be developed. Students will learn to use the integrated tools in modern applications programs to save time and increase the accuracy and integrity of the overall information used in building reports. OLE and file linking will be used extensively. Visual BASIC scripting will be used to increase application cohesion.

Course Fees: \$5.35

CAPP 156. MS Excel. 3 Credits.

This class includes theory and applications of spreadsheet software. Also included are advanced features such as programming, web linking, scripting, goal seeking, solver, application integration, list management, complex models, macro implementation, graph creation, and graphic presentation of analyzed data will be covered. Prerequisite: CAPP 120 or higher, M 105 or higher.

CAPP 158. MS Access. 3 Credits.

This course addresses the fundamental concepts of computerized database management and database design, with emphasis on the relational model. It includes hands-on experience using MS Access in creating databases, forms, reports, and queries. Prerequisite: Basic Computer Skills.

CAPP 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CAPP 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CAPP 266. Advanced MS Excel Applications. 3 Credits.

This class includes theory and applications of spreadsheet software. Also included are advanced features such as programming, web linking, scripting, goal seeking, solver, application integration, list management, complex models, macro implementation, graph creation, and graphic presentation of analyzed data will be covered. Prerequisite: CAPP 120 or higher, M 121 or higher.

CAPP 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CAPP 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CAPP 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, chairperson of department and cooperative education coordinator.

CAPP 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CAPP 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CAPP 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CAPP 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CAPP 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: CAPP 298 or Junior standing and approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator.

Computer Engineering Tech (CPET)

Computer Information Systems (CIS)

Computer Science/Programming (CSCI)

Construction (CSTN)

CSTN 105. Introduction to Woodworking. 3 Credits.

A study in the use of equipment and procedures used in wood construction. Areas of concentration will be wood and related materials, joint design, adhesives, fasteners, hand tools, machine tools, setup and procedures, and safety. Emphasis will be on dedicated objectives with a final project.

CSTN 120. Carpentry Bscs & Rough-In Frmg. 4 Credits.

This course introduces the carpentry trade, including history, career opportunities, and requirements. The course deals with the identification and application of a variety of building materials, fasteners, and adhesives. The skills needed for framing a simple structure are studied and practiced. The course also covers installation procedures for windows and exterior doors.

CSTN 132. Metal Building Construction. 1 Credit.

This course is designed to meet the needs of those entering a position in carpentry technology for the first time. The curriculum will provide students with working knowledge and experience in the field of carpentry technology. The specific course goals support the overall goals of a construction technology program. Co-requisite: CSTN 220. Prerequisites: IT 115, IT 111, and CSTN 120 or instructor's approval.

CSTN 135. Basic Rigging. 1 Credit.

Explains how ropes, chains, hoists, loaders, and cranes are used to move material and equipment from one location to another on a job site. It describes inspection techniques and load-handling safety practices as well as reviews American National Standards Institute (ANSI) hand signals. Prerequisite: IT 111.

Course Fees: \$10.50

CSTN 145. Ext Finish, Stair, & Metal SF. 3 Credits.

This course covers the stages involved in carpentry from site layout to constructing the footings and foundations. The course introduces site layout, measurement, and leveling procedures and introduces some applications of concrete and reinforcing materials. Prerequisites: IT 115 and CSTN 120 or instructor's approval. Co-requisites: CSTN 160 and CSTN 161 and IT 111.

CSTN 160. Constructn Cncpts & Bldg Lab. 3 Credits.

This course provides hands-on experience in which the student applies the basic skills and knowledge presented thus far in the NCCER Carpentry Program. This course is designed as a practical task-orientated exercise utilizing the skills covered in CSTN 120. Co-requisites: CSTN 145 and CSTN 161 and IT 111. Prerequisites: CSTN 120 or instructor's approval.

CSTN 161. Constructn Cncpts & Bldg Lb II. 3 Credits.

This course covers the stages involved in carpentry from site layout to constructing the footings and foundations. This course introduces site layout, measurement, and leveling procedures as well as some applications of concrete and reinforcing materials. The operation of light equipment such as skid steer, fork lift and back hoe equipment will be covered.

CSTN 171. Ste Prp, Fndtns, Cncrt Instltn. 4 Credits.

This course introduces building forms for footings and foundations as well as for a variety of concrete structures. It introduces methods for handling, placing, and finishing concrete. It also covers manufactured forms and their applications. Prerequisite: IT 115.

CSTN 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CSTN 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CSTN 217. Furniture & Cabinetmaking. 3 Credits.

Students will be introduced to the principles and practices of furniture and cabinet making.

CSTN 220. Interior Finishing. 4 Credits.

Introduces students to materials and methods for sheathing, exterior siding, stairs and roofing. The framing that was done on the building project during CSTN 120 will be used to continue studies in this course. Students will apply the knowledge and skills presented during this course to enclose the structure. Students will lay out and build a simple stair system. This course also covers framing with metal studs. Co-requisite CSTN 230 Prerequisites: IT 115, IT 111, and CSTN 120 or instructor's approval.

CSTN 230. Adv Rf, Flr, Wll, Stair Systms. 4 Credits.

Introduces students to trigonometric leveling, which is used to lay out foundations. This course 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. Prerequisites: CSTN 120, IT 115, or instructor's approval.

CSTN 260. Constrctn Cncpts & Bldg Lb III. 4 Credits.

Provides students the opportunity to practice skills they have acquired in the entire carpentry program. It includes task-orientated projects in which students can apply many of the skills and knowledge that have been presented throughout the NCCER Carpentry program. This course is designed as a practical task-orientated exercise utilizing a variety of skills covered in all the NCCER carpentry courses required for the AAS degree. Co-requisites: CSTN 171, CSTN 230, and CARP 240. Prerequisite: CSTN 220 or instructor's approval.

CSTN 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CSTN 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CSTN 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CSTN 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

CSTN 592. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Counselor Education (CNSL)

CNSL 502. Professional Ethics. 2 Credits.

This course examines the basis for ethical judgments and explores ethical responsibilities to clients, colleagues, organizations, and society. The course will provide the student with an introduction to the ethical and legal issues presently facing professionals in the helping professions. The emphasis of the course is on the ACA Codes of Ethics and legal requirements for counselors, psychologists, and other helping professionals who work with clients.

CNSL 506. K-12 Counseling Progm Dev & Admn. 3 Credits.

In this course the student will examine all the elements involved in planning, developing, implementing, administering, supervising and evaluating (including placement and follow-up data) a comprehensive K-12 guidance and counseling program. Educational philosophies, school curriculum patterns, federal and state rules and regulations, including IEFA are presented. Effective consultation skills with students (clients), parents, families, teachers, school administrators, and other allied professionals will be emphasized as an integral component of the comprehensive guidance and counseling program.

CNSL 508. Theories of Counseling. 3 Credits.

In this course the student will examine counseling theories which provide the student with models to conceptualize client presentation and help the student select appropriate counseling interventions. Student will be exposed to models of counseling that are consistent with the current professional research and practice in the field so that each student will develop a theoretical foundation of counseling. In addition, this course will provide an orientation to counselor characteristics and behaviors that influence the helping processes.

CNSL 517. Counseling Skills & Practice. 3 Credits.

In this course the student will gain an orientation to wellness and prevention as desired counseling goals and understand counselor characteristics and behaviors that influence the helping professions. The emphasis will be on students developing skills to analyze their own counseling style and performance. This analysis will grow out of skills' development and theoretical applications experienced in the course. Students will be able to better conceptualize their theoretical framework, discuss the counseling process, and implement interviewing and counseling skills through a combination of didactic and experiential activities. Prerequisite: CNSL 508.

CNSL 521. Counseling & Medications. 2 Credits.

This course will familiarize students with the dimensions pharmacology has added to psychotherapy. The basic assumption of the course is treat a multi-model treatment model is usually the optimal approach for case management and that a holistic appreciation of the client's physiological, cognitive, emotional and behavioral dimensions is crucial to successful interventions and treatment planning. This course will assist the student to recognize the signs and symptoms of substance abuse, and the potential for substance use disorders to mimic and coexist with a variety of medical and psychological disorders.

CNSL 522. Group Dynamics & Counseling. 3 Credits.

In this course the student will examine the theory and techniques of groups counseling. Course topic areas will include: group dynamics, the types of groups, the stages of the group process, therapeutic forces within the group, etc. Student will participate in group experience and facilitate the group process. Prerequisite: CNSL 508, CNSL 517, and permission of instructor.

CNSL 525. Child & Adolescent Counseling. 3 Credits.

In this course the student will engage in a comprehensive overview of abnormal child and adolescent behaviors and their complex etiologies, with emphasis on the current edition of DSM classification system, differential diagnosis, and treatment considerations. Students will also explore historical and current view, theories, and models of childhood disorders. Topics will include an understanding of development crises, psychopathology in children, situational and environmental factors that affect both normal and abnormal behavior.

CNSL 530. Life Span Dev & Adjustment. 3 Credits.

In this course students will study the theories of life span development from conception to death in light of the changes and challenges that people experience throughout a lifetime. Adjustment will be studied through the lens of developmental and personality theories, social influences, coping strategies and therapeutic interventions. The Diagnostic Statistical Manual will be used as a source for understanding abnormal, maladaptive adjustment. Sequences and patterns of psychological and social development are emphasized. Instruction includes lecture, discussion, and experiential activities (e.g., videos, visiting experts, and role playing). In addition, students are required to complete research using electronic data bases, the Internet, and library resources.

CNSL 549. Research Methods in Counselor. 3 Credits.

The course is designed to assist teachers to develop the desire and the skills to read, interpret, evaluate, and utilize the results of systematic inquiry and empirically developed knowledge in their educational planning and decision making. This implies a positive value orientation towards research generated information as well as an understanding of strengths and limitations of research methodology when compared to other approaches to developing knowledge.

CNSL 551. Educational & Psychological Ap. 3 Credits.

In this course the student will learn the historical perspectives of the nature and meaning of assessment, including social and cultural influences. Basic concepts of standardized and non-standardized testing and other assessment techniques, including norm-referenced and criterion referenced assessment, environmental assessment, performance assessment, individual and group test and inventory methods, psychological testing and behavioral observations used with individuals, groups and specific populations are introduced. Students will experience test administration, scoring and interpretation.

CNSL 558. Career Cnsl & Info Systems. 2 Credits.

In this course the student will examine the theories and techniques of career counseling. Course topic areas will include: theories of career development, techniques of career counseling, assessment instruments utilized in career counseling, etc.

Course Fees: \$20.00

CNSL 560. Crisis Intervention Counsel. 2 Credits.

This course represents an examination of crisis situations and viable counseling interventions based on the application of theoretical models and ethical implications. An understanding of crisis (recognizing and defining crisis), crisis intervention models and implementation of specific crisis intervention techniques and strategies will be explored. The student will understand the counselors' roles and responsibilities as members of an interdisciplinary emergency management response team during a local, regional, or national crisis, disaster, or trauma-causing event.

CNSL 563. Multicultural Counseling. 2 Credits.

In this course the student will gain an understanding of the cultural context of relationships, issues, and trends in a multicultural society. Application of counseling theories and techniques as they apply to the unique concerns and issues of diverse groups (e.g., racial, ethnic, SES, cultural minorities, and special populations) will be examined. A focus of the course includes attitudes, beliefs, understandings, and acculturative experiences, including specific experiential learning activities designed to foster students' understanding of self and culturally diverse clients. Social justice and advocacy for diverse populations will be explored.

CNSL 564. Diagnosis & Treatment in Cnsl. 3 Credits.

This course will explore the diagnostic and treatment processes employed by helping professionals within schools and clinical settings. Students will develop specific skills in the use of diagnostic criteria in the current edition of the DSM in multi-axial diagnosis and the development of treatment plans. The course will explore the paradigms of mental illness and personality disorders with an emphasis on clinical techniques and professional practices used in the evaluation and treatment of clients.

CNSL 565. Marriage & Family Counseling. 3 Credits.

This course will acquaint students with a range of theories used in the diagnosis and treatment of couples and families with an emphasis on approaching clients from a system's based approach. Therapeutic interventions and appropriate treatment applications relative to premarital and marital couples, with and without children, will be introduced with an emphasis on recognizing societal trends and treatment issues related to working with multicultural and diverse family systems (e.g. families in transition, dual career couples, blended families, same-sex couples). Approaches to effective case management and consultation with families, school systems, and other professionals will also be presented.

CNSL 567. Community & Agency Counseling. 2 Credits.

This course will provide an overview of the theory and practice of counseling in human services agencies and other community settings. Emphasis will be placed on the role, function, and professional identity of the community counselor. Principles and practices of community outreach intervention, education, consultation, and client advocacy will be examined.

CNSL 570. Graduate Consultation Course. 3 Credits.

This course is permitted only for master's degree students who have completed all of their coursework but who need additional faculty or staff time. This course may not be used for degree credit. This course provides the Counselor Education student with the option of maintaining graduate status through the Graduate Studies continuous enrollment policy. Prerequisite: All required content course work must be completed and approval of instructor. The course is Pass/Fail.

CNSL 571. Counseling Practicum. 3 Credits.

In this course practicum students will develop skills necessary to apply basic competencies to the establishment of therapeutic relationships, the use of therapeutic communications, and use of influencing skills in helping clients to set goals and implement intervention strategies. The course demands 100 hours of supervised experiences which include 40 hours of direct client contact. Prerequisites include: CNSL 551, CNSL 508, CNSL 517, and permission of instructor.

CNSL 575. Counselor Ed Graduate Seminar. 1-3 Credits.

This course is delivered as a seminar in which students will investigate topics of current concern and special interest in counselor education.

CNSL 590. Special Topics. 1-6 Credits.**CNSL 592. Independent Study. 1-12 Credits.**

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CNSL 594. School Counseling Internship I. 6 Credits.

An extended practical experience in school or related setting where the counselor intern acquires 300 hours of knowledge and skills under professional supervision. The intern will acquire knowledge of school and related settings as well as observation and practice in the setting. Prerequisite: CNSL 551, CNSL 508, CNSL 517, and CNSL 571. Must submit and have approval for internship before registering.

CNSL 595. Com/Agency Counseling Intern I. 6 Credits.

This is the first internship in the counselor education program. The program requires the completion of two supervised internship in the student's designated program area of 300 clock hours each. Each internship is intended to reflect the comprehensive work experience of a professional counselor appropriate to the designated program area. Prerequisite: CNSL 551, CNSL 505, CNSL 517, and CNSL 571 and at least 36 semester credits in the counselor education program; full admission to the program; and program faculty approval is required.

CNSL 596. School Counseling Intern II. 6 Credits.

This is the second internship in the counselor education program. The program requires completion of two supervised internship in the student's designated program area of 300 clock hours each. Each internship is intended to reflect the comprehensive work experience of a professional counselor appropriate to the designated program area. Prerequisites: CNSL 551, CNSL 508, CNSL 517, CNSL 571 and at least 36 semester credits in the counselor education program, full admission to the program, and program faculty approval is required.

CNSL 597. Comm/Agency Cnsl Intern II. 6 Credits.

The second internship in the counselor education program. The program requires completion of two supervised internship in the student's designated program area of 300 clock hours each. Each internship is intended to reflect comprehensive work experience of a professional counselor appropriate to the designated program area. Prerequisites: CNSL 551, CNSL 505, CNSL 517, CNSL 571 and at least 36 semester credits in the counselor education program; full admission to the program; and program faculty approval is required.

CNSL 598. Post Grad School Cnsl Intern. 6-12 Credits.

This post-graduate school counseling internship is restricted to those students who have earned graduate degree in counselor education or a closely related field that included a practicum (100 hours) and a 600 hour internship at a clinical site. This internship requires 600 hours with 240 hours in direct services to students and their families. The internship hours must be completed in the semester enrolled- there are no incompletes or in-progress grades for this course. The post-graduate school counseling internship is intended to reflect the comprehensive work experience of a professional school counselor. Applicants must be admitted to the Counselor Education Program as post-graduate non degree seeking students and must apply and receive program faculty approval for the post-graduate school counseling internship faculty prior to registration.

CNSL 692. Independent Study. 1-6 Credits.

Creative Writing (CRWR)

CRWR 240. Intro to Creative Writing Wksp. 3 Credits.

Beginning writing workshop designed for students to explore several genres of creative writing. Students will read and respond to the works of diverse authors from a variety of eras. In a workshop setting, students will write, respond to, and revise original work using genre-specific techniques and conventions. Prerequisite: WRIT 101, WRIT 122, comparable transfer course or permission of instructor.

CRWR 340. Interm Creative Writing Wkhp. 3 Credits.

This course requires students to engage in an advanced study of the writing of poetry and fiction. Students will investigate the techniques of poetry, including meter, rhyme, line, stanza, tone and figurative language. Students will also practice the techniques of fiction writing, including the development of plot, action, and story arc, character development, and different narrative voices. May be offered Spring semester odd years, as needed.

CRWR 392. Independent Study. 1-12 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Criminal Justice (CJ)

Criminal Justice (CJS)

Criminal Justice (CJUS)

CJUS 121. Intro to Criminal Justice. 3 Credits.

The course is designed to introduce students to the criminal justice system in America and our institutionalized response to the social problem of crime. The criminal justice system comprises several unique and related components. The course will consist of an examination of the various local, state and federal agencies that make up the system with particular attention to the police, courts and corrections. The course will also examine critical questions about the roles, responsibilities and challenges of the criminal justice system.

CJUS 125. Funds of Forensic Science. 3 Credits.

This course is a survey of the forensic sciences and related disciplines. This course examines the use of forensic science in criminal investigations, and the role of forensic scientists in the investigations process and as expert witnesses.

CJUS 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CJUS 215. CJ and Community. 3 Credits.

While focusing primarily on law enforcement, this course will examine the relationship and attitudes among all components of the criminal justice system and the community. Those elements that influence how the community and the criminal justice system interact will be explored and issues affecting all entities will be examined along with factors which help develop mutual understanding and support between the justice system and the community.

CJUS 220. Intro to Corrections. 3 Credits.

The course is designed to support student understanding of the American system of corrections and the roles of federal, state, and local governments. Students will study the laws pertaining to corrections and how they are applied to offenders and correctional personnel. Students will also study the importance of community corrections and the reasons why prison populations have continued to increase.

CJUS 226. Introduction to Probation. 3 Credits.

This course provides an in-depth examination of the role of probation in the criminal justice system. Topics included are caseloads, pre-sentence investigations, practices and procedures, and issues associated with supervising offenders in the community.

CJUS 228. Diversity in Criminal Justice. 3 Credits.

This course explores the effects of social stratification on crime. It examines the relationship between social class, race/ethnicity and gender in the criminal justice system. Analysis of populations as both offenders and victims is included.

CJUS 230. Police Org and Behavior. 3 Credits.

The course is designed to develop an understanding of policing service in the United States. It provides a historical overview of how policing evolved and how it has changed. The student will understand the main types of policing agencies and comprehend their function as part of the criminal justice system. Student will develop an understanding of the organization of police agencies and analyze styles of policing and the policy it supports. Finally, the course will support students understanding the fine balance between actions, decision-making and discretion while working closely with community agencies.

CJUS 236. Intro to Research Methods. 3 Credits.

This course uses a philosophy of science approach, and introduces the basic elements of methodologies used in social sciences. Qualitative as well as quantitative methodologies are emphasized.

CJUS 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CJUS 325. American Criminal Law. 3 Credits.

This course is the study of principles, doctrines and selected rules of criminal law; the sources of substantive criminal law and historical development of common law principles of criminal responsibility; constitutional constraints on the decision to define behavior as criminal.

CJUS 330. Admin of Juv Justice. 3 Credits.

This course offers an extensive systematic interdisciplinary examination of juvenile justice and juvenile justice administration in the United States.

CJUS 335. Victimology. 3 Credits.

Criminal justice professionals, regardless of their specific role, will always come in contact with victims of crime. This course provides an introductory examination of criminal victimization in the United States via an overview of current theory, research, and trends within the context of specific victimization types. Students will examine specific crimes types, the impact of crime on victims and society, the role of victims within the criminal justice system, specific remedies, and victim rights and services. Where possible, topics will be studied within a context of current events and local models of crime victim services.

CJUS 356. Sociology of Violence. 3 Credits.

This course examines contemporary forms of violence from a sociological perspective; considers the historical and social context of forms of violence ranging from bullying and harassment to police brutality and terrorism; explores individual and group responses to violence as well as the impact of media and other social institutions on these resources.

CJUS 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CJUS 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CJUS 413. Administration Law Enforcement. 3 Credits.

This course will examine and study law enforcement organizations and the many aspects of leading and managing the organization as it deals with personnel issues, budgeting, structure, and other functions.

CJUS 421. Criminal Justice Ethics. 3 Credits.

This course will examine ethical issues in law enforcement, courts, and corrections. Students will learn moral and ethical standards that can be used to resolve dilemmas they encounter in criminal justice system.

CJUS 427. Deviance & Social Control. 3 Credits.

This course will begin to examine the belief that deviance and social control is a diverse and controversial concept, which is of great importance to society and individuals. The course will explore definitions of deviance, theoretical perspectives, which attempt to explain deviance, and how deviance is organized and managed in our society. It will also examine how our society views the processes that create and controls deviant behavior. Contemporary forms of deviance will be analyzed and discussed.

CJUS 440. Gender, Crime and Justice. 3 Credits.

This course will examine and analyze how gender interacts within crime and the criminal justice system, and what programs exist or should exist to ensure equality within the criminal justice system.

CJUS 488. Forensic Crime Lab & Beyond. 3 Credits.

This course is an examination of the forensic sciences with emphases on the non-crime lab forensic sciences, new technologies, and new directions in forensic sciences, new technologies, and new directions in the forensic sciences.

CJUS 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

CJUS 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

CJUS 494. Seminar. 3 Credits.

This course will examine and analyze criminal justice topics from various perspectives.

CJUS 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Dance (DANC)

Diesel (DIES)

Diesel Service Tech (DST)

DST 104. Intro to Diesel Engines. 3 Credits.

Construction, operation, and repair of diesel engines; logical steps of procedure for engine reconditioning; installing and timing of fuel injection components. Emphasis will be placed on diesel engine component reconditioning, engine tune-ups, and use of special diagnostic tools. To be taken concurrently with DST 114.

DST 114. Intro to Diesel Engines Lab. 3 Credits.

This course will give the student hands-on experience rebuilding diesel engines and components. The student will learn manufacturer's procedures on engine rebuilding and special tool usage. To be taken concurrently with DST 104.

Course Fees: \$21.50

DST 115. Intro to Diesel Fuel Systems. 5 Credits.

This lecture/lab course will introduce students to the diesel fuel injection system. Topics covered will include fuel characteristics and testing, fuel subsystem and components, mechanical diesel fuel systems (inline pumps, rotary distributor pumps, mechanical unit injectors) and electronically controlled diesel fuel systems (EUI, HEUI, High Pressure Common Rail). Lab exercises will relate to lecture material, and will include fuel subsystem components, disassembly/reassembly of fuel pumps, fuel testing, injector testing, removal/installation of fuel pumps and injectors. Safety, correct industry procedures, correct tool usage, and diagnosis of common fuel-related problems will be emphasized.

Course Fees: \$10.25

DST 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

DST 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DST 198. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

DST 204. Intro to Hydraulics Pneumatics. 2 Credits.

Theory and application of hydraulics and pneumatics used in automotive, agriculture, heavy equipment, and construction industries; to be taken concurrently with DST 214.

DST 214. Intro to Hydr Pneumatics Lab. 2 Credits.

Application of hydraulics and pneumatics. Students will demonstrate hydraulic principles on live work stations. They will work with, tear down, and assemble equipment. They will also work on open and closed center systems, fixed and variable displacement pumps, linear and rotary actuators, pressure and flow controls, and directional valves. To be taken concurrently with DST 204.

Course Fees: \$15.75

DST 216. Heavy Duty Power Trains. 4 Credits.

This course will give the students hands-on experience working on heavy duty power train components. Emphasis will be placed on calculating gear ratios and power flow on industry's common transmissions, final drives, and clutches. The student will measure drive line angles and diagnose vibration complaints.

Course Fees: \$15.75

DST 219. Heavy Duty Chassis. 4 Credits.

A course dealing with braking systems, suspensions, and alignment of medium and heavy duty vehicles. The major emphasis will be on air brakes, methods used to check and adjust alignment, and inspection and repair methods for suspension systems.

Course Fees: \$10.25

DST 264. Diesel Engine Diagnosis Repair. 3 Credits.

This course will include engine assembly and engine start-up after assembly. The course will also coordinate set-up, testing, and diagnosis of engine problems using test instruments and engine dynamometer. To be taken concurrently with DST 274. Prerequisites: DST 104 and DST 114.

DST 273. Diesel Shop Practices. 4 Credits.

A course emphasizing actual shop operations: Long- and short-term jobs covering all aspects of a vehicle. It also includes vehicle maintenance, shop flat-rate procedures, work order and warranty claim procedures. Prerequisites: DST 264 and DST 274.

Course Fees: \$21.50

DST 274. Diag Diesel Engine Repair Lab. 3 Credits.

This course will give the student hands-on experience on diagnosing diesel engines using the proper test equipment. Diesel engine repair and assembly are addressed. To be taken concurrently with DST 264.

Course Fees: \$21.50

DST 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

DST 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DST 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

DST 314. Hydraulics and Pneumatics II. 4 Credits.

Application of hydraulics and pneumatics with emphasis on live work. Troubleshooting and diagnostics of hydraulic systems including testing, adjustment, and repair of components. Prerequisites: DST 204 and DST 214.

Course Fees: \$15.75

DST 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

DST 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DST 420. Diesel Shop Management. 2 Credits.

This course will cover management of equipment including establishing preventative maintenance programs, cost per hour operation, and investment analysis. Selected computer programs will be used.

DST 434. Current Model Year Technology. 3 Credits.

Current topics to bring Seniors up to date on changes in heavy duty technology, to include current model year. Provides latest information on equipment, systems components, troubleshooting and repair. Course will also review major diesel topics to enhance Senior students experience. Prerequisite: Senior standing.

DST 440. Advanced Fuel Systems. 4 Credits.

A course dealing with the diagnosis and repair of fuel systems using the proper test equipment and test standards. Prerequisites: DST 115 and Senior standing.

Course Fees: \$15.75

DST 450. Diag Pwr Shifts and HD Atmtics. 4 Credits.

This is a course in Heavy Duty Power Shifts and Automatic Transmissions 6000 GVW and larger. This course consists of lab and lecture time covering the components, theory of operation; diagnosis; using proper instrumentation and manuals; and repair; with emphasis on troubleshooting and failure analysis. Prerequisites: DST 216 and ATDI 257.

Course Fees: \$15.75

DST 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

DST 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DST 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Cooperative Education 298 or Junior standing and approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

DST 592. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Drafting (DRFT)

Drafting Design (DDSN)

DDSN 114. Introduction to CAD. 3 Credits.

This is a systems oriented course designed to introduce students to the concepts, techniques, and applications of PC-based computer aided drafting. It is the intent of the course to provide students with competencies that will allow them to use the system to create drawing files and download files for hard copies. Command structure, coordinate systems, text dimensions, and plotting will be covered.

Course Fees: \$15.75

DDSN 116. 3D CAD. 3 Credits.

This is a study in advanced CAD concepts and procedures to develop three-dimensional wire frame models. Emphasis will be on the creation and use of 3D primitives, surface modeling, basic solids modeling, shading techniques, and the use of animation software. Exercises will include rendered output to paint type printers. Prerequisite: DDSN 114.

Course Fees: \$15.75

DDSN 119. Technical Graphics I. 3 Credits.

The student will gain knowledge and skills needed to produce drawings and understand basic drafting theory. Topics developed on the board will include sketching, lettering, instruments, scaling, applied geometry, orthographic projection, dimensioning, applied technical mathematical relations, primary auxiliary views, sections, threads, and weld symbols.

Course Fees: \$15.75

DDSN 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DDSN 239. Parametric CAD. 3 Credits.

The student will explore advanced computer modeling and techniques used in industrial design. Students will experiment with various applications in solving assigned problems. Prerequisite: DDSN 116, DDSN 376, or consent of instructor.

Course Fees: \$10.75

DDSN 245. Civil Drafting. 3 Credits.

Fundamentals of mapping and geographic information systems (GIS). Includes applications of mapping projections, presentation of surveying information, and GIS methods. Mapping and GIS computer applications will be used and developed throughout the course. Pre-requisites: DDSN 114.

Course Fees: \$10.75

DDSN 255. Machine Drafting. 3 Credits.

The study and application of standards used for producing working drawings, including the fundamentals of geometric dimensioning and tolerancing. Both detail and assembly drawings will be produced. Prerequisite: DDSN 116 3D CAD.

Course Fees: \$15.75

DDSN 265. Architectural Drafting. 3 Credits.

This course is the study of the principles involved in the construction drawings of an average wood frame residential structure. A complete set of working drawings will be developed.

Course Fees: \$10.75

DDSN 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DDSN 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only. 201450.

DDSN 312. CAD Management. 3 Credits.

This course will introduce the successful student to various aspects of CAD Management and decision making. The successful student will gain knowledge applicable to an active CAD environment in which technological concerns need to be addressed in a clear and efficient manner. Prerequisite: DDSN 114.

DDSN 376. Presentation & Animatn. 3 Credits.

A study in the effects of using CAD images and animation for professional presentations. Students will explore a variety of software and techniques.

Prerequisite: DDSN 114.

Course Fees: \$15.75

DDSN 435. Industrial Product Design. 3 Credits.

An advanced course designed to prepare the student for the basics of mechanical design. Techniques and procedures used in the design process, geometric tolerancing and dimensioning, and the application of CAD will be studied. This course meets the general education requirements for a capstone course. Prerequisites: DDSN 255 and DDSN 256.

Course Fees: \$10.75

DDSN 465. Architectural CAD II. 3 Credits.

This course allows students to apply the design process to a residential project. A complete set of working drawings will be developed and published.

Course Fees: \$15.75

DDSN 489. CAD Presentation II. 3 Credits.

A continuation in the study of CAD presentation and simulation techniques that builds on the skills learned in DDSN 376. Advanced multimedia and 3D studio concepts and methods will be explored to create still and animated images. Prerequisite: DDSN 376.

Course Fees: \$10.75

DDSN 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DDSN 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Cooperative Education 298 or Junior standing and approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

Drama (DRMA)

Earth Science (ESCI)

Economics (ECNS)

ECNS 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ECNS 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ECNS 201. Principles of Microeconomics. 3 Credits.

Principles of rational choice, price determination, market resource allocation, competition, and the role of government in the economy. Prerequisite: University competency in math or permission of instructor.

ECNS 202. Principles of Macroeconomics. 3 Credits.

This is a course in the principles of national income and product accounting, aggregate demand and supply, employment, monetary theory, macroeconomic stabilization, and basic principles of international trade and finance. Prerequisite: University competency in math.

ECNS 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ECNS 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ECNS 348. Public Choics and Interest. 3 Credits.

This is a study of political economy focusing on what modern public choice and public interest models say about the proper boundaries of the public and private sectors. It analyzes the rent-seeking activities of special interest groups and the relative impacts of altruism and self-interest in explaining political behavior and governmental policies in democratic systems. The material focuses on the nature of public goods, market failures, government regulation, and wealth redistribution, among other topics. Theoretical, historical and empirical forms of evidence are brought to bear on the issues.

ECNS 372. Economic History of the US. 3 Credits.

Students will study the growth and development of the U.S. Economy and business transformation from colonial times to the mid-20th century. The central organizing focus concerns the economic, cultural, and constitutional incentive structures in America that have motivated entrepreneurship and efficient resource use. A background in basic economics or business theory is useful but not required.

ECNS 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ECNS 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ECNS 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ECNS 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Economics (ECON)

Education (EDU)

EDU 201. Intro to Educ with Fld Exprnce. 3 Credits.

This course will focus on the history, purpose, role and scope of education in the U.S. Topics will include curriculum development, state and national standards, current trends in education and professional development. A requirement of 10 hours of field work relating to community involvement will be given, which will show how candidates can utilize neighborhood and city resources in their future teaching assignments.

EDU 202. Early Field Experience. 1 Credit.

Supervised experience in community institutions and organizations. Investigation and competency development as related to a student's major and/or minor area.

EDU 225. Intro to Education Psychology. 3 Credits.

This course will focus on concepts of educational psychology with an emphasis on learning theories. Topics relating to diversity, including special needs students, and the impact of culture within the classroom's learning and teaching environment plays a central part in the curriculum.

EDU 270. Integrating Tech in Education. 3 Credits.

This course will engage students in the exploration of technology's use in society and its effects on teaching and learning. The course includes strategies for developing technology-rich curriculum and techniques for enhancing learning through integration of technology and 21st century skills.

EDU 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EDU 311. C, D & E in Global Ed. 3 Credits.

Diversity issues include, but are not limited to, cultural and individual differences, gender, ethnicity, low social-economic background, and students with special needs. This course is designed to investigate ways in which technology may be used to support the learning needs of diverse students and expand the practices of community within the classroom. Graduate credit requirements are described in the course syllabus. Used to support the learning needs of diverse students and expand the practices of community within the classroom. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 315. Integrat IEFA Across the Curr. 2 Credits.

This course will follow theory into practice where candidates build Indian Education for All instructional strategies for specific content areas in the elementary classroom. Candidates will explore, develop, and use advanced instructional strategies, materials, technologies, and activities to promote Indian Education for All across the K-8 curriculum.

EDU 320. Lesson Planning. 1 Credit.

This course will prepare teacher candidates for future education courses by introducing both educational terminology and educational experiences. Through investigation of the required components of the teacher education program, students will analyze and evaluate educational practices. An emphasis will be placed on the design and delivery of unit and lesson plans using the Danielson Framework.

EDU 329. Field Experience K-12. 1 Credit.

This course is taken by candidates in conjunction with their methods and reading methods courses. Candidates will be placed in field experiences with express purpose of practicing the methodology of teaching in various areas in a classroom setting. This course may be repeated for up to 3 credits. Prerequisite: Level I Admission to Teacher Education. Co-requisite: EDU 382, EDU 334, EDU 335, EDU 452.

EDU 335. Fund & Corr Strtg Elem Rdg Prg. 3 Credits.

This course is designed to investigate reading instruction in the elementary grades. This will include a study of the reading process, methods of instruction, materials available, and reading skills. Methods, procedures, and techniques of identifying, analyzing, and correcting, reading difficulties will be explored. Prerequisite: Level I Admission to Teacher Education, EDU 380, EDU 383, and EDUC 380. Graduate credit requirements are described in the course syllabus. It this class is taken at the 500 level, it is graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 336A. Practicum I. 1 Credit.

This course is taken by candidates in conjunction with their Level I coursework. Candidates will be placed in 45 hour field experiences with the express purpose of practicing the methodology of teaching in various areas in a classroom setting. This course must be repeated three times for a total of 3 credits in conjunction with Practicum 1, 2, and 3 experiences at each level of the program. Prerequisite: Level I Admission to Teacher Education. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division of this course.

EDU 336B. Practicum 2. 1 Credit.

This course is taken by candidates in conjunction with their Level I coursework. Candidates will be placed in 45 hour field experiences with the express purpose of practicing the methodology of teaching in various areas in a classroom setting. This course must be repeated three times for a total of 3 credits in conjunction with Practicum 1, 2, and 3 experiences at each level of the program. Prerequisite: Level I Admission to Teacher Education. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division of this course.

EDU 336C. Practicum 3. 1 Credit.

This course is taken by candidates in conjunction with their Level I coursework. Candidates will be placed in 45 hour field experiences with the express purpose of practicing the methodology of teaching in various areas in a classroom setting. This course must be repeated three times for a total of 3 credits in conjunction with Practicum 1, 2, and 3 experiences at each level of the program. Prerequisite: Level I Admission to Teacher Education. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division of this course.

EDU 337. Reading Materials Elem Child. 2 Credits.

An examination of the variety of reading materials available for use in the teaching of reading and the application of those materials to the learning needs of children of differing reading competencies. Students will explore the role of reading and the communication arts in the elementary curriculum and the integration of literature in the elementary curriculum. Prerequisite: Level I Admission to Teacher Education. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 340. Classroom Management. 3 Credits.

A methodological course introducing basic principles and procedures for managing the behavior and academic time of children in the classroom and school environment. Students will explore topics related to teacher and student communication, teaching and learning styles, discipline models and procedures, records management (including electronic management systems) and the impact of facilities on the learner. Various development and counseling theories will be examined in light of enhancing the learning and acceptance of all students. Students will also examine the various applications of counseling issues (e.g., substance abuse, cross-cultural, crisis management) as they apply to K-12 classroom practice. Prerequisite: Level I Admission to Teacher Education, EDU 380 and EDU 383. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 382. Assessment, Curr and Inst. 3 Credits.

Fundamental concepts of educational curriculum planning and assessment for classroom teachers, including the relationship of assessment to educational standards and learning activities, quality of assessment, principles of item construction, evaluation of student responses, interpretation of results, improvement of techniques, and differentiation of planning.

EDU 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

EDU 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EDU 397CA. Methods: K-8 Int. Arts All Lrn. 2-3 Credits.

This course is a "hands-on" course that teaches strategies and methodology to integrate the creative arts (e.g., art, music, and drama) into the elementary classroom to enhance learning for all students. Emphasis will be placed upon developing the candidate's creative abilities. Instruction and theory, implications for creative art instruction, and information on resources/materials for the classroom will be covered. Teacher education candidates will prepare and present lesson plans that take into consideration the development of strategies for integrating creative arts into the curriculum. A variety of formal and informal assessment techniques appropriate in assessing student achievement will be discussed. Prerequisites: Level I Admission to Teacher Education, EDU 380, and EDU 383.

Course Fees: \$10.75

EDU 397HE. Methods: K-8 Health Enhancemen. 2-3 Credits.

Elementary education teachers must be able to help students meet OPI benchmark requirements in health enhancement. This course will provide candidates with knowledge of a variety of topics within health enhancement for the elementary school child as well as strategies to teach these topics in a K-8 setting. Prerequisites: HPE 235 and Level I Admissions to Teacher Education. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 397MA. Methods: K-8 Mathematics. 2-3 Credits.

This course is a "hands-on" course that includes the study of the nature of mathematics instruction and theory, its implications for teaching elementary mathematics, and information on resources/materials for the classroom. Teacher education candidates will prepare and present lesson plans that take into consideration the development of mathematical abilities and attitudes following NCTM standards. A variety of formal and informal assessment techniques appropriate in assessing mathematical attitudes/ability will be discussed. Prerequisites: Level I Admission to Teacher Education, MATH general education requirements, EDUC 380 and EDU 383. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 397SC. Methods: K-8 Science. 2-3 Credits.

This is a "hands-on" course that includes the study of how to teach the nature of science, instructional theory and its implications for teaching elementary science, and information on resources/materials for the classroom. Each student will prepare and present lesson plans according to three models for teaching elementary science; experimental, discovery and inquiry. A variety of formal and informal assessment techniques appropriate in science instruction will be discussed. Prerequisites: Level I Admission to Teacher Education, Science requirements for elementary education majors, EDU 380 and EDU 383. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 397SS. Methods: K-8 Social Studies. 2-3 Credits.

This course is a "hands-on" course that includes the study of the social science instruction and theory, its implications for teaching social sciences, and information on resources/materials for the classroom. Teacher education candidates will prepare and present lesson plans that take into consideration the development of instructional abilities for social sciences. A variety of formal and informal assessment techniques appropriate in assessing student achievement will be discussed. Prerequisites: Level I Admission to Teacher Education, Social Science and History general education requirements, EDU 380 and EDU 383. Graduate credit requirements are listed in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 452. Advanced Practicum. 3 Credits.

This course is designed to assist candidates in their final preparations prior to their student teaching practicum. Polishing of professional skills, development of a portfolio, exploration of personal teaching styles, and discussions of field practicum experiences are the focus of this course. This instruction focuses on application of theory and practice, assessment, the integration of technology in instruction, and teaching for diversity in the classroom. Prerequisites: Level I admission to Teacher Education, and completion of all methods courses with a C or better.

Course Fees: \$10.75

EDU 481. Content Area Literacy. 2 Credits.

This course is designed to provide teacher education candidates with an understanding of reading, writing, and critical thinking processes, knowledge of the skills a teacher may use to help K-12 student deal more effectively with specific content materials, and implementation of those skills in the elementary, middle and secondary school setting. Prerequisite: Level I Admission to Teacher Education, EDU 380 and EDU 383. Graduate credit requirements are describe in the course syllabus. Formerly EDUC 445 If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course. 201950.

EDU 484. Asmt in Remedial Reading. 2 Credits.

The purpose of this course will be to examine a variety of assessment tools used to evaluate the strengths and weaknesses of individual students experiencing difficulty with reading. Both formal and informal tools will be discussed. Students will administer, score, and interpret the results of the assessment instruments in light of relevant research in reading education. Prerequisites: Level I Admission to Teacher Education, EDU 335 and EDUC 336 or concurrent enrollment. Graduate credit requirements are described in the course syllabus. Formerly EDUC 440 If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

EDU 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EDU 495. Student Teaching. 6,12 Credits.

This is a supervised student teaching experience in an accredited elementary or middle school. Experiences will include typical responsibilities of an elementary or middle school first year teacher. Seminar will be held on campus. This course provides theory-based practice at an elementary level for Student Teacher Candidates seeking Montana K-8 teacher certification. Prerequisites: Level II Admission to Teacher Education, all methods courses, EDU 452 and cumulative GPA of 2.50.

EDU 495EL. Student Teaching K-8. 6-12 Credits.

This is a supervised student teaching experience in an accredited elementary or middle school. Experiences will include typical responsibilities of an elementary or middle school first year teacher. Seminar will be held on campus. This course provides theory-based practice at an elementary level for Student Teacher Candidates seeking Montana K-8 teacher certification. Prerequisites: Level II Admission to Teacher Education, all methods courses, EDU 452 and cumulative GPA of 2.50.

EDU 495ES. Student Teaching K-12. 6,12 Credits.

This is a supervised student teaching experience in an accredited elementary and secondary school to be taken by all students seeking a K-12 endorsement. Experiences will include typical responsibilities of a first year teacher. Seminars will be held on campus. This course provides theory-based practice at K-12 level for Student Teacher Candidates seeking Montana K-12 teacher certification. Prerequisites: Level II Admission, all methods courses, EDU 452, and cumulative GPA of 2.50.

EDU 495SE. Student Teaching 5-12. 6-12 Credits.

This is a supervised student teaching experience in a Student Teacher Candidate's major and minor fields in an accredited secondary school. Experiences will include typical responsibilities of a first year teacher. Seminars will be held on campus. This course provides theory-based practice at a secondary level for Student Teacher Candidates seeking Montana 5-12 teacher certification. Prerequisites: Level II Admission to Teacher Education, all methods courses, EDU 452, and cumulative GPA of 2.50.

EDU 497. Methods:. 3 Credits.

Appropriate techniques for teaching Computer Science and Computer Information Systems at the secondary level. Includes topics for teaching computer software. Prerequisites: CAPP 120 or equivalent competencies, CSCI 110, CSCI 111, EDU 370 and CSCI 201.

EDU 497EN. Methods: 5-12 English. 2,3 Credits.

This course is a study of the theories and methods of teaching English, including study of the theories and methods of teaching creative writing and composition. Theory and practice concentrates on teaching English at the middle school and senior high school level. Students will be required to complete a field experience in English at the middle or senior high school level while enrolled in this course. The maximum hours of field experience required during the term will be 45 hours. Prerequisites: Level I Admission to Teacher Education, EDU 380 and EDU 383. Graduate requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 497MA. Methods: 5-12 Mathematics. 3 Credits.

This course is a study of the theories and methods of teaching English, including study of the theories and methods of teaching creative writing and composition. Theory and practice concentrates on teaching English at the middle school and senior high school level. Students will be required to complete a field experience in English at the middle or senior high level while enrolled in this course. The maximum hours of field experience required during the term will be 45 hours. Prerequisites: Level I Admission to Teacher Education, EDUC 300 and EDUC 376. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 497SC. Methods:5-12 General Science. 3 Credits.

This course is a study of the practical and hands-on approaches that illustrate the techniques and materials for teaching at the secondary level in physical and biological sciences. Prerequisites: Level I Admission to Teacher Education, EDU 380 and EDU 383. Co-requisite: EDU 395.

EDU 497SS. Methods: 5-12 Social Studies. 2-3 Credits.

This course is a study of the theories and practices employed in teaching history and the social sciences on the secondary level. Prerequisites: A minimum of 15 semester hours in history and the social sciences and Junior standing, Level I Admission to Teacher Education, EDU 380 and EDU 383. Co-requisite: EDUC 339.

EDU 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

EDU 551. C, D, & E in Global Ed. 3 Credits.

Diversity issues include, but are not limited to, cultural and individual differences, gender, ethnicity, low social-economic background, and students with special needs. This course is designed to investigate ways in which technology may be used to support the learning needs of diverse students and expand the practices of community within the classroom. Graduate credit requirements are described in the course syllabus. Used to support the learning needs of diverse students and expand the practices of community within the classroom. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDU 597EN. Methods Teaching English. 3 Credits.

This course is a study of the theories and methods of teaching English, including study of the theories and methods of teaching creative writing and composition. Theory and practice concentrates on teaching English at the middle school and senior high school level. Students will be required to complete a field experience in English at the middle or senior high school level while enrolled in this course. The maximum hours of field experience required during the term will be 45 hours. Prerequisites: Level I Admission to Teacher Education, EDU 380 and EDU 383. Graduate requirements are described in the course syllabus. When this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

Education (EDUC)

EDUC 304. Methods Teaching Elem Science. 2 Credits.

This is a "hands-on" course that includes the study of how to teach the nature of science, instructional theory and its implications for teaching elementary science, and information on resources/materials for the classroom. Each student will prepare and present lesson plans according to three models for teaching elementary science; experimental, discovery and inquiry. A variety of formal and informal assessment techniques appropriate in science instruction will be discussed. Prerequisite: Level I Admission to Teacher Education, Science requirements for elementary education majors, EDUC 300 and EDUC 376.

EDUC 308. Meth & Mat Tchg Elem & Sec Art. 2 Credits.

This course will cover the theory and practice of teaching art appropriate to grade and ability level. Instruction will include approaches to teaching, the elements and principles of design, art history, art production, and criticism. This course will also include budget development, risk and safety management, equipment purchasing and storage, and record keeping. Prerequisite: EDUC 300 and EDUC 376, admission to Level 1 Teacher Education.

EDUC 321. Integrating Tech into Educ. 1-3 Credits.

This experiential course will assist the candidate in developing competencies in the integration of instructional technology into education and in developing skills to create an electronic portfolio. This course may be repeated for up to 3 credits. Prerequisite: EDU 370. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 334. Method Tchng Intgrtd Lang Arts. 3 Credits.

This will provide an introduction to the development of the communicative skills in elementary grades. Both expressive and receptive skills will be studied. Emphasis will be placed upon the communicative arts as taught in the schools as well as the developmental aspects of language growth in the child. Attention will be placed upon the role of the communicative skills in the school curriculum with particular emphasis on the school reading program. Prerequisite: Level 1 Admission to Teacher Education, EDU 380, EDU 383 and EDUC 380. Graduate credit requirement are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 336. Integrated Field Experiences. 1-3 Credits.

This course is taken by candidates in conjunction with their "methods and reading methods" of the program. Candidates will be placed in field experiences with the express purpose of practicing the methodology of teaching in various areas in a classroom setting. This course may be repeated for up to 3 credits. Prerequisite: Level I Admission to Teacher Education. Co-requisite: EDUC 334. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 345. The Adolescent Reader. 3 Credits.

This course is designed to familiarize teacher candidates with national and state standards for adolescent reading proficiency and literacy. This course will explore the development of literacy skills and provide appropriate instructional strategies, methodologies, and materials necessary for creating a productive teaching and learning environment for all adolescent students, grades 5-12. Teacher candidates will learn to apply various strategies and technologies to enable and empower learners with diverse backgrounds, learning preferences, and ability levels.

EDUC 347. Spch Hrng & Lng Dev Pre-Sch Ch. 3 Credits.

An introduction to the area of hearing, speech, and language development of the pre-school child with opportunities for the student to explore the area of disorders due to developmental problems. Prerequisite: Level I Admissions to Teacher Education. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 355. Phonics & Word Identification. 3 Credits.

This course will look at the importance of phonological awareness in an elementary school setting. It will develop the understanding of different ways that oral language can be manipulated and divided into smaller components. At the less complex end of the continuum, strategies will be taught that demonstrate an awareness that speech can be broken down into individual words. At the top of the continuum, phonemic awareness strategies will be taught to demonstrate an understanding that words are made up of individual sounds or phonemes that can be manipulated and that by segmenting, blending, or changing individual phonemes within words, new words are created.

EDUC 356. Exploring Writing in Elem Ed. 3 Credits.

This course will prepare educators and pre-educators to understand the elements of writing in elementary grades. It will also provide strategies for employing writing. Some topics covered will include: Step-Up to Writing, Writer's Workshop, Six Traits of Writing, Writing Across the Curriculum, and Technical Writing.

EDUC 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EDUC 397CA. Meth Tch Intrgrtd Creative Art. 2 Credits.

This course is a "hands-on" course that teaches strategies and methodology to integrate the creative arts (e.g., art, music, and drama) into the elementary classroom to enhance learning for all students. Emphasis will be placed upon developing the candidates' creative abilities. Instruction and theory, implications for creative art instruction, and information on resources/materials for the classroom will be covered. Teacher education candidates will prepare and present lesson plans that take into consideration the development of strategies for integrating creative arts into the curriculum. A variety of formal and informal assessment techniques appropriate in assessing student achievement will be discussed. Prerequisites: Level I Admission to Teacher Education, HUM 210, EDUC 300, and EDUC 376.

EDUC 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

EDUC 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EDUC 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

EDUC 500. Intro Curr Planning/Practice. 3 Credits.

This course is an introduction to curriculum planning and practice. An overview of curriculum development, unit planning with an emphasis on lesson planning is the focus. How lesson design affects classroom management, how to meet state and national curriculum and practice standards, and how to integrate instructional technology in lesson and unit development are topics. Secondary education candidates will focus on reading/writing across the curriculum; elementary education candidates will focus on content curriculum. Students will participate in a practicum experience (45 hours arranged with the instructor, school, and candidate) which will provide an opportunity to obtain classroom experience in curriculum and planning. Prerequisite: Level I Admission to Teacher Education. Co-requisite: EDUC 576. Graduate requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 502. Methods of Elementary Math. 2 Credits.

This course is a "hands-on" course that includes the study of the nature of mathematics instruction and theory, its implications for teaching elementary mathematics, and information on resources/materials for the classroom. Teacher education candidates will prepare and present lesson plans that take into consideration the development of mathematical abilities and attitudes following NCTM standards. A variety of formal and informal assessment techniques appropriate in assessing mathematical attitudes/ability will be discussed. Prerequisites: Level I Admission to Teacher Education, MATH general education requirements, EDUC 500 and EDUC 576. Graduate credit requirements are described in the course syllabus. Because this class is at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 504. Methods of Elementary Science. 2 Credits.

This is a "hands-on" course that includes the study of how to teach the nature of science, instructional theory and its implications for teaching elementary science, and information on resources/materials for the classroom. Each student will prepare and present lesson plans according to three models for teaching elementary science; experimental, discovery and inquiry. A variety of formal and informal assessment techniques appropriate in science instruction will be discussed. Prerequisite: Level I Admission to Teacher Education, Science requirements for elementary education majors, EDUC 500 and EDUC 576. Because this is an upper division course, expectations for student performance is at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 506. Mthds of Elem Soc Stdies. 2 Credits.

This course is a "hands-on" course that includes the study of the social science instruction and theory, its implications for teaching social sciences, and information on resources/materials for the classroom. Teacher education candidates will prepare and present lesson plans that take into consideration the development of instructional abilities for social sciences. A variety of formal and informal assessment techniques appropriate in assessing student achievement will be discussed. Prerequisites: Level I Admission to Teacher Education, Social Sciences and History general education requirements, EDUC 500 and EDUC 576. Graduate credit requirements are described in the course syllabus. Because this a 500 level class, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower level section of this course.

EDUC 507. Educational Measurement. 3 Credits.

A course designed to enable students to understand and apply basic principles of educational and psychological measurement and evaluation emphasizing those statistical concepts used in the construction, implementation and interpretation of standardized and teacher generated measuring instruments.

Course Fees: \$30.00

EDUC 511. Change Theory and Practice. 3 Credits.

This course is designed for master's degree students who are enrolled in the Instruction and Learning program. It is designed to investigate change theory and practice in learning environments that are critical to effective instruction and learning. Models will be reviewed and analyzed to support initiatives that increase the learning of all students. Prerequisite: All required content course work must be completed and approval of instructor.

EDUC 512. Learning Theory. 3 Credits.

An examination of the variety of reading materials available for use in the teaching of reading and the application of those materials to the learning needs of children of differing reading competencies. Students will explore the role of reading and the communication arts in the elementary curriculum and the integration of literature in the elementary curriculum. Prerequisite: Level I Admission to Teacher Education. Because this is an upper division course, expectations for student performance is at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 513. Methods of Teaching English. 3 Credits.

This course is a study of the theories and methods of teaching English, including study of the theories and methods of teaching creative writing and composition. Theory and practice concentrates on teaching English at the middle school and senior high school level. Students will be required to complete a field experience in English at the middle or senior high level while enrolled in this course. The maximum hours of field experience required during the term will be 45 hours. Prerequisites: Level I Admission to Teacher Education, EDUC 500 and EDUC 576. Graduate credit requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 515. Sem in Online Crse Design. 2 Credits.

This virtual seminar provides an immersion in course design for online delivery utilizing a "learning management system" (LMS). By concurrently experiencing the LMS from the perspective of a student and a course designer, learners gain both practical, first-hand knowledge of best practices in online course design and hands-on experience adapting these principles to the design of specific courses within their own disciplines. Discussion focuses on the challenges of course adaptation from the traditional to the virtual classroom environment as they relate to the organization, sequencing, and delivery of course content utilizing the web-based elements and tools available within the LMS. Particular emphasis is placed on the actual mechanics of the LMS.

EDUC 517. Research Methods. 3 Credits.

The course is designed to assist teachers and other facilitators to develop the skills to read, interpret, evaluate, and utilize the results of systematic inquiry and empirically developed knowledge in their educational planning and decision-making. This implies a positive value orientation towards research-generated information as well as an understanding of the strengths and limitations of research methodology when compared to other approaches to developing knowledge.

Course Fees: \$30.00

EDUC 520. Learning Technologies. 3 Credits.

This course is an introduction to the theory and practice of both integrating technologies into the learner-centered classroom and to the learning technologies encountered throughout the graduate education courses at MSU-Northern. Candidates will explore the use of technologies to enhance learning environments, actively engage students, and to develop professional teaching practices. The development of standards-based electronic portfolios co-designed by the instructor and the individual candidate are a major outcome and learning project for this course.

EDUC 521. Integrating Tech into Educ. 1-3 Credits.

This experiential course will assist the candidate in developing competencies in integration of instructional technology into education and in developing skills to create an electronic portfolio. This course may be repeated for up to 3 credits. Prerequisite: EDU 370. Graduate credit requirements are described in the course syllabus. Because this class is at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 522. Motivation and Learning. 3 Credits.

This course is designed for master's degree students who are enrolled in the Instruction and Learning program. It is designed to investigate the theory, development and application of motivation in the learning environment. Major focus is placed on motivation models and strategies for enhancing motivation in individuals and groups. It will also analyze variables affecting motivation and environmental influences.

Course Fees: \$30.00

EDUC 524. Meth Tchng Hist & Soc Sci. 3 Credits.

This course is a study of the theories and practices employed in teaching history and the social sciences on the secondary level. Prerequisites include: A minimum of 15 semester hours in history and the social sciences and Junior standing, Level I Admission, EDUC 500 and EDUC 576. Co-requisite: EDUC 339.

EDUC 525. Methods of Teaching Science. 3 Credits.

This course is a study of the practical and hands-on approaches that illustrate the techniques and materials for teaching at the secondary level in physical and biological sciences. Prerequisites include: Level I Admission to Teacher Education, EDUC 500 and EDUC 576. Co-requisite: EDUC 339 Secondary Field Experience Because this is a graduate course, expectations for student performance is at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 530. Intgratng Cntnt Across Curr. 2 Credits.

This course will follow theory into practice where candidates build Indian Education for All instructional strategies for specific content areas in the elementary classroom. Candidates will explore, develop, and use advanced instructional strategies, materials, technologies, and activities to promote Indian Education for All instruction across the K-8 curriculum. Prerequisites: Level I admission to Teacher Education, completion of all methods courses with a grade of "C" or better. Graduate credit requirements are described in the course syllabus.

EDUC 532. Assessment & Evaluation. 3 Credits.

This course is designed to provide candidates the foundation in assessment measures used in the learning environment that aid thoughtful decision-making. Fundamental assessment and evaluation topics include validity, reliability, item construction, test interpretation, norm-referenced, criterion referenced and alternative methods of assessment focusing on research based best practices.

EDUC 534. Tchgr Integrated Lang Arts. 3 Credits.

An introduction to the development of the communicative skills in the elementary grades. Both expressive and receptive skills will be studied. Emphasis will be placed upon communicative arts as taught in the schools as well as the developmental aspects of language growth in the child. Attention will be placed upon the role of the communicative skills in the school curriculum with particular emphasis on the school reading program. Students will participate in a practicum experience (45 hours maximum per semester arranged with the instructor, school, and candidate) which will provide an opportunity to obtain classroom experience in the teaching of reading. Prerequisites: Level I Admission to Teacher Education, EDUC 500, EDUC 576, and EDUC 580. Graduate credit requirements are described in the course syllabus. Because this is an upper division course, expectations for student performance is at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 535. Fund & Corr Strat in Rdg. 3 Credits.

This course is designed to investigate reading instruction in the elementary grades. This will include a study of the reading process, methods of instruction, materials available, and reading skills. Methods, procedures, and techniques of identifying, analyzing, and correcting reading difficulties will be explored. Students will participate in a practicum experience (45 hours maximum per semester arranged with the instructor, school, and candidate) which will provide an opportunity to obtain classroom experience in strategies that will help the struggling reader. Graduate credit requirements are described in the course syllabus. Prerequisite: Level I Admission to Teacher Education, and EDUC 500, EDUC 576, and EDUC 580. Because this is an upper division course, expectations for student performance is at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 536. Integrated Field Experiences. 1-3 Credits.

This course is taken by candidates in conjunction with their "methods and reading methods" of the program. Candidates will be placed in field experiences with the express purpose of practicing the methodology of teaching in various areas in a classroom setting. This course may be repeated for up to 3 credits. Prerequisite: Level I Admission to Teacher Education. Co-requisite: EDUC 534. Graduate credit requirements are described in the course syllabus. Because this class is at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 537. Educational Measurement & Stat. 3 Credits.

A course designed to enable students to understand and apply basic principles of educational and psychological measurement and evaluation emphasizing those statistical concepts used in the construction, implementation and interpretation of standardized and teacher generated measuring instruments.

EDUC 540. Assessment in Remedial Reading. 2 Credits.

The purpose of this course will be to examine a variety of assessment tools used to evaluate the strengths and weaknesses of individual students experiencing difficulty with reading. Both formal and informal tools will be discussed. Students will administer, score, and interpret the results of the assessment instruments in light of relevant research in reading education. Prerequisites: Level I Admission to Teacher Education, EDU 335 and EDUC 336 or concurrent enrollment. Graduate credit requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 545. Rdg Wtg Crit Thkg Skills Curr. 2 Credits.

This course is designed to provide teacher education candidates with an understanding of reading, writing, and critical thinking processes, knowledge of the skills a teacher may use to help K-12 student deal more effectively with specific content materials, and implementation of those skills in the elementary, middle and secondary school setting. Prerequisite: Level I Admission to Teacher Education, EDUC 500 and EDUC 576. Graduate credit requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 547. Spch Hrng & Lang Dev Pre Schl. 3 Credits.

An introduction to the area of hearing, speech, and language development of the pre-school child with opportunities for the student to explore the area of disorders due to developmental problems. Prerequisite: Level I Admission to Teacher Education. Graduate requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 548. Learning Theories. 3 Credits.

This course will look at developing knowledge of learning theory and skill necessary to create learning environments where learning theory is applied to empower students as learners. The course will develop an understanding of learning theory; the ways in which application can transform instruction and learning practices; and how you can adapt your practices to apply learning theory to your goals and the context of your instructional environment.
Course Fees: \$30.00

EDUC 550. Critical and Creative Thinking. 3 Credits.

This course will provide an examination of the epistemological and environmental elements underlying critical, creative and futures thinking to the educational setting. Candidates will develop an understanding of the application of theory and technique to various content fields and learning environments. A group project proposing an application to an educational setting will be completed.

EDUC 551. Diversity & Tech in the Clsrm. 3 Credits.

Diversity issues include, but are not limited to, cultural and individual differences, gender, ethnicity, low social-economic background, and students with special needs. This course is designed to investigate ways in which technology may be used to support the learning needs of diverse students and expand the practices of community within the classroom. Graduate credit requirements are described in the course syllabus. Used to support the learning needs of diverse students and expand the practices of community within the classroom. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 552. Learning Systems. 3 Credits.

This course is an examination of systems theory and applications in human development and learning environments. Emphasis is upon the understanding of cause and effect in the design and implementation of outcome oriented applications within diverse systems. A major component introduced in the course is the design of a learning system approach to a situation identified by the candidate.

EDUC 553. Hlth Enh Elem Ed Dvrsty/Tech. 2 Credits.

Elementary education teachers must be able to help students meet OPI benchmark requirements in health enhancement. This course will provide candidates with knowledge of a variety of topics within health enhancement for the elementary school child as well as strategies to teach these topics in a K-8 setting. Prerequisite: HPE 235 and Level I Admission to Teacher Education. Graduate credit requirements are described in the course syllabus. Because this is an upper division course, expectations for student performance is at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 554. Graduate Seminar. 3 Credits.

This course will explore contemporary dialogue in the field of education and learning at the international, national, state, regional and local levels. Specific attention will be given to conversations about improving learning and the challenges this entails in a system that is driven by local and state control but increasing funded and mandates at the federal level. Low performing school and strategies for improvement will be explored and discussed.
Course Fees: \$30.00

EDUC 557. Safety Education. 2 Credits.

This course is a study of the basic principles of safety education and their application to the schools. Assigned work and examinations for graduate students are more extensive and will probe more deeply than those for undergraduate students.

EDUC 558. Mastery Learning. 3 Credits.

This course provides the student the opportunity to engage in the process of exploring the theory of mastery learning and its application to specific content areas by developing teaching strategies that will improve learning outcomes. Included in the course will be a review of literature that reflects research-based practices and content expert characteristics to improve learning outcomes.

EDUC 561. Traffic Safety Education I. 3 Credits.

Basic course for the preparation of teachers in the field of traffic safety. Introduction to the history and philosophy of traffic safety. Emphasis on the behind-the-wheel phase of traffic safety in the high school program. University students will give behind-the-wheel lessons to high school students. Graduate credit requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 562. Traffic Safety Education II. 3 Credits.

A continuation of EDUC 561 with emphasis on materials, organization, and content of the classroom phase of traffic safety. University students will give additional behind-the wheel lessons and also give classroom theory lessons to their peers. EDUC 561 may be taken concurrently. Graduate credit requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division of this course.

EDUC 563. Motorcycle Safety. 2 Credits.

Analysis of the motorcycle accident problem and the role of the high school traffic safety program in motorcycle safety. Emphasis on classroom and laboratory content, organization, and instruction techniques. Graduate credit requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 565. Mtr Vehicle Law & Enforcement. 2 Credits.

A course designed to give driver education teachers and other interested individuals a more complete understanding of motor vehicle code and ordinances and the basic principles of their enforcement. Graduate credit requirements are described in the course syllabus. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 571. Graduate Consultation Course. 3 Credits.

This course is permitted only for master's degree students who have completed all of their coursework but who need additional faculty or staff time. This course may not be used for degree credit. This course provides the Instruction and Learning student with the option of maintaining graduate status through the Graduate Studies continuous enrollment policy. Prerequisite: All required content course work must be completed and approval of instructor. The course is Pass/Fail.

EDUC 573. Lrng Technologies Assessments. 3 Credits.

This course is an inquiry into the evaluation of the appropriateness and potential of technologies to enhance learning objectives and learning environments - as well as the practice of using technologies to improve the assessment and evaluation of students within those environments. Students will be able to articulate the contexts, conditions, and values of utilizing particular assessments across a range of learning situations. Particular emphasis will be paid to the use of assessment strategies in meeting local, state, and national standards.

EDUC 575. Cooperative Learning. 3 Credits.

The Cooperative Learning course is designed to support instructors to effectively set-up, manage and debrief group work so that students learn content and interpersonal skills conducive for cooperative learning. Educators become proficient in group set-up, monitoring and debriefing. They learn how to prevent typical learning environment problems that often occur during group work and manage effectively those problems that do occur. Candidates learn to manage collaborative processes so that learners achieve course outcomes and interpersonal skills simultaneously.

EDUC 576. Assessment in Education. 3 Credits.

This course is designed to provide candidates the foundation in assessment measures used in the K-12 classrooms that aid education decision-making. Fundamental assessment and evaluation topics include validity, reliability, item construction, test interpretation, norm-referenced, criterion-referenced and alternative methods of assessment. HPE Majors/Minors will substitute HPE 376 for this course. Pre-requisite: Level I Admission to Teacher Education, MATH general education requirements for Teacher Education major. Co-requisite: EDUC 500. Because this is an upper division course, expectations for student performance is at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 577. Multiple Intelligences. 3 Credits.

Multiple Intelligences will enable educators to understand in depth the characteristics of each of the intelligences, to create diverse strategies of teaching through the intelligences, and to develop various entry points for integrating the intelligences into a schoolwide program.

EDUC 580. Classroom Environment & Mangmt. 3 Credits.

A methodological course introducing basic principles and procedures for managing the behavior and academic time of children in the classroom and school environment. Students will explore topics related to teacher and student communication, teaching and learning styles, discipline models and procedures, records management (including electronic management systems) and the impact of facilities on the learner. Various development and counseling theories will be examined in light of enhancing the learning and acceptance of all students. Students will also examine the various applications of counseling issues (e.g., substance abuse, cross-cultural, crisis management) as they apply to K-12 classroom practice. Graduate credit requirements are described in the course syllabus. Prerequisite: Level I Admission to Teacher Education, EDUC 500 and EDUC 576. Because this is an upper division course, expectations for student performance is at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDUC 591. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

EDUC 592. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EDUC 598. Graduate Exit Project. 3 Credits.

This course continues the process of completing the Graduate Exit Project either the candidate selected Action Research project (APR) or the Program Electronic Portfolio (PEP). Program faculty will work closely with candidates in the final stages of completing the program exit requirement (action research project or program electronic portfolio). The completed exit project will be presented to faculty for approval completion of all course work. Course Fees: \$30.00

EDUC 1391. Special Topic Con Ed. 12 Credits.

Continuing Education Course.

EDUC 1591. Spec Topic Con Ed. 1-12 Credits.

Continuing Education Course.

Educational Psychology (EDPY)

EDPY 525. Learning Disabilities. 3 Credits.

In this course the student will examine learning disabilities by studying the following: Theory of etiology, assessment, and teaching strategies utilized to remediate the disabilities. The course will also focus on other related topics such as the various types of assessment reports, the planning of individualized educational programs, the different systems for delivering special educational services, and future issues in the field of learning disabilities. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDPY 550. Educ & Psyc Exceptl Child. 3 Credits.

In this course candidates will examine and survey the various categories of exceptionality in light of Public Law 94-142 and subsequent federal legislation, including the issues of Individual Education Plan, Least Restrictive Environment, and confidentiality. Those categories candidates will study include Learning Disabilities and Attention Deficit Hyperactivity disorder, Communication Disorders, Emotional and Behavioral Disorders, Autism Spectrum Disorders, Developmental Disabilities and Lower-Incidence Disabilities. Candidates will study these categories with the format of definition, history, prevalence, causes, characteristics, interventions, curriculum implications, mainstreaming procedures, assessments. Complimentary to the in-class teaching and learning, candidates will participate in a 20-hour field practicum experience to aid in their theory-into-practice curriculum studies. If this class is taken at the 500 level, it is a graduate course and expectations for candidate performance are at the advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

Electrical Engineering (EELE)

Electrical Technology (ELEC)

ELEC 101. Electrical Fundamentals I. 3 Credits.

This course will introduce the student to the various electrical properties and the equipment which produces those properties. Basic circuitry will be examined, utilizing algebraic skills to perform the calculations. Course Fee: \$25.00.

ELEC 102. Electrical Fundamentals II. 3 Credits.

This course will introduce the student to the alternating current. The electrical properties and their affects on the circuit will be examined. Basic trigonometric skills will be utilized to perform calculations for analyzing various electrical circuits. Prerequisites: ELEC 106. Course Fee: \$50.00.

ELEC 103. Electric Code Study/Codeology. 3 Credits.

This course is a preliminary study of the National Electrical Code (NEC). Wiring design and protection, wiring methods and materials, and equipment for general use are covered. Interaction and personal communications with Authorities Having Jurisdiction (i.e., inspectors, engineers, architects, employers, etc.) as well as customers and owners will be addressed. Course Fee: \$15.00.

ELEC 106. Electrical Formulas & Calc. 3 Credits.

This course covers the basic formulas needed to determine electrical values in typical electrical installations including power, current, and voltage. Basic methods of calculation for both DC and AC quantities will be discussed and demonstrated as well as the use of modern calculators and computer software to determine necessary values.

ELEC 111. Electric Meters & Motors. 3 Credits.

This course is a practical hands-on course using ammeters, voltmeters, watt meters, and multi-meters in testing and troubleshooting electric motors, components and wiring systems. This course includes a study of single and three phase AC motors, their construction features and operating characteristics. This lecture/lab class emphasizes electric motor terminology, identification of motor types, enclosures, mounts, motor selection, connections, maintenance, testing and troubleshooting. Students are also introduced to motor loads, protection, controls, and devices used to connect motors to their loads such as pulleys, V-belts, gear boxes and couplings. Course Fee: \$35.00.

ELEC 133. Basic Wiring. 5 Credits.

This course covers the basic formulas needed to determine electrical values in typical electrical installations including power, current, and voltage. Basic methods of calculation for both DC and AC quantities will be discussed and demonstrated as well as the use of modern calculators. Labs shall include wiring of Residential and Commercial applications as prescribed within the 2011 NEC. Prerequisite ELEC 101/102.

ELEC 137. Electrical Drafting. 2 Credits.

This course studies techniques of communicating through the use of mechanical drawings, electrical drawings, heating ventilation and air conditioning drawings. Basic blueprint reading and sketching are included as well as symbols and scales.

ELEC 139. Elctrcl Code Study-Residential. 3 Credits.

This course is an introductory study of National Electrical Code requirements for residential wiring, including protective ground circuits, service entry and electrical safety requirements for routine residential electrical installations. Course Fee: \$40.00.

ELEC 190. Special Topic. 12 Credits.**ELEC 192. Independent Study. 1-12 Credits.****ELEC 201. Alternating Current Theory. 3 Credits.**

This course is a study of three phase alternating current circuits and single and three-phase transformers and machines. The theory and operation of three phase wye and delta circuits and the relationship of voltage, current and power in these circuits. The use of phasor algebra in the solution of alternating current problems is stressed as are the characteristics and use of electrical instruments such as voltmeters, ammeters, ohmmeters, and watt meters. Students learn the theory and operation of transformers with single and three phase connections and are introduced to alternating current machines. Prerequisite: ELEC 102.

ELEC 204. Electrical Planning & Estimating. 3 Credits.

This course is an applied course in the planning and cost estimation of electrical installations and rehabs for both commercial and residential applications. The course will use current catalog and electrical supply information to determine rough cost estimates based on blue print or electrical drawings, as well as using customer requirements to determine the plan and cost estimates for new and old work.

ELEC 205. Electrical Design & Lighting. 3 Credits.

This course is a class discussion course dealing with electrical material and equipment sizing, layout and application, applicable wiring codes, regulations and rules, and characteristics of common electrical distribution systems as used in industrial plants and commercial building locations. Included is a study of short circuit current, current limiting and coordination, power factor correction and electrical rates. This course includes the study of modern illumination principles, calculation procedures and equipment for lighting installations. Also included are discussions of building construction, heat loss calculations and electric heating equipment selection.

ELEC 211. AC Measurements. 3 Credits.

This lecture/lab course consists of a series of experiments to investigate the characteristics of single-phase and three-phase electrical circuits. The connections and testing of transformers in both single-phase and three-phase configurations are stressed. Students also learn the operation of three phase motors from conventional sources and phase converters, with an operation of three phase motors from conventional sources and phase converters, with an emphasis on efficiency, operating characteristics and connections. Co-requisite: ELEC 201.

ELEC 230. Industrial Electrical Wiring. 3 Credits.

This course covers construction plans for industrial sites and details regarding unit substations, feeder bus systems, panelboards, trolley busways, wire tables and sizing, signaling systems, motors and controllers, motor installations, power factor, lightning protection, ventilation and exhaust systems, programmable logic controllers, fiber optics, hazardous locations, and harmonics.

ELEC 233. Commercial Wiring Lab. 3 Credits.

This course is an extension of ELEC 133 with lectures emphasizing commercial wiring methods. Students will perform laboratory work consisting of actual installation of various raceways, as well as connecting of special equipment used in commercial and industrial applications, all in accordance with the National Electrical Code. Prerequisite: ELEC 133. Course Fee: \$50.00.

ELEC 236. Conduit/Rcways & Code Calc Lab. 3 Credits.

This course includes laboratory work dealing with Code application relating to conduit bending as well as National Electrical Code calculations for wire and cable installation. Students will perform lab work consisting of actual installation of conduit, wire and cable. Course Fee: \$75.00.

ELEC 239. Grounding&Bonding Fund. 3 Credits.

This course is a combination lecture/lab series of grounding theory as well as characteristics of grounded and non-grounded systems. Labs include proper grounding practices, various grounding applications, tools and materials usage and methods of compressions and exothermic application and installations. Course Fee: \$25.00.

ELEC 241. Electric Motor Controls. 3 Credits.

This course is a lecture and laboratory class oriented 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.

ELEC 247. Medium and High Voltage. 3 Credits.

This course is a lecture/lab course which covers medium and high voltage electrical theory, conductors, insulators, over current devices, testing, termination, safety precautions and safety equipment. Course Fee: \$65.00.

ELEC 250. Programmable Logic Controllers. 3 Credits.

This course covers an introduction to a variety of programmable logic controllers (PLCs). The applications, operations, and programming of PLC's will be covered with an emphasis on programming. Computers and manual methods will be used to program PLCs.

ELEC 290. Special Topic. 12 Credits.**ELEC 299. Independent Study. 1-12 Credits.****ELEC 392. Independent Study. 1-12 Credits.**

Electronics Engineering Tech (EET)

Energy (NRGY)

Eng Tech: Civil & Construction (ETCC)

ETCC 173. Architectural Const & Material. 3 Credits.

Introduction to construction materials and methods. Building systems and construction details. Emphasis is placed on selection of materials and methods. Laboratory section performs site investigations observing materials and their properties.

ETCC 302. Soils & Foundations. 4 Credits.

Engineering properties of soil. Laboratory testing to determine soil characteristics. Shallow foundations and retaining structures.

ETCC 307. Structural Analysis. 3 Credits.

Loads on building according to Uniform Building Code (UBC). Internal forces and deformations of statically determinate trusses and frames. Influence lines and moving loads. Introduction to matrix-displacement method of structural analysis. Using software for structural analysis.

ETCC 361. Design/Details Steel Building. 4 Credits.

Design of steel members according to American Institute of Steel Construction Code. Both calculations and construction details are emphasized.

ETCC 375. Applied Mechanics of Fluids. 3 Credits.

Introduction to fluids, fluid properties, hydrostatic forces, fluid flow, pipeline systems, open channels, and fluid machinery.

ETCC 385. Highway Design & Construction. 4 Credits.

Intended as a first course in highway engineering. It is inclusive of surveying topics pertinent to the design and layout of highways. The transportation engineering profession, geometry, pavement selection, highway soil mechanics and characteristics of the vehicle, driver, pedestrian, and the road will be discussed. A semester design project based on fieldwork will be completed as part of the laboratory section.

ETCC 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

ETCC 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ETCC 411. Reinforced Concrete Dsgn/Detls. 4 Credits.

Design of reinforced concrete members according to American Concrete Institution (ACI) code. Both calculations and details of reinforcing steel are emphasized. Prerequisite: EGEN 208.

ETCC 489. Senior Project I. 1 Credit.

This course is the proposal phase for a program faculty-approved technical project. Emphasis is placed on library research, design, specification, cost analysis, and project management. The student will submit a formal written report and give a public explanation of the project. This course meets part of the general education requirements for a capstone course. Prerequisites: Senior standing and advisor consent.

Course Fees: \$2.15

ETCC 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

ETCC 499. Capstone: Senior Project II. 2 Credits.

This course is the implementation phase for a program faculty-approved technical project. Emphasis is placed on construction, design, testing, and formal presentation. The student will submit a formal written report and give a public explanation and demonstration of the project. The student will furnish all necessary materials. This course completes the general education requirements for a capstone course. Prerequisites: Senior standing and advisor consent, ETCC 489.

Engineering: General (EGEN)

EGEN 203. Applied Mechanics. 3 Credits.

Applied mechanics with analytical and graphical application of physical principles to engineering related problems. Newton's Laws of motion, vectors, equilibrium, friction, properties of areas and solids, trusses, beams, and fluid pressures. Introduction to dynamics of particles and strength of materials. Co-requisites: PHSX 205, and M 112 or higher.

EGEN 208. Applied Strength of Materials. 3 Credits.

Mechanics of materials and material properties. Study of stresses, strains, and deformation in different materials. Beam deflections, buckling, torsion, and mechanics of structural elements are introduced. Prerequisite: EGEN 203.

EGEN 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EGEN 325. Engineering Economic Analysis. 3 Credits.

The role of engineering economy in the decision making process. Cash flow and interest. Taxes and after-tax economy studies. Measure of worth and economic risk analysis. Prerequisite: Instructor approval. Formerly EGEN 325.

EGEN 488. Fund of Engineering Exam. 1 Credit.

Fundamentals of Engineering Review.

English (ENGL)

ENGL 510. Lit for Children/Adolescents. 3 Credits.

A study of the literature designed for and available to the pre-adult audience, from pre-school materials for reading preparation and reading aloud, through elementary school literature, to literature for the adolescent audience of the the middle school and secondary school levels. Includes poetry, fairy tales, myths, epics, fables, informational and nonfiction works, biographies, popular fiction, and fantasy literature. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

ENGL 540. English Language. 3 Credits.

This course is designed to provide students with an overview of linguistic systems, such as phonetics, phonemics and semantics, and an intensive study of the structure of American English. It also engages students with methods of employing these materials in their own classrooms. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

Environmental Science (ENSC)

ENSC 245. Soils. 4 Credits.

This course is a study of soil as a natural and extremely valuable resource. Course topics include soil properties, soil classification, soil water, soil organisms, soil nutrients, and soil formation. Emphasis is placed on soil conservation and the proper management of our soil resources. Various laboratory exercises will be performed to analyze soil and its physical and chemical properties. This course does meet laboratory science requirement.

Fossil (FOSL)

French (FREN)

FREN 105. Elementary French. 4 Credits.

Introduction to French, emphasizing conversational ability but including reading comprehension and written expression. Extensive use of spoken French in the classroom, small group practice sessions, and individual conferences with the instructor. Students desiring further French study may register for additional credits of French 105. Two semesters of French 105 (8 credits) constitute the first-year University French sequence. Students with prior French study should consult the instructor for placement. No prerequisite for the first semester.

FREN 205. Intermediate French. 4 Credits.

Continued and progressive development of the skills acquired in Elementary French and special emphasis on conversational ability, vocabulary building, and the grammar necessary for correct oral and written expression. Extensive pronunciation practice to develop proper syllable division, stress, linking, and intonation. Students desiring further study may register for additional credits of FREN 205. Two semesters of FREN 205 (8 credits) constitute the second-year University French sequence. Prerequisites: Two semesters of elementary French (8 credits) or the equivalent and permission of the instructor.

Freshman Seminar (FRSH)

FRSH 100. Freshman Seminar. 1 Credit.

The freshman seminar course is designed to provide students with an early introduction to the expectations and challenges of University life, to the procedural, geographic and academic maps of the University, and to the learning strategies and life skills necessary for success. The freshman seminar provides opportunities for students to interact with faculty and administrators as well as peers. Programming includes social events and activities to integrate the student into the University environment.

General Science (GSCI)

GSCI 412. Environmental Problems. 3 Credits.

Review of major environmental problems facing civilization with the thought that the general awareness of these problems by the citizenry provides an important educational commitment. Such evaluations will be made in the context of basic ecological concepts and principles and will involve integration of various scientific and non-scientific disciplines. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

Geography (GEOG)

GEOG 119. World Regional Geography. 3 Credits.

An introduction to the geography of the major regions of the world, the human communities of those regions, and their relationships to geographic locations, physical environment, population, economic resources, and international politics.

Geography (GPHY)

GPHY 111. Intro to Physical Geography. 4 Credits.

This course introduces basic concepts of geology, astronomy, meteorology, and physical geography including identification of rocks, minerals, and common geological formations. The course includes both lecture and laboratory hours. This course meets the laboratory science requirement.

Course Fees: \$5.35

GPHY 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Geology (GEO)

GEO 101. Intro to Physical Geology. 4 Credits.

Introductory geology emphasizing the physical constitution of the Earth's interior and surface. Co-requisite: GEO 102. This course does meet the laboratory science requirement.

GEO 102. Intro to Physical Geology Lab. 0 Credits.

Laboratory for GEO 101. Co-requisite: GEO 101.

Course Fees: \$5.35

GEO 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

GEO 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

GEO 206. Dinosaur Paleobiology. 4 Credits.

This course covers the history of dinosaur paleontology, and the evolution, classification, and life history strategies of the major groups of dinosaurs. Basic concepts of geology, plate tectonics and identifying characteristics of ancient Mesozoic environments will also be covered. Lab exercises include local field trips and lab identification of Montana dinosaur fossils. Application of the scientific method is emphasized throughout the course. Dinosaur discoveries from various parts of the world will be discussed, but this course will focus on the abundant and significant dinosaur finds from Montana and the surrounding region. Prerequisite: one college-level science course or consent of instructor.

GEO 211. Earth History and Evolution. 4 Credits.

Introductory geology emphasizing the evolution of the Earth and life through geological time. GEO 101 and GEO 102 is recommended. Co-requisite: GEO 212. This course does meet the laboratory science requirement.

GEO 212. Earth History & Evolution Lab. 0 Credits.

Laboratory for GEO 211. Co-requisite: GEO 211.

Course Fees: \$5.35

GEO 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

GEO 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

GEO 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

GEO 314. Intro to Paleontology. 3 Credits.

This course will provide an introduction to paleontology and the various procedures in the field with special emphasis on Montana and Alberta Fossils. Prerequisite: one college level science course or consent of instructor. This course does meet the laboratory science requirement.

Course Fees: \$10.75

GEO 328. General Hydrology. 3 Credits.

An overview of the water cycle with special emphasis on flowing and standing water systems. Offered alternate years. This course does not meet the laboratory science requirement.

GEO 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

GEO 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

GEO 398. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

German (GER)

GER 105. Elementary German. 4 Credits.

Introduction to German, emphasizing conversational ability but paying appropriate attention to reading comprehension and correct written expression. Extensive use of spoken German in the classroom, small group practice sessions, and individual conferences with the instructor. Students desiring further German study may register for additional credits of German. Two semesters of German 105 (8 credits) constitute the first-year University German sequence. Students with prior German study should consult the instructor for placement. No prerequisite for the first semester.

GER 299. Ind Study. 1-12 Credits.

Graphic Design (GDSN)

GDSN 220. Illustration I. 3 Credits.

Studio exercise in observational and imaginative drawing and painting. A variety of media and expressive, narrative, and descriptive techniques are explored in the creation of artwork for commercial reproduction. Prerequisite: ARTZ 105.

GDSN 231. Graphic Design Applications. 3 Credits.

This course is an introduction to software applications used by today's graphic design industry. A workbook-guided approach is employed and the course is self-paced. Photoshop, Illustrator, and QuarkXpress are covered in the course. This course is prerequisite to GDSN 320, GDSN 350 and GDSN 450.

GDSN 240. Electronic Design I. 3 Credits.

This course is an introduction to software applications used by today's graphic design industry for electronic media. The course will focus on site architecture, design, and software implementation. Flash MX, Adobe Photoshop/ImageReady, and Dreamweaver are covered in the course. This course is a prerequisite to GDSN 340 and GDSN 450. Prerequisite: GDSN 231.

GDSN 250. Graphic Design I. 3 Credits.

Lecture/Studio course incorporating visual design concepts and techniques in problem-solving of commercial graphic arts assignments. Emphasis on individual creativity in realistic problem-solving situations. Prerequisite: ARTZ 106.

GDSN 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

GDSN 320. Illustration II. 3 Credits.

This course covers illustration based in current imaging software with the goal of developing individual methods and style. Prerequisites: GDSN 220 and GDSN 231.

Course Fees: \$10.75

GDSN 340. Electronic Design II. 3 Credits.

This course covers web site design using page creation application and image editing applications. Additionally, animation and multimedia will be incorporated into the design process. Prerequisite: GDSN 240.

GDSN 350. Graphic Design II. 3 Credits.

Lecture/Studio course utilizing visual design concepts and principles in problem-solving of realistic commercial graphic arts assignments. The computer is incorporated as the primary tool for generating images, typography and composition. Prerequisites: CAPP 120, GDSN 220, GDSN 231 or permission of instructor.

Course Fees: \$15.75

GDSN 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

GDSN 450. Graphic Design III. 4 Credits.

Lecture/studio course utilizing visual design concepts and principles in problem-solving of realistic commercial graphic arts assignments. The computer is incorporated as the primary tool for generating images, typography, and composition. A portfolio will be constructed and presented at the conclusion of the course. Prerequisites: GDSN 231, GDSN 240, GDSN 250, GDSN 350, GDSN 320.

Course Fees: \$26.50

GDSN 491. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

GDSN 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

GDSN 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Health & Physical Educ Activit (HPEA)**Health & Physical Education (HPE)****HPE 234. First Aid and CPR. 2 Credits.**

A course designed to provide the student with the latest approved first aid and CPR procedures.

Course Fees: \$12.75

HPE 250. Life Guard Training. 2 Credits.

This course includes the American Red Cross requirements for Life Guard Training and additional lifesaving techniques. Prerequisite skills include: Tread water for 2 minutes using legs only. Swim 500 meters continuously using each of the 4 basic strokes and retrieve a submerged 10 lb. object from seven feet. Course Fee: \$25.00.

HPE 251. Water Safety Instruction. 2 Credits.

This course includes the American Red Cross requirements for Water Safety Instruction and additional teaching and administrative techniques. Prerequisite skills include: Swim 50 yards using each of four basic strokes. Swim 10 meters of butterfly, perform a standing front dive, and perform a throwing assist with buoy. Course Fee: \$7.00.

HPE 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HPE 362. Biomechanics & Movement Ed. 4 Credits.

An exploration of movement beginning with developmental movements, progressing through the evaluation and correction of body mechanics. Students will develop an understanding of the principles of lever systems and muscle forces through applied anatomy. Application of theory to teaching and coaching at all developmental levels will be emphasized. Prerequisite: BIOH 104 or BIOH 201.

HPE 391. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HPE 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HPE 423. Marriage & Family Relationship. 3 Credits.

An in-depth study and discussion of courtship, love, marriage, problem solving, and family relationships. Human relations and values clarification are emphasized through the group process.

HPE 430. Hlth Promotion Implmntn/Asmnt. 3 Credits.

An important component of health promotion is program design and implementation as well as assessment of programs. This course is designed to provide introductory knowledge in these important professional areas.

HPE 500. Phys Educ in the Elem Schools. 3 Credits.

This is an exploration of teaching skills and strategies for elementary physical education. Topics covered include selection, practice and application of games and activities to aid in developing skills, fitness, and attitudes and appreciation for physical activity by the elementary school age child (K-6). Personal and education values for the teacher candidate will be incorporated throughout. Curriculum development and selections is also discussed. Prerequisite: Admission to Teacher Education, EDUC 300 and HPE 376. Students taking this as a 500 level course should expect to be required to do additional coursework to demonstrate advanced knowledge required to fulfill graduate level coursework. In addition, students will be graded more stringently reflecting the graduate level expectations.

HPE 506. Adaptive Physical Education. 2 Credits.

This course is a study of the diverse and complex nature of disabilities and the role of physical education for the handicapped. Organizing and administering programs for students with special needs, selection of methods used in assessment and evaluation, lesson development, implementation and evaluation are covered. A 20-hour field experience is required, working with individuals with developmental and physical handicaps. Prerequisites: Admission to Teacher Education, EDU 380 and HPE 376. Students taking this as a 500 level course should expect to be required to do additional coursework to demonstrate advanced knowledge required to fulfill graduate level coursework. In addition, students will be graded more stringently reflecting the graduate level expectations.

Health (HTH)**HTH 101. Opport in Health Professions. 2 Credits.**

Designed to acquaint the prospective physical education teacher with broad concepts of health, physical education, and recreation including the historical development of modern programs, philosophies, and their application to physical education.

HTH 110. Personal Health and Wellness. 3 Credits.

This course is an introduction to the basic and new concepts of health. Topics included will be nutrition, physical fitness, stress management, substance abuse, HIV/AIDS, safety and risk management, as well as wellness components of emotional, physical, social, intellectual, and spiritual health. This course is required for all pre-education majors to fulfill OPI certification requirements, and is a program requirement for Health Promotion majors and minors. It is also appropriate for pre-nursing majors and those interested in taking a proactive approach to their lives and health.

HTH 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HTH 205. Drug Issues for Education. 2 Credits.

Introductory information for prospective teachers on the nature and effects of drug and alcohol abuse, social and personal needs of users, rehabilitation techniques, and legal regulations of drug possession and use.

HTH 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HTH 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HTH 309. Contemporary Epidemics. 3 Credits.

This course covers one specific epidemic per course offering, so the subject of each course offering will be a recent epidemic of an acute or chronic disease. Possible epidemics covered include Diabetes, Ebola, Depression, and Severe Acute Respiratory Syndrome (SARS). This course will include historical, epidemiological, etiological, and social perspectives of epidemic.

HTH 325. Etiology of Disease. 3 Credits.

Understanding the cause, progression, treatment and outcome of disease is central to the health education process. This course will provide students with the basic knowledge of diseases caused by genetic abnormalities, congenital abnormalities, autoimmune disorders, metabolic disorders, cancers, infectious diseases and diseases of lifestyle.

HTH 368. Safety Education. 2 Credits.

Study of the basic principles of safety education and their application to the schools.

HTH 374. Current Issues in Health. 3 Credits.

In this course students will explore 10 –12 controversial health issues that are currently relevant. Students will be presented a new health issue each week that will be critically evaluated. Students will be expected to complete weekly readings, submit position statements, and participated in professional discussions.

HTH 376. Understanding Obesity. 3 Credits.

This course provides a detailed survey of etiology, pathogenesis, and approaches to obesity. The overall goal of the course is to understand and appreciate the scope and complexity of obesity. The course is organized into the following 4 sections: Introduction to Obesity Epidemic, Etiology of Obesity, Consequences of Obesity, and Approaches to Obesity. This course is required for Integrated Health Science majors. No prerequisite courses required.

HTH 378. Sex Education. 3 Credits.

A study of the biological and behavioral values as it concerns human sexuality.

HTH 391. Special Topics. 3 Credits.

Study of current health issues that affect present populations; the environment, drug and alcohol, AIDS, diseases of lifestyle, healthcare and insurance, and birth control. To include prevention and/or control, solution, and implications.

HTH 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HTH 475. Legal/Ethical Issue Hlth/Exerc. 3 Credits.

This course aims to teach students about the health business leadership. Students will be introduced to common legal and ethical dilemmas in health organizations before they are guided through a series of risk management exercises and business problems. Students will demonstrate ability to proactively minimize risks in a health organization and apply basic business concepts related to Human Resources management, Marketing, and Budgeting.

HTH 483. Exercise, Disease and Aging. 3 Credits.

This course reviews the benefits of exercise and the pathophysiology of common chronic diseases and aging while examining the physiological response to exercise in aging and diseased people. Students will work with case studies as they practice prescribing exercise in special populations. Successful completion or concurrent enrollment of exercise physiology (KIN 320) is required.

HTH 490. Undergraduate Research. 1-12 Credits.

Undergraduate Research.

HTH 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HTH 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

HTH 499. Senior Thesis. 1-12 Credits.

Health Enhancement (HEE)

HEE 300. PE in the Elementary School. 3 Credits.

This is an exploration of teaching skills and strategies for elementary physical education. Topics covered include selection, practice and application of games and activities to aid in developing skills, fitness, and attitudes and appreciation for physical activity by the elementary school age child (K-6). Personal and education values for the teacher candidate will be incorporated throughout. Curriculum development and selections is also discussed. Prerequisite: Admission to Teacher Education, EDU 380 and HPE 376. If this class is taken at the 500 level, it is a graduate course. Students taking this as a 500 level course should expect to be required to do additional coursework to demonstrate advanced knowledge required to fulfill graduate level coursework. In addition, students will be graded more stringently reflecting the graduate level expectations.

HEE 303. Methods Lifetime Fit Act. 3 Credits.

This course is designed to give students exposure to a variety of fitness, sport and game activities that are utilized in the middle and high school health promotion programs of many Montana schools to promote lifetime fitness activities. Emphasis is placed on skills development, skills progression, and evaluation of motor performance as well as lifetime enjoyment. Safety and organization of units and curriculum are also discussed.

Course Fees: \$10.75

HEE 310. Methods of Adapted HE. 3 Credits.

This course is a study of the diverse and complex nature of disabilities and the role of physical education for the handicapped. Organizing and administering programs for students with special needs, selection of methods used in assessment and evaluation, lesson development, implementation and evaluation are covered. A 20-hour field experience is required, working with individuals with developmental and physical handicaps. Prerequisites: Admission to Teacher Education, EDU 380 and HPE 376. If students take this class at the 500 level, it is a graduate course. Students taking this as a 500 level course should expect to be required to do additional coursework to demonstrate advanced knowledge required to fulfill graduate level coursework. In addition, students will be graded more stringently reflecting the graduate level expectations.

HEE 340. Methods of Health Education. 3 Credits.

As health educators try to influence behavior change through cognitive education, methods to achieve this are unique. This course is designed to expose teacher education candidates to those techniques. This course will cover, extensively, the Health Enhancement Curriculum Model and Health Enhancement Curriculum Standards released by OPI to familiarize students with the requirements of all K-12 teachers in the State of Montana. National health education curriculum standards as well as ethics in health education will also be addressed. Co-requisite: EDUC 339. Pre-requisite: Admission to Teacher Education, EDU 380 and HPE 376.

Course Fees: \$10.75

HEE 376. Assessment in Health Education. 3 Credits.

This course is designed for candidates to learn the various ways to administer, analyze, interpret and utilize various tests in health and physical education. Basic statistical manipulation/analysis and test construction will be covered as well as test validity/reliability issues. Alternative and authentic testing issues will also be addressed. Prerequisites: M 121/145, junior standing, Admission to Teacher Education for HPE majors/minors. Only offered Fall Semesters. Co-requisite: EDU 380 for HPE majors.

HEE 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HEE 395. Field Experience in PE. 1 Credit.

This course is a field experience in health and physical education. Candidates who have opportunities for work/volunteer experiences in health and physical education/health promotion outside of their coursework may register for this course to reflect these experiences. This course may be repeated for credit up to a total of three credits. Candidates working with children may be required to complete a background check; all candidates should have professional liability insurance. Prerequisite: Consent of instructor.

HEE 435. Curr Planning in HE. 3 Credits.

Health and Physical Educators must be able to organize and administer a K-12 Health Enhancement program, including budget development, risk and safety management, program and personnel evaluation, equipment purchasing and storage, policy/procedure development, record keeping, and facility design, management and utilization.

HEE 490. Undergraduate Research. 3 Credits.

Undergraduate Research.

HEE 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HEE 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

HEE 499. Senior Thesis. 1-12 Credits.

Senior Thesis.

History (HIST)

HIST 101. The History of Railroading. 3 Credits.**HIST 302. Ante-bellum America-Reconst. 3 Credits.**

An examination of the economic, social, political, and cultural conditions that from 1828 through 1877 led to economic disaster, massive expansion, the Civil War, the abolition of slavery, and Reconstruction.

HIST 303. Pplst/Prog Era thru Depression. 3 Credits.

An examination of the period between the official end of Reconstruction (1877) and the outbreak of World War II (1941), the most dynamic period of American development and disaster, concentrating on social economic, and cultural changes.

HIST 330. History of Mexico. 3 Credits.

A thematic and geographical overview of the region from 1900 to the present. Includes and introduction to the physiography, climate, peoples and history of the region. Highlights current topics of importance including authoritarianism; economic integration; drug smuggling; guerillas and terrorism; population growth and immigration among others.

HIST 346. Bus & Econ Hist of U.S.. 3 Credits.

Students will study the growth and development of the U.S. Economy and business transformation from colonial times to the mid-20th century. The central organizing focus concerns the economic, cultural, and constitutional incentive structures in America that have motivated entrepreneurship and efficient resource use. A background in basic economics or business theory is useful but not required.

HIST 354. Hist of Technology & Trans. 3 Credits.**HIST 374. History of Ideas in West Civ. 3 Credits.**

This course offers a survey of the development of ideas from the ancient Hebrew and Greco-Roman cultures through the Middle Ages, Renaissance, Scientific Revolution, and Enlightenment to the Modern Era. Students will read, discuss, and write about primary sources authored by such thinkers as Aristotle, Cicero, Locke, Adam Smith, Burke, Wollstonecraft, Toqueville, Comte, Darwin, Marx, Spencer, Mill, Nietzsche, Freud, Rocco, and Sartre, and will explore concepts such as Humanism, Liberalism, Positivism, Socialism, Fascism, and Existentialism.

HIST 391. Spec Topic. 1-12 Credits.**HIST 392. Independent Study. 1-12 Credits.****HIST 590. Spec Topic. 1-12 Credits.****HIST 599. Ind. Study. 1-12 Credits.**

History: American (HSTA)

HSTA 101. American History I. 3 Credits.

A general survey of the fundamental political, social, economic, cultural, and diplomatic developments that have contributed to the formation of American civilization from the colonial period to 1877.

HSTA 102. American History II. 3 Credits.

A general survey of the fundamental political, social, economic, cultural, and diplomatic developments that have contributed to the formation of American civilization from 1877 to the present.

HSTA 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HSTA 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HSTA 255. Montana History. 3 Credits.

A study of the major political, social, cultural, and economic developments that have contributed to the formation of Montana and to Montana's place within the region, the nation, and the world, from prehistoric times to the present.

HSTA 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HSTA 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HSTA 311. Early America. 3 Credits.

An examination of the political, economic, social, and cultural conditions of America from 1600 through 1828, concentrating on the factors that led the American Revolution and the establishment of the nation as a democratic republic.

HSTA 322. Am History: WWII to Present. 3 Credits.

Study of the period between the outbreak of World War II (1941) and the present, concentrating on that war, the Korean conflict, the Cold War, Vietnam, the nuclear age, the space age, and the effects of those major events and developments on domestic politics, culture, and the American economy. Formerly HIST 305.

HSTA 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HSTA 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HSTA 450. History of American Indians. 3 Credits.

History of American Indians from Pre-Columbian times to the present, with special emphasis on demographic shifts caused by encroaching European and American westward expansion, and relationships between Native Americans and immigrants.

HSTA 464. Trans-Mississippi West. 3 Credits.

This course covers the history of the Trans-Mississippi West from the Spanish era to the present. This class covers the development and impact of the American West on the life of the nation and the interactions of ethnic groups that inhabit the West. Indeed, as much as it is possible, we will attempt to cover the human actions and interactions in the West, which have fundamentally shaped the region's history as well as the history of the United State as a whole. More than that, this is a history of a frontier where a number of cultures met, clashed and evolved, making the American West the unique region it is. Prerequisite: Course is restricted to students with 24 or more semester credits earned.

HSTA 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HSTA 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HSTA 499. Sen Capstone: Hist Methodology. 3 Credits.

Students will examine and analyze the work of historians as examples of the technique and procedure of writing history. Capstone course for Broad field Social Science majors. Prerequisite: Senior standing.

HSTA 591. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

History: World (HSTR)

HSTR 101. Western Civilization I. 3 Credits.

This course is a survey of the various civilizations of the world from their ancient origins to 1500. European, Asian, American and African societies will be examined, compared and contrasted at the various stages of their development throughout this period. The course deals with the encounters and interactions among the various civilizations, and examines the political, social, economic, cultural ideological, and technological developments that have shaped the world.

HSTR 102. Western Civilization II. 3 Credits.

This course is a survey of the various world civilizations from 1500 to the present. The civilizations of Europe, Asia, America and Africa will be examined, compared and contrasted at the various stages of their development throughout this period. The course deals with the encounters and interactions among the various civilizations, and examines the political, social, economic, cultural, ideological and technological developments that have shaped the civilizations of the world.

HSTR 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HSTR 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HSTR 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HSTR 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HSTR 324. 20th Century Europe. 3 Credits.

This course provides an analysis of 20th Century Europe with emphasis on political history. 20th Century was an era of major changes for Europeans. These changes include end of the colonial era and major empires, fall of several long-standing royal houses, rise and fall of Communism, Fascism and Nazism, and two world wars which permanently shifted the power structure of the world. Finally, the last decades of the century saw another dramatic, this time peaceful, transformation in the form of the creation of European Union, a continental unity never before attempted. Prerequisite: Course is restricted to students with 24 or more semester credits earned.

HSTR 336. Modern Latin America. 3 Credits.

An introduction to the region's history since independence. Includes a geographical, historical and cultural overview. Will highlight important topics in the social; cultural; political and economic development of modern Latin American countries; special emphasis on period since 1900.

HSTR 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HSTR 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HSTR 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

HSTR 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

HSTR 499. Sen Capstone: Hist Methodology. 3 Credits.

Students will examine and analyze the work of historians as examples of the technique and procedure of writing history. Capstone course for Broad field Social Science majors. Prerequisite: Senior standing.

Honors (HON)

Humanities (HUM)

HUM 279. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Education, Arts and Sciences, Nursing, and cooperative education coordinator. Pass/Fail only.

HUM 291. Special Topic. 1-12 Credits.**HUM 299. Independent Study. 1-12 Credits.****HUM 391. Special Topic. 1-12 Credits.****HUM 392. Independent Study. 1-12 Credits.****HUM 479. Cooperative Education. 1-12 Credits.**

A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to the University Program of study. Prerequisites: Cooperative Education 279 or Junior standing and approval of advisor, Dean of the College of Education, Arts and Sciences, Nursing, and cooperative education coordinator. Pass/Fail only.

HUM 499. Independent Study. 1-12 Credits.**HUM 591. Special Topic. 1-12 Credits.**

Industrial & Engineering Tech (IET)

Industrial Technology (IT)

IT 100. Introduction to Technology. 3 Credits.

This course is a survey course designed to familiarize students with the educational requirements, talents, and responsibilities for careers related to industrial and engineering technology. The content of this course should provide the framework for materials to be presented in future math, science, industrial, and engineering technology courses.

IT 105. Industry Foundations. 4 Credits.

This foundation course leads to a variety of industry certifications and professional standards needed to be successful in a career in the technical sciences. These foundations are conditional as entry-level requirements for employers of most graduates in the College of Technical Sciences at Montana State University - Northern.

IT 109. Introduction to Woodworking. 3 Credits.

Introduction to Woodworking.

IT 111. Industrial Safety/Waste Mgmt. 2 Credits.

A course designed to familiarize the student with proper safety practices and procedures. Course content will include protective clothing, handling of hazardous materials, OSHA regulations, workman's compensation, and first aid. Also, safe practices in using hand and power tools, scaffolds and ladders, chains and cables, compressed gasses, proper storage of tools and chemicals, and handling of hazardous waste will also be addressed.

Course Fees: \$6.10

IT 115. Construction Tech Fndmntls. 3 Credits.

This course introduces basic concepts in safety, construction math, hand and power tools, blueprint reading, and basic rigging. This course covers safety in the operation of a variety of hand and power tools. It includes reading simple construction-related blueprints as well as overhead crane hand signals. Thermal and moisture protection using common insulating and vapor systems will be covered.

IT 130. Construction Technology. 3 Credits.

This course provides a study of contemporary principles and practices used in the construction industry with emphasis on the techniques used for interior and exterior building construction. Civil construction is also covered. Activities may include construction of a scale model or a community construction project.

IT 191. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

IT 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

IT 210. Energy/Power Technology. 3 Credits.

Energy/Power Technology will examine energy sources, power generation, power transmission and control systems, resistance, power measurement, and devices that provide mechanical force. This course will concentrate on applications of electrical, electronic, mechanical, and fluid power systems as they apply to the manufacturing, communications, and construction industries.

IT 291. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

IT 391. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

IT 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Info Sys Engr Tech (ISET)

Information Technology Systems (ITS)

Interdisciplinary Studies (IDST)

Kinesiology (KIN)

KIN 205. Foundation in Kinesiology. 3 Credits.

This course is designed to acquaint the prospective health educator with broad concepts of health, physical education, and recreation including the historical development of modern programs, philosophies, and their application to health and physical education.

KIN 320. Exercise Physiology. 3 Credits.

The study of the effects of various exercises on the systems of the body, with implications for the improvement of health, physical fitness, and athletics. Applications of theory to actual situations. Prerequisites: BIOH 104 or BIOH 201.

Course Fees: \$31.50

KIN 327. Kinesiology & Biomechanics. 3 Credits.

Kinesiology is the study of human movement: the action of muscles and muscle systems, the application of force to levers, and the evaluation of movement for improved performance and reduced risk of injury. These concepts are applied to teaching and coaching at all developmental levels through classroom experiences. Prerequisites: BIOH 104 or BIOH 201, M 121 or higher.

KIN 364. Research Methods Health. 3 Credits.

This course familiarizes students with current research in the health science disciplines. Qualitative and quantitative research designs are explored in the context of health sciences. Students are expected to perform research projects throughout the course.

KIN 391. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

KIN 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

KIN 410. Advanced Strength/Conditioning. 3 Credits.

This course requires students to apply key concepts from biomechanics and exercise physiology to develop goal-specific, progressive training programs. Students will prepare themselves for the Certified Strength and Conditioning Specialist (CSCS) certification examination.

KIN 415. Adv Exercise Test & Prescrip. 3 Credits.

This course will prepare students for certification through the National Council of Strength and Fitness as a Certified Personal Trainer. The course outcomes are to develop individuals with the knowledge and aptitude for the fitness industry. Upon successful completion of this course students will be able to demonstrate, evaluate, and apply all practical disciplines of a Certified Personal Trainer and will be qualified to sit for the Personal Trainer exam. Prerequisite: an anatomy and physiology course or consent of the instructor.

KIN 440. Sport Psychology. 3 Credits.

A study of psychological and sociological implications of sports participation.

KIN 483. Exercise, Disease and Aging. 3 Credits.

This course reviews the benefits of exercise and the pathophysiology of common chronic diseases and aging while examining the physiological response to exercise in aging and diseased people. Students will work with case studies as they practice prescribing exercise in special populations. Successful completion or concurrent enrollment of exercise physiology (KIN 320) is required.

KIN 490. Undergraduate Research. 3 Credits.

Provides the opportunity to perform undergraduate research in a particular area of interest.

KIN 491. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

KIN 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

KIN 499. Senior Thesis. 3 Credits.

Senior Thesis.

Liberal Studies & Humanities (LSH)

LSH 201. Intro to Humanities The Art of. 3 Credits.

A survey of the humanistic disciplines: literature, philosophy, music, art, architecture, and theater designed to help students identify those qualities that make each discipline unique and to discover commonalities among these disciplines.

LSH 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

LSH 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

LSH 494. Senior Capstone. 3 Credits.

Senior Capstone course.

LSH 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Linguistics (LING)

LING 340. English Language. 3 Credits.

This course is designed to provide students with an overview of linguistic systems, such as phonetics, phonemics and semantics, and an intensive study of the structure of American English. It also engages students with methods of employing these materials in their own classrooms. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course. Offered Spring semester each year.

LING 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

LING 540. English Language. 3 Credits.

This course is designed to provide students with an overview of linguistic systems, such as phonetics, phonemics and semantics, and an intensive study of the structure of American English. It also engages students with methods of employing these materials in their own classrooms. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

Literature (LIT)

LIT 110. Intro to Lit. 3 Credits.

Study of three of the major literary forms (fiction, poetry, and drama), including examples of each from several periods. Selections will include works by and about minorities and women.

LIT 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

LIT 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

LIT 210. American Lit I. 3 Credits.

A survey of American Literature from the colonial period to 1870. Offered Fall semester each year.

LIT 211. American Lit II. 3 Credits.

A survey of American literature from 1870 to the present. Offered Spring semester each year.

LIT 223. British Lit I. 3 Credits.

A survey of English literature from the Old English Period to 1700. Offered Fall semester each year.

LIT 224. British Lit II. 3 Credits.

A survey of British literature of the eighteenth, nineteenth, and twentieth centuries. Readings include works by the Augustans, the Romantics, the Victorians, the moderns, and the contemporary writers of Great Britain. Offered Spring semester each year.

LIT 230. World Lit Survey. 3 Credits.

A historical and thematic study of world literature in translation that may include Babylonian, Hebrew, Indian, Chinese, Persian, and other literature.

LIT 270. Film and Literature. 3 Credits.

This course focuses on modern and contemporary novels, plays or short stories which have been adapted to film. An emphasis will be placed on written and visual literacy as well as the relationship between film and literature.

LIT 285. World Mythologies. 3 Credits.

Students will explore the mythologies of various cultures, such as the ancient Greeks, Vikings, Romans, Egyptians, Chinese, and indigenous Americans. Students will investigate cultural mythologies to explore the nature, function, and theory of myth. Special emphasis will be placed on similarities these stories highlight among such cultures as well as important cultural differences. Instructional activities will include a combination of lecture, group discussion, and other experientially-based activities.

LIT 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

LIT 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

LIT 300. Literary Criticism. 3 Credits.

A study of the theories and methods of literary analysis from ancient times to the present, as represented in the works of selected literary theorists and critics. Offered Spring semester odd years.

LIT 305. Lit by & About Native Amer. 3 Credits.

A critical examination of a representative number of major works written by non-Native Americans about Native Americans and major works by Native Americans. Topics include stereotyping, segregation, prejudice, and the roles of Native Americans in American society. Readings include mythology, poetry, essays, novels, and non-fiction. . May be offered Spring semester even years.

LIT 309. Popular Genres. 3 Credits.

An historical and critical approach to popular genres within the discipline that have been defined as including topics of significant aesthetic and sociological value outside the traditional canons of mainstream tradition. Material to be considered will be determined by the instructor and may include such genres as fantasy literature, science fiction, detective fiction, Gothic literature, movies, popular culture, and so on. May be repeated for credit. May be offered Spring semester only.

LIT 312. Exploration Speculative Fict. 3 Credits.

An historical and critical approach to aspects of speculative literature that will include topics of significant aesthetic and sociological value. Material to be covered will include all the genres under the umbrella of speculative literature, including fantasy, science fiction, horror, and apocalyptic fiction.

LIT 327. Shakespeare. 3 Credits.

Introduction to the poetic and dramatic works of Shakespeare. Reading and analysis of representative plays from the comedies, histories, and tragedies and critical assessment of Shakespeare's historical importance in literature and culture from the 16th century to the present. May be offered Fall semester even years.

LIT 342. Montana Writers. 3 Credits.

A study of the works of major Montana authors as these reflect upon regional experience.

LIT 363. Modern Poetry. 3 Credits.

A study of the major trends and significant theories in poetry from 1800 to 1945; the Romantic period, the Victorian period, American Poetry and the Modern period. May be offered Fall semester odd years.

LIT 380. Literary Approach to Drama. 3 Credits.

A study of representative plays from Greek, Medieval, Renaissance, Restoration, Roman periods: the 18th, 19th, 20th and 21st centuries, with attention to the cultural and historical factors contributing to the development of these works. Analysis of significant ideas, themes, literary values, and production techniques. May be offered Fall semester of odd years.

LIT 382. Lit for Children/Adolescents. 3 Credits.

A study of the literature designed for and available to the pre-adult audience, from pre-school materials for reading preparation and reading aloud, through elementary school literature, to literature for the adolescent audience of the middle school and secondary school levels. Includes poetry, fairy tales, myths, epics, fables, informational and nonfiction works, biographies, popular fiction, and fantasy literature. Offered Spring semester each year.

LIT 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

LIT 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

LIT 435. Development of the Novel. 3 Credits.

A study of the development of the novel in England, Europe, and the United States from the eighteenth century to the present. Course offered based on need.

LIT 463. Studies in Contemporary Lit. 3 Credits.

A study of the development of the forms and themes of poetry and fiction in the period since World War II. Course offered based on need.

LIT 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

LIT 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

LIT 494. Seminar: Major Author/s. 3 Credits.

An intensive study of the works of one or more major English or American writers or literary genres from the periods of literary history. The writer or writers to be studied may vary at the discretion of the instructor. Prerequisite: Junior standing. May be repeated for credit. Formerly ENGL 409. Course offered based on need.

LIT 505. Lit by & About Native Amer. 3 Credits.

A critical examination of a representative number of major works written by non-Native Americans about Native Americans and major works by Native Americans. Topics include stereotyping, segregation, prejudice, and the roles of Native Americans in American society. Reading include mythology, poetry, essays, novels, and non-fiction. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

LIT 542. Montana Writers. 3 Credits.

A study of the works of major Montana authors as these reflect upon regional experience. As this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

LIT 582. Lit for Children/Adolescents. 3 Credits.

A study of the literature designed for and available to the pre-adult audience, from pre-school materials for reading preparation and reading aloud, through elementary school literature, to literature for the adolescent audience of the middle school and secondary school levels. Includes poetry, fairy tales, myths, epics, fables, informational and nonfiction works, biographies, popular fiction, and fantasy literature. Because this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

LIT 591. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

LIT 592. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Lrng Experience Assmt Prgrm (LEAP)

Manufacturing (MFGT)

MFGT 210. CAD/CAM I. 3 Credits.

A course in the principles and application of CAD/CAM and CNC technology. Students will solve problems associated with coordinate geometry, database exchange, G and M codes.

MFGT 252. CNC Machining. 3 Credits.

An introduction to the fundamentals and applications of Computer Numerical Control in machining. Course content includes machine configurations, CNC process flow, visualization of program execution, coordinate systems, types of motion, tool length compensation, and program formatting. Prerequisites: METL 155 Machining Processes.

MFGT 279. Cooperative Education. 1-12 Credits.

A planned supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Two semesters of attendance at Montana State University-Northern, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

MFGT 391. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

MFGT 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

MFGT 491. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

Mathematics (M)

M 095. Intermediate Algebra. 3 Credits.

This course is for students not ready for college level mathematics and covers the pre-algebra through intermediate algebra mathematics skills needed for college level mathematics courses. The course is delivered in a lab setting allowing students to progress at their own level with the aid of an on-site instructor. The class is organized into three distinct levels of Arithmetic, Beginning Algebra, and Intermediate Algebra with the student required to complete each segment in sequence. Arithmetic topics include concepts and topics of the real number system: including numeric operations, decimals, exponents, radicals, integers, ratios, proportions, fractions, factors, prime numbers, and numeric story problem applications. Beginning Algebra topics include: Power numbers, radicals, logarithms, rational expressions, linear properties, graphs, ordered pairs, relations, polynomial factoring, functions, solutions to linear and systems of two equations. Intermediate Algebra topics include determinants, complex distance and slope, relating data to equation type, application formulas, and application story problems. This course may be repeated as necessary.

M 105. Contemporary Mathematics. 3 Credits.

This course is designed to meet the general education mathematics requirement. It surveys some of the important ideas and practical applications in mathematics and uses a variety of mathematical skills and technology to solve real problems. Topics include problem solving, financial math, mathematical modeling (linear and quadratic), and elementary statistics. Students may be required to take M 105L concurrently in accordance with Board of Regents Policy 301.16 as explained in this catalog under General Education Course Placement.

M 105L. Contemporary Math Lab. 1 Credit.

This course supports the student in successful completion of M 105. Students will have lab time to work on refining their mathematical skills needed in M 105 and beyond. Students will use lab time with more individual attention to work on mathematical concerns. This course must be taken concurrently with M 105 as needed, in accordance with Board of Regents Policy 301.16, as explained in this catalog under General Education Course Placement.

M 112. Trigonometry & Complex Numbers. 2 Credits.

This course presents analytic trigonometry fundamental concepts including: trigonometric and circular functions, solutions of triangles with law of sines/cosines, solutions of trigonometric equations, identities, graphs, inverse functions, and vector principles. Prerequisite: ACT score 25-26 or M 121.

M 121. College Algebra. 3,4 Credits.

This course surveys a wide variety of topics including: properties and theorems of the real and complex number systems, the function concept including inverse functions, graphing techniques, linear, quadratic, polynomial, exponential and logarithmic functions, solving systems of equations in two or more variables using matrices and matrix algebra. The development of problem-solving skills is emphasized. Students may be required to take M 121L concurrently in accordance with Board of Regents Policy 301.16 as explained in this catalog under General Education Course Placement.

M 121L. Algebra Lab. 1 Credit.

This course supports the student in successful completion of M 121. Students will have lab time to work on refining their mathematical skills needed in M 121 and beyond. Students will use lab time with more individual attention to work on mathematical concerns. This course must be taken concurrently with M 121 as needed, in accordance with Board of Regents Policy 301.16, as explained in this catalog under General Education Course Placement.

M 130. Math for Elementary Teachers I. 3 Credits.

The topics included in this course are directly related to elementary mathematics education. The specific number topics included in this course include: numeral system, problem solving, set theory foundation of the real number system, arithmetic algorithms, statistics, probability, and algebra notations. The specific geometry topics include: plane and solid shape classification and properties, congruence, similarity, symmetry, trigonometry, measurement, and transformations. Prerequisite: M 095 or ACT score of 20 or higher or university placement examination.

M 131. Math for Elementary Teacher II. 3 Credits.

Topics relative to elementary mathematics education including algebra, statistics, and number theory. Focuses primarily on geometric concepts. Prerequisite: M 130.

M 151. Precalculus. 4 Credits.

The topics included in this course are: trigonometric and circular functions, solutions of triangles with the law of sines/cosines, trigonometric equations, identities, graphs, inverse functions, vectors; mathematical induction, complex numbers, sequences and series, linear equations, conics, polar coordinates, and parametric equations. Prerequisite: ACT scores 25-26 or university placement examination.

M 162. Applied Calculus. 3 Credits.

The topics included in this course are: differentiation and integration with positive reinforcement of concepts in algebra, trigonometry and analytic geometry. Prerequisite: ACT scores 25-26 or M 121 or M 151 or university placement examination.

M 171. Calculus I. 5 Credits.

Developing the concepts of calculus and analytic geometry including rates of change, limits, derivatives and anti-derivatives, concepts of integration, and the application of integration. Prerequisite: M 151 or both M 121 and M 112.

M 172. Calculus II. 5 Credits.

Further development of the concepts of integration and applications, work with infinite series, plane curves, and parametric vectors and vector valued functions, and partial differentiation. Prerequisite: M 171.

M 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

M 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

M 273. Multivariable Calculus. 5 Credits.

Introduction to the calculus of variables including partial derivatives, extremes, tangent planes, multiple integrals, and applications and vector analysis. Prerequisite: M 172.

M 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

M 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

M 301. Math Technology for Teachers. 3 Credits.

Use of computers in the classroom focusing on software systems in current use in University and public school situations. The software systems studied are used primarily in science and mathematics but are also adapted for use in developing communication skills.

M 311. Ordinary Diff Equations/System. 3 Credits.

Ordinary differential equations and Laplace Transforms. Prerequisite: M 172.

M 326. Number Theory. 3 Credits.

Selected topics from real number theory and congruencies. Prerequisite: M 172.

M 327. Methods for Teaching Sec Math. 3 Credits.

Theories and techniques of teaching secondary mathematics. Investigation of methodology of content presentation and practice teaching techniques. Major developments in mathematics curriculum.

M 329. Modern Geometry. 3 Credits.

Study of Euclidean Geometry, selected topics from non-Euclidean Geometry. Prerequisite: M 172.

M 333. Linear Algebra. 3 Credits.

Study of Vector spaces and linear transformations which act on vector spaces, focusing on linear transformations and their matrix representations. Prerequisite: M 172.

M 351. Algebraic Structures I. 3 Credits.

Introduction to mathematical groups, rings, fields, and polynomial rings. Prerequisite: M 172.

M 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

M 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

M 440. Numerical Analysis. 3 Credits.

An introduction to numerical analysis which including error analysis, real roots of equations, numerical integration, and numerical solutions of ordinary differential equations. Prerequisites: M 311 and one higher-level computer programming language course.

M 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

M 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Mathematics (MATH)

Metals & Machining Tech (MCH)

MCH 158. Metal Fabrication. 3 Credits.

A study of equipment, metals, and procedures used to design, fabricate, and finish welded projects. Students combine skills of drafting, welding, and problem solving in developing functional projects. Prerequisites: WLDG 110 and 111 or consent of instructor.

Course Fees: \$21.50

MCH 200. Machining. 3 Credits.

An introduction to machining. The student will become familiar with basic theory and operations performed on various manual and automated machine tools. Instruction includes the selection of speeds and feeds and the identification and conditioning of associated cutting tools.

Course Fees: \$31.00

MCH 250. Manuf Processes and Materials. 3 Credits.

An introduction to the fundamentals of manufacturing. Capabilities, typical applications, advantages, and limitations of material and process selection for manufacturing.

Course Fees: \$10.75

MCH 255. Foundry and Patternmaking. 2 Credits.

This course is designed to explore accepted industrial foundry techniques. Laboratory learning experience and individually directed research will emphasize pattern design and construction, various mold-making processes, and other industrial manufacturing processes.

Course Fees: \$15.75

MCH 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

MCH 351. CAD/CAM Applications. 3 Credits.

A course in the principles and application of CAD/CAM and CNC technology. Students will solve problems associated with coordinate geometry, database exchange, G and M codes. Prerequisites: DDSN 114 and MCH 200.

Course Fees: \$10.75

MCH 352. CAD/CAM II. 3 Credits.

A continuation in the study of G and M codes from MFGT 341 with emphasis in 3-dimensional CAD/CAM tool path definition. Students will use 3-dimensional models to create sweep surfaces, ruled surfaces, projected surfaces, surface revolutions, and Coons surfaces. Prerequisite: MCH 351. Course Fees: \$10.75

MCH 391. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

MCH 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

MCH 457. Quality Assurance. 3 Credits.

Industrial methods of insuring quality in manufacturing through application of codes and standards, sampling techniques, control charts and implementation of a documentable quality assurance program. Prerequisite: M 121 or higher.

MCH 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Metals Technology (METL)

Montana Administration of Sch (MAS)

Music (MUS)

Music (MUSI)

MUSI 103. Fundamentals of Musical Creatn. 3 Credits.

Basic theory providing background in the rudiments of music reading and notation. Includes note and rhythmic reading, scales, intervals and triads. No prior music experience is required.

MUSI 105. Orchestra Ensemble. 1 Credit.

This course is designed for students who wish to further their experience in music by participating in an orchestra ensemble. The repertoire will be determined by the orchestra director in conjunction with other community events. The student may repeat the class up to three times for credit. Prerequisite: Ability to play an instrument and read music, consent of the instructor. Students are responsible for providing their own instrument.

MUSI 132. History of Rock and Roll. 3 Credits.

This course presents the roots, components and development of Rock & Roll. This course focuses upon significant performing artists and groups from historic eras and explores sociological, economic, and cultural factors that shaped the Rock & Roll art form. This course includes lecture, audio/visual, and live performances.

MUSI 147. Choral Ens: MSUN. 1 Credit.

Designed for students who wish to further their experience in music by participating in group or ensemble singing. Repertoire will be based on interests and abilities of the group members. May be repeated up to three times for credit. Prerequisite: consent of instructor.

MUSI 191. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

MUSI 195. Applied Music I. 1 Credit.

Designed for students who wish to begin or further their experience in vocal or instrumental music. Lessons in piano, voice, or various instruments may be offered privately or in small groups. May be repeated up to three times for credit. Prerequisite: consent of the instructor.

Course Fees: \$10.75

MUSI 201. Introduction to Music History. 3 Credits.

A survey of the fundamental elements of the music of Western civilization. Examination of the history of music and musical styles from the Middle Ages through the Romantic period.

MUSI 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

MUSI 303. Music History of 20th Century. 3 Credits.

A survey of the composers, styles, techniques, trends, and technologies that have shaped the serious music of the 20th century. Prerequisite: MUSI 201 or consent of the instructor.

Nat Resource Sci & Mgmt (NRSM)

NRSM 260. Rangeland Management. 4 Credits.

A study of the ecology and physiology of forage and range plants. Response of vegetation to grazing, climate and other environmental forces are explored. Range utilization, plant identification and stocking rate exercises are components of this class. Both range and pasture crops are discussed. Prerequisite: AG 102 or BIOO 220.

NRSM 261. Rangeland Management Lab. 0 Credits.

Native American Studies (NAS)

Native American Studies (NASL)

NASL 191. Special Topics. 1-12 Credits.

NASL 192. Independent Study. 1-12 Credits.

NASL 291. Special Topics. 1-12 Credits.

NASL 292. Independent Study. 1-12 Credits.

NASL 391. Special topics. 1-12 Credits.

NASL 392. Independent Study. 1-12 Credits.

Native American Studies (NASX)

NASX 105. Intro Native Amer Studies. 3 Credits.

Interdisciplinary treatment of Native American studies. Provides general background and understanding of American Indian cultures.

NASX 120. Native American Language I. 3 Credits.

Introduction to one of several Native American languages, concentrating on simple conversations and the relationship of language to culture. The particular language to be studied will vary depending on availability of instruction. Taught by Native speakers, two semester of NASX 120 (six semester credits) will fulfill the Department of Humanities and Social Sciences language requirement.

NASX 121. Native American Language II. 3 Credits.

NASX 121 is a continuation of Introduction to Native American Language concentrating on conversations and the relationship of language to culture. The particular language to be studied will vary depending on availability of instruction. Prerequisite: NASX 120.

NASX 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

NASX 232. MT Ind Ctrts/Hstry/Iss. 3 Credits.

This course will deal with several major issues: One, the U.S.-Canada international border cuts between Native territories due to international negotiations in which Natives had no role. How has the border affected, and how does it continue to affect, their lives? Two, the histories and cultures of Montana's seven reservations and twelve Native groups vary and are complicated. The histories of the people and the reservations will be covered. Three, the course will include bringing in elders from the Hi-Line reservations to tell the cultures, traditions and present issues from their perspectives.

NASX 235. Oral/Written Trads Native Amer. 3 Credits.

A study of the oral traditions of various American Indian cultures, including examination of Indian language families, oral history traditions, oral literature, ritual and spiritual observances, together with English translations of Indian memoirs, autobiographies, and religious works.

NASX 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

NASX 304. Native American Beliefs/Philos. 3 Credits.

The sacred customs, traditions and beliefs of Native Americans have been, and are, greatly misunderstood by the mainstream society. The introduction within the boundaries of Native American practices and beliefs will apply to debates of classroom presentations. The class will concentrate on the plains tribes in Montana and Canada, on tribal spiritual leaders and practitioners and on the U.S. Supreme Court decisions.

NASX 310. Native Cultures of North Amer. 3 Credits.

Background on the extent and diversity of Native American cultural groups in North America, including languages, geographic locations of cultural groups, and the material, spiritual, and artistic cultures of American Indian tribal groups.

NASX 340. Native American Literature. 3 Credits.

A critical examination of a representative number of major works by non-Native Americans about Native Americans and major works by Native Americans. Topics include stereotyping, segregation, prejudice, and the roles of Native Americans in American society. Readings include mythology, poetry, essays, novels, and non-fiction.

NASX 376. Fed Indian Law & Policy. 3 Credits.

Treats the present applications and procedures of Federal Indian law and its historical development, including Indian treaties, tribal sovereignty, jurisdictional disputes, tribal and state powers of taxation, economic and environmental controls, and real property interests.

NASX 391. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

NASX 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

NASX 439. American Indian Art. 3 Credits.

This course presents an overview and analysis for Native American art forms, techniques, and traditions. It will discuss background and interpretation of traditional and contemporary styles and symbols important to both tribal and individual expression. Course includes discussion of tribal arts and crafts associations, markets and exhibitions, and federal laws.

NASX 450. History of American Indians. 3 Credits.

History of American Indians from Pre-Columbian times to the present, with special emphasis on demographic shifts caused by encroaching European and American westward expansion, and relationships between Native Americans and immigrants.

NASX 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

NASX 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Natural Sciences (NSCI)

NSCI 110. Survey of the Natural Sciences. 3 Credits.

Introduction to aspects of the Biological, Physical, and Earth Sciences. The biology component emphasizes the structural and functional features of organisms, their classification, and their importance in the environment. The physical science component presents a non-mathematical approach to understanding some of the basic concepts in chemistry and physics. The earth science studies focuses on the interrelationships between geology, paleontology, astronomy, meteorology and oceanography. This course is required for elementary education majors. This course does not meet the laboratory science requirement. Course Fee: \$15.00.

NSCI 111. Survey Natural Science Lab. 1 Credit.

This course is the laboratory course to accompany NSCI 110. the laboratory will introduce students to experiments where they will see demonstrated the fundamental concepts of biology, physical and earth sciences. Course fee:.

NSCI 301. Essence of Science. 3 Credits.

This is a lecture course covering the important scientific discoveries from the ancient Greeks to the development of modern molecular biology and the human genome project. The course lectures, readings and discussions will develop how science, the scientific method and resulting technology have led to the ascent of humans to their present state of power. Such an ascent has been made possible through the relationship of mathematics and the physical, chemical and biological sciences. Prerequisite: A college science course, junior standing or consent of the instructor. This course does not meet the laboratory science requirement.

NSCI 450. Undergraduate Research I. 3 Credits.

Provides the opportunity to perform undergraduate research in a particular science area of interest as selected by the student; the research project will be initiated and completed under the counsel and guidance of departmental staff. Prerequisites: Appropriate science background and Junior standing. This course does not meet the laboratory science requirement.
Course Fees: \$40.00

NSCI 451. Undergraduate Research II. 3 Credits.

Serves as a continuation of NSCI 450 and affords the option by which to complete a research endeavor in a selected science area. Prerequisite: NSCI 450. This course does not meet the laboratory science requirement.
Course Fees: \$26.50

NSCI 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Nursing (NRSG)

NRSG 100. Introduction to Nursing. 1 Credit.

This course introduces the students to the profession of nursing with an exploration of nursing history, professionalism, communication, collaboration and teamwork, ethical/cultural issues, and basic concepts of human behavior. Students will study characteristics of the nursing process, nursing judgement and time management which form the basis for clinical decisions, professional judgement and lifelong learning.

NRSNG 106. Nursing Syntax and Calculation. 3 Credits.

Course designed to be presented via computer assisted instruction and modular teaching methods. The content to be mastered will assist the pre-nursing student to gain the background skills needed to interpret medical terminology. The course will also provide the content necessary for the student to apply mathematical concepts to nursing medication administration.

NRSNG 130. Fundamentals of Nursing. 7 Credits.

This theory and lab course introduces nursing principles and clinical skills that are essential when providing safe, quality patient centered care across health care settings. The use of evidence-based practice and nursing judgment are presented. The course provides for the application of basic nursing skills in the lab setting. Prerequisite: Admission to Nursing Program.

NRSNG 131. Fundamentals of Nursing Lab. 0 Credits.

Lab for NRSNG 130.

NRSNG 135. Nursing Pharmacology. 3 Credits.

This course is an introduction to safe, clinical drug therapy and administration. Content areas include groups of therapeutic drugs, prototypes of drug groups, commonly prescribed drugs, drug interactions and use of nursing judgement in prescribed drug therapy regimens. Students examine drug therapy using evidence based practice and clinical decision making. Prerequisite: Admission to Nursing Program.

NRSNG 138. Gerontology for Nursing. 2 Credits.

This course addresses current issues relevant to the nursing care of the aging population. Economic, social and ethical issues and expected age related conditions affecting the aging population are explored. The clinical component provides the opportunity for the student to utilize evidence based principles when providing patient centered care. Prerequisite: Admission to Nursing Program.

NRSNG 139. Gerontology for Nursing Incl. 0 Credits.

Clinical for NRSNG 138.

NRSNG 140. Core Concepts of Adult Nursing. 7 Credits.

This theory and practicum course prepares the student to provide safe, quality care to patients experiencing common, well-defined health/illness needs. The focus is on use of evidence based practice and the development of nursing judgement in settings where stable patients are anticipated. Recognition and treatment of rapidly changing patient physical conditions will be introduced. Prerequisites: Successful completion for NRSNG 130, NRSNG 135, and NRSNG 138.

NRSNG 141. Core Adult Nursing Clinical. 0 Credits.

Clinical for NRSNG 140.

NRSNG 142. Core Maternal Child Nursing. 3 Credits.

This theory and practicum course prepares the student to provide safe, quality care to patients experiencing common, well-defined health/illness needs of the mother, newborn, child and family unit. The course includes growth and developmental patterns as well as care of the well and sick child. The student will utilize evidence-based practice/nursing judgment when providing safe, patient centered nursing care for the mother, newborn and child in institutional and community based settings. Prerequisites: Successful completion for NRSNG 130, NRSNG 135, and NRSNG 138.

NRSNG 143. Core Maternal Child Nursing Clin. 0 Credits.

Clinical for NRSNG 142.

NRSNG 144. Core Mental Health Nursing. 2 Credits.

This theory course explores physiological, sociological, spiritual and environmental factors associated with Mental Health/Illness needs which effect individuals, families, and communities. Focus is on the use of the evidence based practice/nursing judgment and therapeutic communication skills when caring for clients with basic psychiatric disorders. Therapeutic modalities and psychopharmacological management used when providing patient centered care is presented. Prerequisites: Successful completion of NRSNG 130, NRSNG 135 and NRSNG 138.

NRSNG 150. Nursing Success I. 3 Credits.

This two-week elective course is designed to give incoming nursing students basic knowledge of study skills and test taking skills to enhance their success in their first year in the MSU-Northern nursing program. The American Psychological Association (APA) writing format, which is required for all papers written in the nursing program, is introduced. Information is provided on using the Internet for nursing research and how to present appropriate documentation.

NRSNG 151. Nursing Success II. 3 Credits.

This is an elective course for nursing students designed to provide an introduction to improve critical thinking skills, study skills, and test taking abilities. The course also provides the opportunity for students to reinforce nursing skills such as developing nursing care plans through the use of the nursing process and using mathematics in the clinical setting. Prerequisite: Admission to nursing.

NRSNG 230. Nursing Pharmacology. 3 Credits.

This course provides the student with an overview of pharmacology with an emphasis of 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.

NRSNG 231. Nursing Pharm Lab. 2 Credits.

An integration of lab experiences focusing on the basic principles in providing safe medication administration, including intravenous therapy across diverse populations and the lifespan.

NRSG 232. Foundations of Nursing. 3 Credits.

This course 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, physical, psychological and nutritional 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 Credits.

An integration of lab experiences focusing 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, nutritional safety, and basic therapeutic skills are practiced and demonstrated.

NRSG 234. Adult Nursing I. 3 Credits.

This course will establish a foundation of knowledge for students within medical-surgical nursing care for the adult patient. Key themes within this course include prioritizing care, using appropriate clinical judgment, giving safe, high quality care that will produce the most optimal outcomes for patients. Modalities used within this course include lecture, quizzes, online media sources for simulation and exams.

NRSG 235. Adult Nursing I Clinical. 2 Credits.

In this clinical experience the student will provide 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 236. Health & Illness Maternal Nurs. 2 Credits.

In this course, the student 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, ethical, legal, cultural and evidenced-based practice.

NRSG 237. Health/Illness Mat Nurs Clinic. 1 Credit.

This clinical 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 240. Core Concepts of Adlt Nrsng II. 3 Credits.

This is a theory and practicum course which builds on the role of the nurse as provider of care and emphasizes the manager of care role for groups of individuals. Clinical activities focus on critical thinking and clinical decision making skills in the care of individuals with long term care and rehabilitative needs.

NRSG 241. Core Cncpts Adlt Nrsng II Clin. 3 Credits.

This is a theory and practicum course focusing on critical thinking and clinical decision making skills in the care of adults with increasingly complex health/illness needs. The transition to the graduate role integrates the roles of the provider of care, manager of care, and member within the discipline in an acute care setting.

NRSG 244. Adult Nursing II. 3 Credits.

This course 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 Credits.

In this clinical experience the student will provide 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 & Illness Child/Fam. 2 Credits.

In this course, the student 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 developmental principles to facilitate positive health outcomes through health promotion, nutrition and disease prevention.

NRSG 247. Hlth & Illns Chld/Fam Clinical. 1 Credit.

In this clinical, students will utilize the nursing process, to provide nursing care of healthy and high-risk pediatric populations and their families experiencing disruptions in bio/psycho/social/cultural and spiritual needs. Emphasis is also placed on health promotion, health maintenance, and therapeutic communication.

NRSG 250. LPN to RN Transition. 3 Credits.

This course facilitates transition the LPN student into the ASN Program. the nursing process, professional nursing judgement, and the clinical decision making process are reviewed and discussed. Professional identity and clinical nursing competency is demonstrated.

NRSNG 252. Cmplx Care Maternal/Child. 3 Credits.

This course prepares the student to provide patient centered care to maternal/child patients experiencing acutely changing conditions in settings where outcome is less predictable. Topics include evidence based care provided to patients during childbirth, high risk pregnancies, obstetrical emergencies, neonatal emergencies and infants, children and family units requiring complex collaborative care. Prerequisites: successful completion of NRSNG 140, NRSNG 142 and NRSNG 144.

NRSNG 253. Cmplx Care Maternal/Child Incl. 0 Credits.

Clinical for NRSNG 252.

NRSNG 254. Mental Health Concepts. 3 Credits.

This course explores mental health/illness needs of special populations with emphasis on individuals, families and communities. Focus is placed on evidence-based psychotherapeutic management in the families and communities. Focus is placed on evidence-based psychotherapeutic management in the continuum of care, milieu management and behavioral interventions with clients experiencing acute and chronic psychiatric disorders. This course provides for clinical applications of patient centered mental health nursing care and the use of therapeutic communication in institutional and community based settings. Prerequisites: Successful completion of NRSNG 140, NRSNG 142, NRSNG 144.

NRSNG 255. Mental Health Concepts Clinic. 1 Credit.

Clinical for NRSNG 254.

NRSNG 256. Pathophysiology. 3 Credits.

This course introduces the student to the principles and processes of pathophysiology and its effect on individuals and families. Pathophysiology of the most common body systems is discussed. Students will use this knowledge to make clinical nursing judgment decisions and promote safe, evidence based nursing care of clients with alterations in physiology. Prerequisites: Successful completion of NRSNG 140, NRSNG 142 and NRSNG 144.

NRSNG 259. Adult Nursing III. 3 Credits.

This course 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.

NRSNG 260. Adult Nursing III Lab. 1 Credit.

In this lab students are introduced to basic electrocardiogram interpretation, advanced concepts of perfusion, ventilation and complex pharmacologic regimens.

NRSNG 261. Adult Nursing III Clinical. 2 Credits.

This clinical experience 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.

NRSNG 262. Complex Care Adult. 4 Credits.

This theory and clinical course provides the opportunity for the student to utilize evidence based practice/nursing judgement when providing patient centered nursing care to the adult with complex health/illness needs, including those with acute health conditions. Emphasis is on clinical decision-making when providing care for clients and family members with rapidly changing health conditions. Prerequisites: Successful completion of NRSNG 252, NRSNG 254, NRSNG 256 and BIOM 250.

NRSNG 263. Complex Care Adult Incl. 0 Credits.

Clinical for NRSNG 262.

NRSNG 265. Advanced Clinical Skills Lab. 1 Credit.

This course prepares the student to practice providing patient-centered care to the individual and family requiring complex nursing interventions. This skills lab allows students to practice advanced nursing skills utilizing evidence-based research while demonstrating nursing judgment. Prerequisites: Successful completion of NRSNG 252, NRSNG 254, NRSNG 256 and BIOM 250.

NRSNG 266. Managing Client Care RN. 2,3 Credits.

This course addresses the transition of the student nurse to the associate degree registered nurse and includes preparation for the NCLEX-RN. Emphasis is on patient-centered care and the importance of collaboration, teamwork and management when caring for groups of patients in a supervised healthcare environment. A clinical component provides the opportunity to practice leadership skills. Prerequisites: Successful completion of NRSNG 252, NRSNG 254, NRSNG 256 and BIOM 250.

NRSNG 267. Managed Client Care Clinical. 2 Credits.

Clinical for NRSNG 266.

NRSNG 301. Nursing in the Community. 5 Credits.

This course will provide the student with an opportunity to apply the nursing process to the care of communities. The course explores concepts in population-focused interdisciplinary care, levels of prevention and levels of practice (individual/family, systems, and communities). Health status indicators for Montana counties and the Healthy People 2020 national health care agenda are researched. Basic concepts of environmental health, emergency preparedness, economics, and epidemiology are discussed. Students explore community coalitions and work groups that interface with vulnerable at risk populations in the community.

NRSNG 302. Nursing in the Comm Clinical. 1 Credit.

This clinical experience includes community health preceptor based training, a home visit program, and health promotion at several community sites.

NRSG 303. Community Nursing. 5 Credits.

Nursing concepts and public health sciences are applied to the health of communities. Health promotion, maintenance, education, disease prevention and coordination of care are investigated. Application is on the individual, family and community as a client. Prerequisite: RN license, NRSG 321 and NRSG 325. Course should be taken at the same time as NRSG 304. Formerly NURS 446.

NRSG 304. Community Nursing Clin. 1 Credit.

This practicum provides an opportunity to apply the community health nursing concepts. Prerequisite: RN license. Course should be taken at the same time as NRSG 303.

NRSG 305. Nursing/Health Care Ethics. 3 Credits.

This course provides students opportunities to explore ethical dimensions and issues related to decision-making in healthcare. Students will be encouraged to critically think and analyze the human perspective impacting healthcare decisions. Theories and bioethical principles from the disciplines of nursing, medicine and humanities will be examined for global concepts, values, beliefs and evidence-based practices which address interprofessional and patient collaboration in the synthesis and complementation of patient-specific healthcare. Formerly NURS 305.

NRSG 320. Nursing/Healthcare Informatics. 3 Credits.

This course is an introduction to informatics focusing on applications relevant to the nursing profession. Emphasis will be placed on the integration of nursing science with computer technology, and information science to support patient care and provide leadership within healthcare systems.

NRSG 321. Theoretical Foundation of Nurs. 3 Credits.

Characteristics of nursing practice as a profession are discussed. Interrelationships of the healthcare delivery system and nursing roles, functions and clinical decision-making are analyzed. Theoretical bases/concepts of nursing practice are examined. Prerequisite: permission of instructor.

NRSG 322. Health Promotion and Education. 3 Credits.

This course will prepare the student to shift from illness to wellness and health promotion, focusing on disease prevention and education. Course content will include theories of learning, assessment of learning needs, and developing and evaluating teaching strategies. Focus will be on wellness and health promotion interventions and education across the lifespan for all patient populations.

NRSG 325. Adv. Health Assessment. 3 Credits.

This course is designed to prepare the learner to develop a nursing database and builds on the education and skills gained during previous course work. Learners will enhance their assessment techniques through learning experiences that focus on the physical, developmental, emotional, psychosocial, cultural, spiritual and functional assessments. The course emphasized analysis, synthesis and documentation of assessment data as a foundation for providing holistic nursing care.

NRSG 326. Complex Health Care Needs. 3 Credits.

This course will focus on patient centered nursing care of individuals with multiple comorbidity health and illness needs. The application of evidence based practice concepts from pathophysiological, pharmacological and psychosocial nursing is discussed. The impact of multiple comorbidity illness and injury of individuals and their families is explored.

NRSG 331. Cultural Diversity in Hlthcare. 3 Credits.

This course presents cultural concepts and its relationship to health/illness of individuals and families. The focus is on how culture influences decision-making of the healthcare professional. This online course meets the Category V general education requirements.

NRSG 338. Gerontological Nursing. 3 Credits.

Biopsychosocial aspects of aging are explored in this elective course. Health/illness needs of the older adult and the impact of aging on the family and community are evaluated. Focus is on promoting functional ability and quality of life of the older adult. Prerequisite: Permission of the instructor.

NRSG 343. High Acuity Nursing. 3 Credits.

Focus is on nursing care of clients/families with complex health/illness needs. Pathophysiological and psychosocial concepts are related to nursing roles and critical thinking. Prerequisites: NRSG 321 and NRSG 325.

NRSG 344. Family Nursing. 3 Credits.

This course focuses on the theories and models of family coping and adaptation by incorporating the concepts into professional nursing care of the family unit. The application of these concepts while caring for families, demonstrate the strengths and weaknesses of the family unit and predict how the family will cope in times of illness and wellness. The impact of genetic nursing on the family will be explored.

NRSG 350. End of Life Care. 3 Credits.

This elective course is designed to explore the role of nurses in all aspects of end of life care. Focus will be on pain management, symptom management, cultural issues, ethical/legal issues, communication, grief and bereavement as the nurse provides holistic care to the patient and family.

NRSG 352. Comp Therapies & Alt Healing. 3 Credits.

This course examines the principles, practices, use and outcomes of complementary therapies and alternative healing. It provides an overview of the field, reviews selected systems of alternative healing and focuses on specific healing modalities that are widely used in the general population. Students will learn to use evidence-based criteria to evaluate the risks and benefits of selected complementary therapies. The integration of alternative and conventional health practices will be examined, with ethical and professional issues being explored. Emphasis will be placed on how to facilitate patient's decision-making regarding alternative therapies.

NRSG 355. Health Care System. 1 Credit.

This course introduces the student to the complexities of the healthcare industry. Healthcare economics, ethics, and legal issues are discussed. Managed care and its impact of cost and quality are also presented.

NRSG 360. Clinical Preceptorship. 2 Credits.

This required practicum provides opportunity to explore one or more clinical practice areas. The student develops individual objectives aimed at increasing clinical decision making skills through critical thinking. The student will be under the direction of a BSN nurse, who is competent in the selected clinical area. Prerequisites: RN license, NRSG 321 and NRSG 325.

NRSG 361. Global Nursing/Healthcare. 3 Credits.

This course will examine the foundations of healthcare policy, the financial structure of healthcare systems, and the regulatory environments that impact nursing practice and patient care. This course will also analyze current and emerging global health priorities, including emerging infectious diseases, poverty, health inequity, health systems reforms, and major global initiatives for disease prevention and health promotion.

NRSG 362. Health Education. 3 Credits.

Principles of teaching/learning and the nurse's role as health educator are analyzed in this required course. Formerly NURS 347.

NRSG 420. Nursing Research. 3 Credits.

Research methods and application to professional nursing practice are investigated. A research paper is developed and presented. Prerequisite: WRIT 101, statistics and/or permission of instructor. Formerly NURS 444.

NRSG 424. Nursing Research & Evidence. 3 Credits.

This course will focus on the research process and the translation of research into clinical practice. Students will explore and evaluate current nursing evidence-based knowledge. Emphasis is placed on gaining competency in accessing and critically reading, evaluation and applying research findings to nursing practice utilizing evidence models.

NRSG 452. Case Management in Nursing. 3 Credits.

This course will introduce the process of case management to coordinate nursing and healthcare services and reimbursement for clients. The case management process is followed from the intake interview to termination of client services. In-depth attention will be given to the three phases of case management: assessment, planning, and implementation. Evidence-based practice methods to promote service coordination and collaboration in case management will be explored. Organizational, legal, and ethical issues impacting the care management process will be addressed.

NRSG 463. Leadership & Mng for RN. 5 Credits.

This course focuses on the theory, research and practical application essential to effective nursing leadership and introduces the managing role of the leader within a variety of nursing practice settings. Concepts such as the role of the leader and manager, healthcare organizations, care delivery strategies, managing resources, interpersonal and person skills, and career management that were introduced at the ASN level are further explored in this course. Managerial concepts and leadership skills need to promote high quality nursing care delivery outcomes are examined. Emphasis is placed on combining leadership and management concepts to a complex healthcare system in various clinical settings.

NRSG 464. Leadership & Mng RN Clinical. 1 Credit.

This clinical experience part of this course enables the student to further develop leadership abilities, communications, critical thinking skills, and decision-making in the role of nurse leader and manager in a variety of settings.

NRSG 485. Nursing Leadership & Mngmnt. 5 Credits.

Principles of leadership, management and organizational concepts are discussed. The nurse's role and function as coordinator of care for individuals and groups within the healthcare system are explored. Prerequisites: NRSG 321 and NRSG 325. Should be taken at the same time as NRSG 386 Formerly NURS 440.

NRSG 486. Nursing Leadership & Mngmnt Clin. 1 Credit.

This practicum provides opportunity to apply leadership and management concepts in a healthcare system. Prerequisite: RN license. Course should be taken at the same time as NRSG 485. Formerly NURS 441.

Nursing (NURS)

Nutrition (NUTR)

NUTR 121. Clinical Human Nutrition. 2 Credits.

This course is an introduction to normal and clinical nutrition. The fundamentals of nutrition and nutritional needs throughout the life span will be addressed. The appropriate uses of diet therapy in restoring and maintaining health will also be covered.

NUTR 221. Basic Human Nutrition. 3 Credits.

This course is an introduction to human nutrition. Students will evaluate their diet and nutritional needs as they learn the different classes of nutrients, nutrition recommendations, and critical consumerism.

NUTR 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

NUTR 411. Sport Nutrition. 3 Credits.

This course explores and applies nutritional concepts specific to physical activity and performance. Macro and micro nutrient demands during physical activity are a theme throughout the course. Fluid balance, energy balance, and performance optimization are also examined.

Outdoor Recreation (REC)

REC 236. Intramural Recreational Activi. 3 Credits.

A course designed to teach leadership, basic skills, rules, and techniques for various recreational games. Practical student experiences in directing all phases involved within an ongoing intramural program; scheduling, league organization, publicity, and team point computations.

REC 307. Community Recreation. 3 Credits.

Study of community recreation programs with regard to their activities, organization, administration, leadership, planning, special problems, and evaluation. Practical student experiences within an ongoing intramural program may also be included.

REC 388. Outdoor Education. 3 Credits.

Introduction to the concept of outdoor education and its relationship to physical education; includes basic outdoor skills and the safety requirements involved. Offered alternate even years during Fall Semester.

Course Fees: \$8.60

Philosophy (PHIL)

PHIL 200. Introduction to Philosophy. 3 Credits.

Introduces the major problems and questions that have concerned philosophic thinkers from classical to modern times. Principal topics include issues of knowledge, truth, personal identity, ethics, justice, freedom, and religious belief, as discussed by such diverse thinkers as Plato, Aristotle, Descartes, Lock, Hume, Kant, Mill, Russell, Sartre, Austin, Rawls, and Rorty.

PHIL 210. Ethics. 3 Credits.

Treats the major thinkers in the development of modern ethical concepts. Principle topics include ethical theories of hedonism, self-realization, empiricism, Stoicism, utilitarianism, voluntarism, existentialism, and linguistic analysis. Ethical works discussed include those of Plato, Aristotle, Epictetus, Aquinas, Eckhart, Machiavelli, Hobbes, Spinoza, Hume, Kant, Benthan, Mill, Kierkegaard, Nietzsche, Marx, Dewey, Moore, Sartre, Ayer, Firth, Austin, and Rawls.

PHIL 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PHIL 299. Independent Study. 1-12 Credits.

PHIL 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Philosophy (PHL)

Physical Science (PHYS)

Physics (PHSX)

PHSX 105. Fund of Physical Science. 3 Credits.

This is an introductory course primarily for non-science majors and students lacking high school physics and chemistry. The course includes principles of chemistry and physics. A non-algebra approach is used to study mechanics, heat, atomic structure, chemical combinations, electricity, and fundamentals of earth science. This course does meet the laboratory science requirement. Co-requisite: PSHX 106.

PHSX 106. Fund of Physical Science Lab. 0 Credits.

Lab for PHSX 105.

PHSX 205. College Physics I. 3 Credits.

This is a general physics course covering measurement and experimental error, kinematics, dynamics, work and energy, momentum, rotational motion, properties of solids and fluids, thermal physics, properties of ideal gases, kinetic theory, and thermodynamics. Prerequisites: M 112 and M 121 or equivalent. M 112 may be taken concurrently with PHSX 205, but it is highly recommended that it be taken prior to enrollment in PHSX 205. Co-requisite: PHSX 206.

PHSX 206. College Physics I Laboratory. 1 Credit.

This laboratory course will include experiments related to work and mechanical energy, properties of sound and properties of thermodynamics. Corequisite: Enrollment in PHSX 205. This course taken in conjunction with the lecture portion of the course (PHSX 205) meets the laboratory science requirement.

Course Fees: \$5.35

PHSX 207. College Physics II. 3 Credits.

A general physics course covering properties of periodic motion, properties of waves, properties of light, geometric optics, optical instruments, wave optics and electric charge, electric field, electric potential, capacitance, electric current, resistance, magnetism, electromagnetic induction, alternating-current circuits, relativity and atomic structure. Prerequisites: PHSX 205, M 112, M 121. Corequisite: PHSX 208.

PHSX 208. College Physics II Laboratory. 1 Credit.

This laboratory course will include experiments related to light, electricity and atomic structure. Co-requisite: PHSX 207. This course taken in conjunction with the lecture portion of the course (PHSX 207) meets the laboratory science requirement.

Course Fees: \$5.35

PHSX 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Plumbing (PLMB)

Plumbing (PLUM)

PLUM 100. Intro to the Plumbing Trades. 4 Credits.

This course covers tools in the plumbing trade and how to use them: tools powered by electricity, batteries, and pressurized air, such as drills, saws, grinders, sanders, slings, hardware, hoists, rigging operations, critical safety issues, and accepted rigging techniques and practices.

PLUM 110. Intro to Plumbing and Drawing. 1 Credit.

This course introduces the history of plumbing from ancient times to current plumbing training programs, and also covers professional practices, career opportunities, and some basic safety. This course reviews the blueprints that are included in a building's plans and then moves on to specific plumbing drawings, such as isometric and oblique pictorial drawings, orthographic drawings, and schematic drawings. It also covers drawings of fixtures, assembly drawings, and cutaway drawings. This course includes an application of plumbing math.

PLUM 120. Intro to Piping Systems. 3 Credits.

This course describes the various types of plastic piping and fittings, what each is used for, and the measuring, cutting, and joining techniques for each type; hangers and supports used with plastic pipe, various types of copper tubing and fittings, measuring, cutting, and joining techniques, two types of cast-iron pipe (hub and no-hub). This course also describes carbon steel pipe; an overview of the drain, waste, and vent (DWV) systems; basics of traps, drains, vents, DWV fittings, and clean outs and an overview of the water distribution system.

PLUM 125. Intro to Plumbing Fixtures. 2 Credits.

This course covers the various types of fixtures that plumbers install, including sinks and lavatories, bathtubs and showers, water closets and urinals, garbage disposals and dishwashers, and laundry trays and mop basins.

PLUM 170. Plumbing Codes. 2 Credits.

This course is a study of the State of Montana plumbing code as it regulates environmental sanitation for the protection of public health. It also includes a study of the materials and installation methods that require a minimum of service and maintenance.

PLUM 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PLUM 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PLUM 200. Pipe Fitting Tools & Motor Eq. 3 Credits.

This course covers general hand tool safety and procedures for identifying, selecting, inspecting, using, and caring for pipe vises and stands, pipe wrenches, levels, pipe fabrication tools, and pipe bending and flaring tools.

PLUM 206. Applied Water Hydraulics. 3 Credits.

Applied hydraulics including study of water and wastewater collection and distribution, maintenance, and safety. Includes lecture and laboratory hours, but the hours are not the kind of experience that satisfies the laboratory science requirement. This course does not meet the laboratory science requirement.

PLUM 210. Advanced Blueprint Reading. 2 Credits.

This course introduces plot plans, structural drawings, elevation drawings, as-built drawings, equipment arrangement drawings, isometric drawings, spool sheets, and detail sheets in the plumbing industry.

PLUM 230. Hngrs, Supports, & Fld Testing. 2 Credits.

This course describes pipe hangers and supports found on the job site and the selection and performance of field tests of plumbing installation.

PLUM 240. Distribution Systems. 3 Credits.

Introduction to the topics included on the Montana State Examination. Laboratory experience in basic mechanical and plumbing skills, identification, selection, operation, maintenance and repair of hardware and piping systems, and safety procedures commonly used by water or wastewater treatment plants. The laboratory procedures are not the kinds of experiences that satisfy the laboratory science requirement. This course does not meet the laboratory science requirement.

PLUM 250. Special Piping. 3 Credits.

This course explains how to assemble flared and compression joints using copper tubing and the installation of hydronic piping.

PLUM 260. Intro to Cntrl Circuit Trblsht. 2 Credits.

This course covers the operation, testing, and adjustment of conventional and electronic thermostats as well as the operation of common electrical and electronic circuits used to control HVAC systems.

PLUM 270. Hydronic Heating & Cooling Sys. 2 Credits.

This course covers operating principles, piping systems, and preventive maintenance pertaining to the servicing of boilers, chillers, chilled water systems, absorption systems, steam systems, and system traps.

PLUM 280. Energy Management. 1 Credit.

This course explains how computer and microprocessor controls are used to manage zoned HVAC systems in residential and commercial buildings.

PLUM 285. System Startup & Shutdown. 1 Credit.

This course covers procedures for the start-up of hot water and steam heating systems and chilled water systems. Emphasis is on start-up after initial equipment installation or after an extended period of shutdown.

PLUM 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PLUM 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Political Science (POL)

POL 344. International Relations. 3 Credits.

A study of the principle forces, movements, ideologies, and instruments of international politics. Prerequisite: Consent of the instructor.

POL 348. Public Choice and Interest. 3 Credits.

This is a study of political economy focusing on what modern public choice and public interest models say about the proper boundaries of the public and private sectors. It analyzes the rent-seeking activities of special interest groups and the relative impacts of altruism and self-interest in explaining political behavior and governmental policies in democratic systems. The material focuses on the nature of public goods, market failures, government regulation, and wealth redistribution, among other topics. Theoretical, historical, and empirical forms of evidence are brought to bear on the issues.

POL 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

POL 401. Seminar in Political Science. 3 Credits.

Student participation in the examination of contemporary political ideologies. Contemporary issues in political science, including the structures of political parties, are discussed. Prerequisite: Junior standing.

Political Science (PSCI)

PSCI 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PSCI 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PSCI 210. Intro to American Government. 3 Credits.

Study of the American federal republic and political system. Focuses on the constitutional structure, limits and operation of the federal government, protection of individual rights, federal-state relations, political processes, and dynamic changes in the government system over time.

PSCI 227. Fin Man Nonprofit Org. 3 Credits.

This course introduces students to the principles of financial management specifically within the unique context of nonprofit organizations. The course focuses not only on building foundational knowledge of accounting principles and practices generally, but also explores specific issues related to nonprofit finances including budgeting, financial statements, reporting, policies, procedures, controls and income tax. The course further introduces the requirements and procedures for acquiring and maintaining nonprofit status with the state and federal government, including an introduction to articles of incorporation, bylaws, and organizational structure.

PSCI 240. Intro to Public Administration. 3 Credits.

Students explore the basic principles and theory of administrative structures, organizations, leadership, fiscal management, personnel, and policy-making in the modern state.

PSCI 250. Intro to Political Theory. 3 Credits.

Introduction to modern political ideologies, such as Classical Liberalism, Democratic and Totalitarian Socialism, Conservatism, Fascist Totalitarianism, and Environmentalism. Focuses on the nature of ideological thinking, the logic and internal structures of various ideologies, and their effects in practice.

PSCI 260. Intro to State and Local Govt. 3 Credits.

Introductory study of state and local government, including constitutions, legislatures, supreme courts, governors' administrative agencies in their historic and contemporary settings. County and city governments are included in the scope of this course.

PSCI 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PSCI 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PSCI 307. HR Mgmt Nonprofit Orgs. 3 Credits.

This course introduces students to the field of human resource management specifically within the unique context of nonprofit organizations. The course provides not only a board overview of the foundational knowledge and skills required by those who manage paid staff, but also the specialized knowledge and skills required to effectively manage volunteers and develop governing boards. The course further delves into the governance and organizational structure of nonprofit organizations and highlights ethical issues, laws, and court cases uniquely related to the operation of nonprofit organizations.

PSCI 344. International Relations. 3 Credits.

A study of the principal forces, movements, ideologies, and instruments of international policy. Pre-requisite: consent of instructor.

PSCI 365. Public Policy Issues&Analysis. 3 Credits.

Examines a variety of public issues including economic, social welfare, health care, environmental, and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.

PSCI 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PSCI 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PSCI 411. Nonprofit Grant Writing. 3 Credits.

Identification of funding needs and priorities, researching grant-giving organizations, identification of potential funding agencies, development of proposals, preparation and submission of grant applications, techniques for approaching grant-giving organizations, responses to decisions made by granting organizations, and management of grants. Prerequisite: CMLD 260 or permission of instructor.

PSCI 412. Nonprofit Fundraising. 3 Credits.

Students explore the fundamentals of fundraising, including major gifts, capital campaigns, planned giving, grants and special events and learn specific techniques and strategies for effective fundraising.

PSCI 471. American Constitutional Law. 3 Credits.

A study of the origin and development of the American Constitution including the separation of power, the Executive, Legislative, and Judicial branches of government.

PSCI 490. Undergraduate Research. 3 Credits.

Undergraduate Research.

PSCI 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PSCI 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PSCI 498. Intern/coop education/omnibus. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Power Generation (PGEN)

Psychology (PSYC)

PSYC 560. Personality. 3 Credits.

A survey course examining major theories of personality development and change. Particular attention will be paid to the impact of lifestyle upon brain biochemistry, and to the major "trait" approaches to assessing and understanding human personality. The causes, treatment, and prevention of severe shyness will be accorded special attention. Graduate credit requirements are described in the course syllabus.

PSYC 561. Abnormal Psychology. 3 Credits.

This course will survey the psychotic, neurotic, and life adjustment disorder/diseases to which humankind is subject. Each problem area will be analyzed as to its etiology, behavioral symptomology, and viable therapeutic modalities. Emphasis will be placed on the biological underpinnings of behavioral pathology, and upon the ways whereby such underpinnings influence social learning and environmental experiences. Additional emphasis will be placed on classical and operant conditioning as these processes relate to the development of counterproductive, abnormal behavior patterns. The course will also examine the impact of lifestyle (including thinking style) upon brain biochemistry. Finally, the course will examine several of the major theories (and related research) of personality. Graduate credit requirements are described in the course syllabus.

PSYC 590. Special Topics. 3 Credits.**PSYC 592. Ind Study. 1-12 Credits.**

Psychology (PSYX)

PSYX 100. Intro to Psychology. 3 Credits.

An introductory survey of the scientific discipline of psychology. Attention will be given to such standard topics as the nature of empirical, scientific research, and the learning process, intelligence, perception, personality, motivation, emotion, cognitive processes, abnormal behavior, human sexuality, psi-phenomena, major systems of psychotherapy, human growth and development, psychobiology and physiology, social psychology, memory, stress, forensic and industrial psychology. Students will be guided towards an appreciation of the six major theoretical perspectives that psychology has to offer. As psychology is intended to describe, predict, understand, and to control behavior, students should emerge from the course with an increased degree of enlightened control over their lives.

PSYX 150. Drugs and Society. 3 Credits.

This course will help students become more informed about the factors that may underlie drug use and introduce them to historical and contemporary controversies surrounding drugs and society. There are many issues related to the use of drugs: Why people use them? How they affect people? How society responds to drug use? What can be done to prevent or terminate use? This course will address these topics by considering mind/psychology, body/pharmacology, and environment/sociology.

PSYX 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PSYX 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PSYX 230. Developmental Psychology. 3 Credits.

Human development is the study of how and why people change over time, as well as how and why they remain the same. Thus this course will provide an overview of what is empirically known about all the periods of life from conception to death of our physical vehicles. We shall examine what is known scientifically about physical, cognitive, and psychosocial development in humans. We shall examine how changes in each one of these major areas impacts change in each of the other two. The relative importance of nature and nurture will be examined for each of the various life stages. The issues of native temperament and physical appearance will be given special emphasis as these areas impact psychosocial and cognitive development. A considerable amount of time will be devoted to what is known about methods of effective/ineffective, successful/unsuccessful parenting. Finally, we shall look at the physical, cognitive, and psychosocial aspects of our final years of life.

PSYX 238. Adolescent Psychology. 3 Credits.

This course will present the major methods, theories, and themes of adolescent behavior and development (including cognitive development, social development and physical development). This course will help students recognize adolescent themes in everyday life, critique media accounts, analyze research presented in scholarly journals and develop an understanding of the impact of culture on adolescent physical and social development skills.

PSYX 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PSYX 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PSYX 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

PSYX 340. Abnormal Psychology. 3 Credits.

This course will survey the psychotic, neurotic, and life adjustment disorder/diseases to which humankind is subject. Each problem area will be analyzed as to its etiology, behavioral symptomology, and viable therapeutic modalities. Emphasis will be placed on the biological underpinnings of behavioral pathology, and upon the ways whereby such underpinnings influence social learning and environmental experiences. Additional emphasis will be placed on classical and operant conditioning as these processes relate to the development of counterproductive, abnormal behavior patterns. The course will also examine the impact of lifestyle (including thinking style) upon brain biochemistry. Finally, the course will examine several of the major theories (and related research) of personality. Graduate credit requirements are described in the course syllabus.

PSYX 360. Social Psychology. 3 Credits.

Social Psychologists focus on the theoretical and experimental investigations of social processes. They ask questions like: Why do we tend to conform when faced with social pressures from others? Are we adept at explaining and predicting people's behaviors and attitudes? Are there strategies for improving our interpersonal relationships and reducing our stereotypes and prejudices? This course will help students develop the skills needed to think like a social psychologist. This course will cover social psychology's history and its philosophical perspectives, as well as theories, methodologies, and experimental research. Students will learn how people interpret social situations, how different cultures engage in social interaction, how people think during social engagement, and the role of emotions in our social lives. Finally, this course will help students think more critically about issues in psychology and assist them in implementing what they learn in this course to their own life.

PSYX 361. Industrial Organizational Psyx. 3 Credits.

Industrial/Organizational Psychology is an applied science in which the ultimate objective of this discipline is to maximize both employee well-being and organizational effectiveness. This course will introduce students to the many important and interesting topics related to I/O Psychology. Many topics that are thought provoking, interesting and applicable to students' future experiences in the workplace will be covered.

PSYX 362. Multicultural Psychology. 3 Credits.

This course is an introduction to the principles, theories and applications of multicultural psychology. Students will learn the necessary multicultural competencies for effective work with children and adults from diverse backgrounds (i.e. culture, race, ethnicity, class & gender) in multicultural environments (i.e. schools, community organizations & workplaces). Students will also develop an understanding and valuing of diversity, based on the principles of awareness, knowledge, and skills as they relate to the areas of worldview, identity, and acculturation.

PSYX 382. Forensic Psychology. 3 Credits.

The major goal of this course is to provide a broad overview and critical analysis of the field of forensic psychology and the variety of ways that mental illness interacts with the courts. Forensic psychology addresses the application of psychological research, methods, and expertise to issues that comes before the legal system. Some topics include competency to stand trial, criminal responsibility, coerced treatment, mental health courts, drug courts and eyewitness testimony. The discipline of forensic psychology has become extremely popular for students over the past two decades, in part because of TV programs addressing the topic such as: Law & Order, CSI, Criminal Minds, as well as a number high profile cases which captured the national media spotlight. A good understanding of forensic psychology will benefit students entering into a number of professions including: corrections, law enforcement, child/adult protective services, probation, mental health and healthcare fields, forensic sciences, and the legal system.

PSYX 383. Health Psychology. 3 Credits.

This course will provide an overview of the growing field of health psychology, with particular attention to the biological, psychological, and social determinants of health. The course will also provide overviews of major illnesses for which psychologists can and do play a major role and will examine the tools and techniques that clinical psychologists employ in medical settings.

PSYX 385. Psychology of Personality. 3 Credits.

A survey course examining major theories of personality development and change. Particular attention will be paid to the impact of lifestyle upon brain biochemistry, and to the major "trait" approaches to assessing and understanding human personality. The causes, treatment, and prevention of severe shyness will be accorded special attention. Graduate credit requirements are described in the course syllabus.

PSYX 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PSYX 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PSYX 460. Sport Psychology. 3 Credits.

A study of psychological and sociological implications of sports participation.

PSYX 491. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

PSYX 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

PSYX 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Railroad Maintenance & Opns (RRT)

Small Business Management (SBM)

SBM 392. Special Topic. 1-12 Credits.**SBM 492. Independent Study. 1-12 Credits.**

Social Science (SOSC)

SOSC 201. Introduction to Social Science. 3 Credits.

A systematic and comparative study of the interrelationships among the traditional social sciences (i.e. anthropology, economics, geography, history, political science, psychology and sociology), together with a review of the most important social science individuals and their major works.

SOSC 279. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters attendance at Montana State University-Northern, approval of advisor, Dean of the College of Education, Arts and Sciences, Nursing, and cooperative education coordinator. Pass/Fail only.

SOSC 325. Teaching Hist & Social Science. 3 Credits.

This course is a study of the theories and practices employed in teaching history and the social sciences on the secondary level. Prerequisites include: A minimum of 15 semester hours in history and the social sciences and Junior standing, Level I Admission to Teacher Education, EDU 380 and EDU 383. Co-requisite: EDUC 339.

SOSC 392. Ind Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

SOSC 479. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Cooperative Education 298, or Junior standing and approval of the advisor, Dean of the College of Education, Arts and Sciences, Nursing, and cooperative education coordinator. Pass/Fail only.

Social Work (SW)

SW 423. Addiction Studies. 3 Credits.

This course provides an applied approach to understanding the addictive personality and the process of addiction disorders. Students will focus on various models of addiction as developed by current experts and will examine current research on several disorders including chemical and substance addictions (alcohol, drugs, and food) and other behavioral addictions (gambling, spending, Internet/Gadget addiction, and compulsive productivity, otherwise known as "workaholism"). Specific topics to be covered include the stages and characteristics of addiction, its course, prevalence, and familial patterns and symptoms of addictive disorders and how it affects the criminal justice systems. It will also examine various treatment approaches including effective intervention strategies used within the criminal justice system.

SW 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Sociology (SOC)

SOC 102. Social Problems. 3 Credits.

A study of the antecedent causes and consequences of such major social problems as violent crime, drug abuse, alcoholism, family violence, divorce, the population explosion, war, maltreatment of the aged, juvenile vandalism, unplanned pregnancy, sexual deviance, riot behavior, religious cults and zealous fundamentalism, are provided with a sociological perspective. Key sociological theories (e.g., interactionism, functionalism, and conflict) are critically examined. Prerequisite or Co-requisite: SOCI 101.

SOC 255. Sociology of the Family. 3 Credits.

In-depth examination of the roles of the social institutions known as courtship, marriage, family, and divorce and the interrelationship among these and such other social institutions as work education, religion, and the political system.

Sociology (SOCI)

SOCI 101. Introduction to Sociology. 3 Credits.

Study of the concepts and principles of group behavior and of the impact which society has upon the programming of the mind and thought processes. Analysis of the components of culture and of the structure of society, as well as social organization and differentiation will also be emphasized. Introduces the essentials of micro sociology and macro sociology.

SOCI 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

SOCI 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

SOCI 211. Introduction to Criminology. 3 Credits.

Examination of the various sociological, psychological, and biological theories that purport to explain criminal behavior.

SOCI 241. Intro to Social Psychology. 3 Credits.

Comprehensive survey of social psychology as an interdisciplinary field of inquiry. Incorporates such standard social psychology topics as socialization, communication and language, perception and beauty, attitude and attitude change, norms, social order and conformity, roles and the ways they shape personality, situational influences on behavior, interpersonal attraction, aggression and conflict, conflict resolution, group behavior and gender roles.

SOCI 291. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

SOCI 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

SOCI 315. Race, Gndr, & Ethnic Relations. 3 Credits.

Provide knowledge and understanding of such major minority groups as Native Americans, Chicanos, Puerto Ricans, Cuban Americans, Chinese Americans, Japanese Americans, Jews, and women. Some attention will also be devoted to various nationality groups that suffered severe prejudice and discrimination during earlier decades of American history. Various theoretical and research perspectives pertaining to prejudice and discrimination will be examined.

SOCI 391. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

SOCI 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

SOCI 433. Addictive Behavior. 3 Credits.**SOCI 491. Special Topics. 3 Credits.**

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

SOCI 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Software Engineering (ESOF)

Spanish (SPAN)

Spanish (SPNS)

SPNS 101. Elementary Spanish I. 4 Credits.

Introduction to Spanish, emphasizing conversational ability but paying appropriate attention to reading comprehension and correct written expression. Extensive use of spoken Spanish in the classroom, small group practice sessions, and individual conferences with the instructor.

SPNS 102. Elementary Spanish II. 4 Credits.

Elementary Spanish II is a continuation of Elementary Spanish I emphasizing conversational ability but paying appropriate attention to reading comprehension and correct written expression. Extensive use of spoken Spanish in the classroom, small group practice sessions, and individual conferences with the instructor will be features of this course. Prerequisite SPNS 101. Students with prior Spanish study should consult the instructor for placement.

Special Education (EDSP)

EDSP 304. Ed and Psyc Exceptl Child. 3 Credits.

In this course candidates will examine the various categories of exceptionality (gifted, cognitively delayed, Learning Disabled, visual/hearing/health impaired, physically disabled, and emotionally disturbed) by analyzing each category utilizing the following format: history, definition, prevalence, causes, characteristics, assessments, interventions, curriculum implications, mainstreaming and future considerations. Complementary to the in-class teaching and learning, candidates will participate in a 20-hour field practicum experience to aid in their theory-into-practice curriculum studies. Prerequisite: Level I admission to Teacher Education.

EDSP 392. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EDSP 460. Learning Disabilities. 3 Credits.

In this course the student will examine learning disabilities by studying the following: Theory of etiology, assessment, and teaching strategies utilized to remediate the disabilities. The course will also focus on other related topics such as the various types of assessment reports, the planning of individualized educational programs, the different systems for delivering special educational services, and future issues in the field of learning disabilities. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

EDSP 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

EDSP 550. Ed & Psych of Exc Children. 3 Credits.

In this course candidates will examine the various categories of exceptionality (gifted, cognitively delayed, Learning Disabled, visual/hearing/health impaired, physically disabled, and emotionally disturbed) by analyzing each category utilizing the following format: history, definition, prevalence, causes, characteristics, assessments, interventions, curriculum implications, mainstreaming and future considerations. Complementary to the in-class teaching and learning, candidates will participate in a 20-hour field practicum experience to aid in their theory-into-practice curriculum studies. Prerequisite: Level I admission to Teacher Education. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

Statistics (STAT)

STAT 216. Introduction to Statistics. 3 Credits.

This course introduces the study of statistics from descriptive statistics through regression analysis, sampling, correlation, and analysis of variance. Topics are investigated as they apply to real world data. Computers and calculators are used extensively. Prerequisite: M 095, ACT score 20-22 or higher, or university placement exam.

STAT 217. Interm Statistical Concepts. 4 Credits.

Introduction to probability distributions including fundamental principles of descriptive statistics, statistical inference, correlation, regression analysis, and analysis of variance. Prerequisite: M 121.

Surveying (SRVY)

SRVY 230. Intro to Srvyg for Engineers. 3 Credits.

Students involved with this subject will learn to perform the most common survey work required on a construction project, which is layout, topographical leveling, differential leveling, and transfer of elevations from one benchmark or location to another. Students will learn linear measuring with tapes, and with electronic distance meters. They will also develop the skills in using standard and automatic levels, in measuring distances and angles with EDM, transit, and modern instruments. Fundamental computations will be emphasized. Co-requisite: M 121 or higher.

Sustainable Energy Technology (SET)

Traffic Education (TED)

TED 452. Traffic Ed & Adolescent Brain. 3 Credits.

This is an introductory course to neuroeducation (or mind/brain education) that incorporates cognitive neuroscience, cognitive psychology, and education, and specifically explores how the adolescent mind/brain functions, and relates these to traffic education. The emphasis will be on developing a practical understanding how the mind/brain systems work, and making practical applications of that knowledge in designing traffic education lessons for young drivers. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 454. Impaired & Distracted Driving. 2 Credits.

The purpose of this course is to increase teacher candidates' awareness of common contributors to impairment and distraction and their effect on a person's ability to operate a vehicle safely. Topics include pharmacology and toxicology of alcohol, signs/symptoms of commonly abused drugs, distractions (such as cell phones, entertainment and climate controls, and passengers), and state of mind, fatigue, and drowsiness. Related statutes, national standards for collecting data from traffic accidents, and field sobriety testing, arrest, prosecution, and adjudication will also be examined. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 455. Crash Dynamics. 2 Credits.

The purpose of this course is to increase teacher candidates' understanding of the causes, effects, and dynamics of motor vehicle crashes. Teacher candidates will be introduced to crash scene analysis and reconstruction, including the forces involved and mechanisms of injury to people and vehicles, an analysis of vehicle damage and injury profiles, and applicable statutes. The course requires practical applications of mathematics and physics. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 456. Coaching Novice Drivers. 2 Credits.

The purpose of this course is to develop teacher candidates' foundational understanding of theoretical and philosophical principles of coaching, as well as practical coaching skills, as they apply to the driving task. The course emphasizes how specific coaching and training techniques can be used to safely and effectively scaffold novice drivers from a classroom learning context to a behind-the-wheel learning context, and ultimately to an independent real world driving context. The metacognitive skills required for self-awareness, self-evaluation, and self-development will be stressed. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 457. Roadway Safety Tech & Design. 2 Credits.

This course provides teacher candidates with a conceptual overview of the principles of road and highway engineering from a safety perspective. The course is designed to provide a broad, interdisciplinary understanding of the history, laws, institutions, and research methods that guide the approach to road safety (i.e., engineering, highway safety, public health, public policy, research, data and analysis, etc.). The relationship between the design and layout of roads and highways and the characteristics of vehicles, drivers, and pedestrians will be examined. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 458. Vehicle Safety Tech & Design. 2 Credits.

This course provides teacher candidates with a conceptual overview of the principles of motor vehicle engineering from a safety perspective. The course is designed to provide a broad, interdisciplinary understanding of the history, laws, institutions, and research methods that guide the approach to vehicle safety (i.e., engineering, highway safety, public health, public policy, research, data and analysis, etc.). The course includes a review of a broad selection of advances in vehicle design, construction, and equipment to minimize the occurrence and consequences of crashes. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 459. Adaptive Driver Education. 1 Credit.

This course provides teacher candidates with a general introduction to driving rehabilitation. The course consists of an overview of critical issues related to driving assessment and training for students with a variety of special needs and includes review of adaptive equipment and vehicle modifications. The course is designed to enable teacher candidates to work more effectively as a team member with special education teachers, occupational therapists, and medical experts to assist students with special needs. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 461. Methods of Traffic Safety Ed. 3 Credits.

This is a foundational course for the preparation of teachers in the field of traffic safety. Teacher candidates will be introduced to the history and philosophy of traffic safety. The emphasis will be on the classroom instruction phase of traffic safety in the high school program, including methods, materials, organization, assessment, and driver task analysis. Teacher candidates will practice delivery of classroom theory lessons to their peers. Corequisite: TED 462 Methods of Behind-the-Wheel Instruction. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 462. Methods of Behind-the-Wheel In. 3 Credits.

This is a foundational course for the preparation of teachers in the field of traffic safety. The emphasis will be on the behind-the-wheel phase of traffic safety education in the high school program, including methods and application of content knowledge and skills. Teacher candidates will practice behind-the-wheel lessons with their instructor and peers, as well as deliver supervised behind-the-wheel lessons to high school students. Corequisite: TED 461 Methods of Traffic Safety Education. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 465. Motor Vehicle Law. 2 Credits.

This course is designed to build teacher candidates' awareness and understanding of Montana's motor vehicle laws and regulations, as well as of the Uniform Vehicle Code. Topics include how laws are made, enacted and enforced, the frequency and severity of violations and their impact on society, the consequences resulting from violations, and how to read and research Montana Code Annotated. The elements and the level of proof needed for arrest and prosecution are also introduced. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 468. Safety Education. 2 Credits.

This course is designed to introduce teacher candidates to the basic principles of safety education, including personal safety, public safety, occupational safety, and school safety with a particular emphasis on traffic safety. Topics include unintentional injury prevention, behavior and environmental modification strategies, OSHA standards and guidelines, and the development of safety programs. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

TED 552. Traffic Ed & the Adolescent Br. 3 Credits.

This is an introductory course to neuroeducation (or mind/brain education) that incorporates cognitive neuroscience, cognitive psychology, and education, and specifically explores how the adolescent mind/brain functions, and relates these to traffic education. The emphasis will be on developing a practical understanding how the mind/brain systems work, and making practical applications of that knowledge in designing traffic education lessons for young drivers. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 554. Impaired/Distracted Driving. 2 Credits.

The purpose of this course is to increase teacher candidates' awareness of common contributors to impairment and distraction and their effect on a person's ability to operate a vehicle safely. Topics include pharmacology and toxicology of alcohol, signs/symptoms of commonly abused drugs, distractions (such as cell phones, entertainment and climate controls, and passengers), and state of mind, fatigue, and drowsiness. Related statutes, national standards for collecting data from traffic accidents, and field sobriety testing, arrest, prosecution, and adjudication will also be examined. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 555. Crash Dynamics. 2 Credits.

The purpose of this course is to increase teacher candidates' understanding of the causes, effects, and dynamics of motor vehicle crashes. Teacher candidates will be introduced to crash scene analysis and reconstruction, including the forces involved and mechanisms of injury to people and vehicles, an analysis of vehicle damage and injury profiles, and applicable statutes. The course requires practical applications of mathematics and physics. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 556. Coaching Novice Drivers. 2 Credits.

The purpose of this course is to develop teacher candidates' foundational understanding of theoretical and philosophical principles of coaching, as well as practical coaching skills, as they apply to the driving task. The course emphasizes how specific coaching and training techniques can be used to safely and effectively scaffold novice drivers from a classroom learning context to a behind-the-wheel learning context, and ultimately to an independent real world driving context. The metacognitive skills required for self-awareness, self-evaluation, and self-development will be stressed. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 561. Methods of Traffic Safety Ed. 3 Credits.

This is a foundational course for the preparation of teachers in the field of traffic safety. Teacher candidates will be introduced to the history and philosophy of traffic safety. The emphasis will be on the classroom instruction phase of traffic safety in the high school program, including methods, materials, organization, assessment, and driver task analysis. Teacher candidates will practice delivery of classroom theory lessons to their peers. Corequisite: TED 462 Methods of Behind-the-Wheel Instruction. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 562. Methods of Behind-the-Wheel In. 3 Credits.

This is a foundational course for the preparation of teachers in the field of traffic safety. The emphasis will be on the behind-the-wheel phase of traffic safety education in the high school program, including methods and application of content knowledge and skills. Teacher candidates will practice behind-the-wheel lessons with their instructor and peers, as well as deliver supervised behind-the-wheel lessons to high school students. Corequisite: TED 461 Methods of Traffic Safety Education. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 565. Motor Vehicle Law. 2 Credits.

This course is designed to build teacher candidates' awareness and understanding of Montana's motor vehicle laws and regulations, as well as of the Uniform Vehicle Code. Topics include how laws are made, enacted and enforced, the frequency and severity of violations and their impact on society, the consequences resulting from violations, and how to read and research Montana Code Annotated. The elements and the level of proof needed for arrest and prosecution are also introduced. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 568. Safety Education. 2 Credits.

This course is designed to introduce teacher candidates to the basic principles of safety education, including personal safety, public safety, occupational safety, and school safety with a particular emphasis on traffic safety. Topics include unintentional injury prevention, behavior and environmental modification strategies, OSHA standards and guidelines, and the development of safety programs. Graduate credit requirements are described in the course syllabus. If this class is taken at the 500 level, it is a graduate course and expectations for student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

TED 592. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

Technical Sales & Service (TSS)

TSS 408. Technical Sales Seminar. 3 Credits.

This is a senior level class requiring application of previous course work dealing with marketing and sales. The course will use detailed in-depth analysis of popular case studies. Students will be expected to present legitimate resolutions to chosen case problems as individuals and as members of an analysis team.

Technical Science (TSCI)

TSCI 110. Intro to Water & Wastewater. 4 Credits.

Introduction to drinking water and sewerage/wastewater treatment systems. Topics include plant layout, process control, distribution and collection systems, federal and state regulations, facultative lagoons, and industrial treatment processes and laboratory procedures. The laboratory procedures are not the kinds of experiences that satisfy the laboratory science requirement. This course does not meet the laboratory science requirement.

TSCI 111. Env. Health/Safety Water/Waste. 1 Credit.

Provide students with fundamental knowledge of maintaining a safe, healthful work environment, as well as protecting the local community and environment, as well as protecting the local community and environment from potential hazards generated by water and wastewater system activities.

TSCI 112. Wastewater Lagoon Systems. 1 Credit.

Provide students with a basic knowledge of wastewater lagoon systems including: 1) origins of wastewater lagoon treatment; 2) what constitutes wastewater; 3) management of a system; 4) rules and regulations governing operation of a system as well as sampling, testing and monitoring; 5) wastewater collection systems and lagoon structure 6) the biological, chemical and natural physical treatment processes that occur in a system 7) different types of lagoon systems, discharge options, disinfection choices, sludge removal options; and safety and security concerns and how all these issues pertain to operation and maintenance 8) collecting wastewater lagoon samples for testing as well as the importance of monitoring influent and effluent flows and sludge accumulation 9) basic information about common wastewater problems and offer guidance in identifying causes and solutions; and 10) math calculations common to wastewater treatment.

TSCI 113. On-site Wastewater Systems. 1 Credit.

Provide students with fundamental knowledge of 1) proven and experimental on-site wastewater treatment systems including septic tanks, grease tanks, aerobic treatment units, fixed activated sludge treatment, recirculating sand filter, trickling filter, mound system, subsurface drip system, and peat fields. 2) site evaluations and design considerations; 3) on-site sewage disposal laws, regulations, and permitting procedures; 4) inspections and complaint investigations, 5) unacceptable systems, 6) operation and maintenance, 7) public health and environmental considerations; and 8) public relations and public education.

TSCI 114. Sm Public Drink Systems. 1 Credit.

Provide students with a basic knowledge of drinking water treatments systems including 1) the fundamentals of water 2) science concepts related to the treatment of water 3) water hydraulics 4) the common components of a water distribution system 5) safety concerns when working in water treatment and water distribution systems 6) regulatory requirements for water systems in Montana 7) common math calculations used in drinking water systems.

TSCI 115. Industrial Wastewater Systems. 1 Credit.

Provide students with fundamental knowledge of 1) the types of industries, including but not limited to dairy, paper, mining, oil and coal, that produce and must treat wastewater in Montana; 2) the methods used for treating industrial wastewater; 3) the common issues related to most industrial wastewater will including chemicals, pH, BOD, COD, solids and others 4) pretreatment of industrial wastewater prior to discharge to a municipal wastewater treatment system 5) rules and regulations related to treatment and discharge of industrial wastewater; and 6) the Montana Department of Environmental Quality's operator certification requirements and exam process.

TSCI 116. Wastewater Coll Systems. 3 Credits.

Provide students with fundamental knowledge of 1) the importance and responsibilities of wastewater collection system operator 2) the need for collection system operation and maintenance 3) the components of and typical layouts of collection systems 4) safety procedures for the construction, inspection and testing of sewers, inspection of manholes, and underground construction and repair 5) rules and regulations related to treatment and discharge of wastewater and 6) the Montana Department of Environmental Quality's operator certification requirements and exam process.

TSCI 117. Pumps/Motor Operation. 1 Credit.

Provide students with introductory concepts of pumps and motors used in water and wastewater industry and general operation, maintenance and troubleshooting of each. Various types of pumps will be discussed including centrifugal, submersible, dose, screw and sludge pumps. Attention will also be given to hydraulic conditions and pump devices for the efficient use of pumps. Tours of the local water and wastewater systems will provide students the opportunity to see the pumps and motors in-line and operational.

TSCI 119. Valves and Hydrants. 1 Credit.

Valves and Hydrants are discussed.

TSCI 205. Distribution Systems. 3 Credits.

TSCI 208. Water & Wastewater School. 2 Credits.

This course will introduce students to current topics of importance to the field of water and wastewater operations in addition to having the opportunity to review material in preparation for taking the State of Montana Certification examinations.

TSCI 210. Backflow Prevention. 3 Credits.

Provide students with a basic knowledge of understanding of field testing methods on 4 valves; pressure vacuum breakers, spill resistant vacuum breakers, reduced pressure principle assemblies, and double check assemblies. Students will gain knowledge in hydraulics, backflow and backsiphonage, types of cross connections, and degrees of hazard and state and federal regulations. Completion of this course and the written and practical exams will result in certification by ABPA as a backflow prevention assembly tester.

TSCI 230. Intro to Groundwater Concepts. 3 Credits.

An introduction to the basic concepts governing groundwater including geology, chemistry, contamination, contaminant transport, and remediation techniques. Attention will be focused on the use of groundwater as a source for municipal supply. Includes some laboratory applications. The laboratory procedures are not the kinds of experiences that satisfy the laboratory science requirement. This course does not meet the laboratory science requirement.

TSCI 231. Wastewater Processes. 3 Credits.

An introduction to industrial and municipal wastewater treatment and preliminary, primary, and tertiary treatment processes and methods. Specific topics covered include characteristics of wastewater, sampling and testing procedures for wastewater analysis, sludge treatment and disposal, activated sludge process control, legal aspects of sewage disposal, chlorination records and report keeping, maintenance and operation, and safety. Concurrent enrollment in TSCI 232 is required. Prerequisites: TSCI 110, CHMY 121, and M 121.

TSCI 232. Wastewater Processes Lab. 2 Credits.

Laboratory and on-site activities associated with wastewater treatment and analysis. Concurrent enrollment in TSCI 231 is required. This course is taken in conjunction with the lecture portion of the course (TSCI 231) meets the laboratory science requirement.

Course Fees: \$21.50

TSCI 233. Water Treatment Processes. 3 Credits.

Water treatment processes including collection and distribution, sedimentation, filtration, chlorination, softening, aeration, fluoridation, corrosion and odor control, maintenance water bacteriology and chemistry, and basic hydraulics and electricity. Concurrent enrollment in TSCI 234 is required. Prerequisite: TSCI 231.

Course Fees: \$21.50

TSCI 234. Water Treatment Processes Lab. 2 Credits.

Laboratory and on-site activities associated with water treatment processes and water analysis. Concurrent enrollment in TSCI 233 is required. This course taken in conjunction with the lecture portion of the course (TSCI 233) meets the laboratory science requirement.

TSCI 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to water quality studies. Prerequisites: TSCI 111, two semesters attendance and MSU-Northern, approval of advisor, Dean of the College of Education, Arts and Sciences, Nursing, and cooperative education coordinator. Pass/Fail only. This course does not meet the laboratory science requirement.

TSCI 304. Fuels and Lubricants. 3 Credits.

Petroleum products and their application to the fuel and lubricating requirements of automotive and diesel vehicles. Laboratory tests related to octane, distillation, volatility, viscosity, carbon residue, API degree, and dropping point of greases. Chemical analysis will be made by gas chromatography and infrared. Includes lecture and laboratory hours. This course does meet the laboratory science requirement.

TSCI 320. Environmental Analytical Tech. 2 Credits.

Focuses upon the chemical, physical, and biological analytical techniques that are commonly used in performing environmental health and water quality assessments, and involves extensive field and laboratory work. Offered alternate years. Prerequisite: basic chemistry course. This course does meet the laboratory science requirement.

TSCI 415. Pollution Prevention. 3 Credits.

An in-depth examination of the process of systematically developing and implementing a pollution prevention program, focusing on developing an awareness of technology applications which have potentially harmful environmental impacts. Case studies and field experience are included such as Decision Support Systems and Water Quality Models. This course does not meet the laboratory science requirement.

TSCI 420. Applied Water Quality Technolo. 3 Credits.

Applied water quality technology.

TSCI 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to water quality studies. Prerequisites: Cooperative Education 298 or Junior standing and approval of advisor, Dean of the College of Education, Arts and Sciences, Nursing, and cooperative education coordinator. Pass/Fail only. This course does not meet the laboratory science requirement.

Technology (TECH)

Theatre (THTR)

THTR 101. Introduction to Theatre. 3 Credits.

Study of development of theatre and dramatic literature. Reading of plays representative of theatrical styles and genres. Overview of elements of theatrical production.

THTR 105. Theatre Workshop I. 3 Credits.

Classroom study, research and practical experience in the technical production aspects of presenting a play, including scenery design and construction, props, lighting, sound, promotion, crew, stage and house management. Includes practicum in technical production and the study of historical and artistic concerns in technical design.

THTR 120. Introduction to Acting I. 3 Credits.

Study of realistic approach to stage acting. Mastery of basic stage terminology. Improvisation and scene work.

THTR 191. Special Topics. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

THTR 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

THTR 194. Seminar/Workshop. 1 Credit.

This course provides experiences in any of the range of activities required to produce and stage a theatrical presentation. The experiences may include, but are not limited to: set design and construction, lighting, costuming, sound, publicity, box office, acting, stage management, and directing. By arrangement with the instructor, each student will undertake an individualized project. The complexity of these projects will reflect the credit level fulfilled. This course may be repeated once for credit.

THTR 208. Studies in Drama. 3 Credits.

The intensive study of one or more subjects from dramatic literature and theatre history. Reading will include the works of one or more major dramatists. The subject(s) to be studied, which may include women playwrights, will vary at the discretion of the instructor. May be repeated once for a credit.

THTR 230. Intro to Theatre History I. 3 Credits.

A chronological study of the development of the Western theatrical tradition from theories of origins and Greek and Roman theatre, through the development of the modern theatre in Europe and America. Focuses on theatre architecture, production methods, significant dramatists, directors, actors and designers, and the relationship of theatre to society.

THTR 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

THTR 339. Drama in Elementary Education. 3 Credits.

A study of approaches to incorporating dramatic activities into elementary and secondary school curricula, including ideas for equipping and operating an educational theatre plant, ways of dealing with extracurricular dramatic activities, and issues surrounding theatrical endeavors related to school programs and the community at large.

THTR 375. Directing. 3 Credits.

Study of basic stage directing techniques, the history of directing, and the role of the director in the contemporary theatre. Direction of a one-act play or substantial scene from a full-length play, along with written work and examinations. Prerequisite: Consent of instructor.

THTR 395. Practicum. 3 Credits.

Supervised advanced projects in performance and/or production for theatre students. Prerequisite: THTR 105.

THTR 498. Cooperative Education. 1-15 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

Transfer Course (XFER)

Transitional Studies (TRST)

TRST 102. Study Skills. 1 Credit.

Introduction to methods of approaching basic study skills in University designed for students who feel they need help with basic study habits to be successful. Emphasis is placed on strategies for test taking, memory, time management, textbook mastery, tapping creativity and exploring individual learning styles in order to achieve personal goals.

TRST 103. Transitional Life/Career Expl. 1 Credit.

This course is designed to assist the student in decision making and career development skills. Through interactive coursework and a variety of evaluative mechanisms, the student will explore career options as well as career "fitness" and the academic preparation/expectations necessary to achieve success in a chosen field in order to design an individualized plan of action to meet academic and career goals. The course is designed to be a "first step" to success for the new University student.

Vocational Education (VOED)

Welding (WLDG)

WLDG 110. Welding Theory I. 2 Credits.

An introductory course covering care and use of arc and oxyfuel, and gas metal arc (short circuit) welding equipment, regulators, torches, cylinders, power sources, electrodes, characteristics of operation, welding of steels and special applications. Introduction to techniques of welding mild steel. Mechanical properties of metals and types of joints are also covered. Co-requisite: WLDG 111.

WLDG 111. Welding Theory I Practical. 2 Credits.

An introductory course covering care and use of arc and oxyfuel, and gas metal arc (short circuit) welding equipment, regulators, torches, cylinders, power sources, electrodes, characteristics of operation, welding of steels and special applications. Introduction to techniques of welding mild steel. Mechanical properties of metals and types of joints are also covered. Co-requisite: WLDG 110.

Course Fees: \$110.00

WLDG 114. Mig/Tig Welding. 3 Credits.

Setup and operation of equipment and control of welding variables, types of power sources, and characteristics of operation, shielding gases, filler materials, quality assurance, and weld defects in metal arc welding, gas tungsten arc welding and flux cored arc welding.

Course Fees: \$110.00

WLDG 180. Shielded Metal Arc Welding. 3 Credits.

A continuation of WLDG 110 and 111, additional training in welding horizontal, vertical, and overhead positions of mild steel. Emphasis is placed on alloys and special applications. Prerequisites: WLDG 110 and 111 or consent of instructor.

Course Fees: \$110.00

WLDG 186. Welding Qual Test Prep w/Lab. 3 Credits.

Procedures and development of manual skills necessary to perform welds acceptable under a structural welding code. Prerequisite: WLDG 195 or consent of instructor.

Course Fees: \$110.00

WLDG 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

WLDG 195. Practicum: Welding. 3,6 Credits.

Additional welding practice offered for student enrollment in welding courses. This course may be repeated for credit. It can be repeated for credit for up to a total of 12 credits. Pass/Fail only.

Course Fees: \$110.00

WLDG 260. Repair & Maintenance Welding. 3 Credits.

Theory and practice in repair and maintenance of commonly used metals using oxygen fuel, shielded metal arc (SMAW), gas metal arc welding (GMAW), and gas tungsten arc (GTAW) welding processes. Students work on practice exercises and "live" projects. Prerequisites: WLDG 110 and 111 or consent of instructor.

Course Fees: \$110.00

WLDG 291. Special Topic. 3 Credits.

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

WLDG 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

WLDG 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government or community service agencies related to the program of study. Prerequisites: Two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

WLDG 353. Metal Sculpture. 3 Credits.

Metal Sculpture is a lecture studio course which is team taught by art and welding faculty. The course examines phases of the creative process from concept to criticism of the finished form. Both abstract and representational sculpture will be examined with emphasis on welded fabrication.

WLDG 356. Welding Certifctn Procdrs II. 3 Credits.

Laboratory applications to be taken following WLDG 186. Prerequisite: WLDG 186.

Course Fees: \$110.00

WLDG 357. Welding Certifctn Procdrs III. 3 Credits.

Laboratory applications to be taken following WLDG 356. Prerequisite: WLDG 356.

Course Fees: \$110.00

Writing (WRIT)

WRIT 095. Developmental Writing. 3 Credits.

This course is intended for students who are not fully prepared to meet college writing expectations. Activity requirements may differ from one student to another because of differences in developmental needs. However, all students will be expected to write and revise essays, of varied length, from various prompts. To complete Developmental Writing satisfactorily, students must demonstrate the ability to write a persuasive essay. Placement will be by University System Writing Assessment, ACT or SAT examination. Students who make progress but do not complete all requirements in their first semester will receive a grade of In Progress (IP) and may be repeated as necessary.

WRIT 101. College Writing I. 3 Credits.

This course emphasizes argumentation, research, and rhetorical analysis. Students will produce a variety of essays and other writing projects which utilize significant research. Students will practice library research methods and formal documentation styles, while learning the implications of plagiarism and the best means of avoiding it. Students may be required to take WRIT 101L concurrently in accordance with Board of Regents Policy 301.16 as explained in this catalog under General Education Course Placement.

WRIT 101L. College Writing Lab. 1 Credit.

This course supports the student in successful completion of WRIT 101. Students will have lab time to work on refining their writing and developing skills needed in WRIT 101 and beyond. Students will use lab time with more individual attention to work on writing concerns. This course must be taken concurrently with WRIT 101 as needed, in accordance with Board of Regents Policy 301.16, as explained in this catalog under General Education Course Placement.

WRIT 122. Business Writing. 3 Credits.

This course focuses on effective communication in business situations that inform, request, persuade, or respond. Students will complete a variety of writing projects for and about business issues utilizing significant research. Students will conduct audience analysis to better understand business writing situations and will employ rhetorical strategies to communicate effectively in these situations. Students will practice library research methods and appropriate documentation styles, while learning the implications of plagiarism and the best means of avoiding it. Students may be required to take WRIT 101L concurrently in accordance with Board of Regents Policy 301.16 as explained in this catalog under General Education Course Placement.

WRIT 305. Advanced Essay Writing. 3 Credits.

Practice in expository writing for advanced students. Prerequisite: WRIT 101.

WRIT 328. Media Literacy. 3 Credits.

This course begins the student of how mass media through education, socialization, and indoctrination, influence a student's understanding of the world. Students will be introduced to concepts, ideas and methods for thoughtful evaluation of the media culture so prevalent in today's world. If this class is taken at the 500 level, it is a graduate course and expectations for students performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

WRIT 338. Public Relations Writing. 3 Credits.

Practice in writing public relations materials such as brochures, background pieces, speeches, newsletters, and press releases. May be offered Spring semester only.

WRIT 350. Technical Editing. 3 Credits.

Guided practice in the writing and editing of technical communications, focusing on the composition, revision, and interpersonal communication skills needed by effective writers and editors, in the work place and beyond. Prerequisite: WRIT 101, WRIT 122, or Transfer equivalent.

WRIT 528. Media Literacy. 3 Credits.

This course begins the study of how mass media through education, socialization, and indoctrination, influence a student's understanding of the world. Students will be introduced to concepts, ideas and methods for thoughtful evaluation of the media culture so prevalent in today's world. If this class is taken at the 500 level, it is a graduate course and expectations student performance are at an advanced level. Evaluation of course requirements is more rigorous than at the lower division section of this course.

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