Virginia Campus:

1001 West Chestnut Street
Virginia, MN 55792

218-741-3095
800-657-3860
For TTY communication, contact the Minnesota Relay Service at: 7-1-1 or 800-627-3529

Fax: 218-748-2419

Eveleth Campus:

1100 Industrial Park Drive
P.O. Box 648
Eveleth, MN 55734

218-741-3095
800-657-3860
For TTY communication, contact the Minnesota Relay Service at: 7-1-1 or 800-627-3529

Fax: 218-744-7466

Visit us at: www.mesabirange.edu

Mesabi Range Community & Technical College is a member of the Minnesota State Colleges & Universities (MnSCU) system.

Mesabi Range Community & Technical College is accredited by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools.

Higher Learning Commission
A Commission of the North Central
Association of Colleges and Schools
230 South LaSalle Street, Suite 7-500
Chicago, IL 60604
312-263-0456

Due to conditions beyond the control of Mesabi Range Community & Technical College, it may be necessary to amend and/or delete statements appearing in this catalog. Insofar as possible, programs and course offerings will be offered as listed; however, the College reserves the right to modify any statement in accordance with MnSCU policies.

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WELCOME 4

GENERAL INFORMATION 5

Equal Opportunity College 5

Mission 6

Accreditation, History 6

Assessment 7

Directory of College Services 9

GENERAL ADMISSIONS POLICIES 14

Admissions 14

Educational Planning 19

Registration 20

College Costs 22

Refund Policies 22

Financial Aid 24

Academic Policies and Procedures 28

Transfer Information 36

STUDENT ACTIVITIES 39

STUDENT RIGHTS & RESPONSIBILITIES . . .41

GRADUATION REQUIREMENTS 45

MINNESOTA TRANSFER CURRICULUM 47

CAREER PROGRAMS 54

CENTER FOR IDEATION & INNOVATION 70

COURSE DESCRIPTIONS 73

FACULTY & STAFF 136

Minnesota State Colleges and Universities (MnSCU), Board of Trustees, Northeast Higher Education District (NHED), Advisory Committee 136

Foundation Board 137

Mesabi Alumni Association Board of Directors, Administration 138

Faculty 138

Staff 142

INDEX 145

MAPS 149

WELCOME TO MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

Congratulations! You have made a wise decision in considering and selecting Mesabi Range Community & Technical College. Without a doubt, you will experience how to "Lead the Way"!

At MRCTC you get the right start by completing the first two years of a baccalaureate degree, by completing one of many career programs, by developing your basic skills, or by enhancing your life through community and continuing education. There is something just right for you at Mesabi Range College.

Mesabi Range has a history dating back to 1918 that was built on offering its learners an educational experience that was rich in learning opportunities, with a level of quality that was second to none. That tradition continues today, and is found in every program, department, and service the College offers. The College plays an important role in Minnesota higher education, and has educated several generations of students, many from other states and countries. Today MRCTC is a vibrant modern two-year college with two campuses situated in the heart of beautiful Iron Range country.

We offer students an outstanding academic experience, a rich co-curricular life, competitive athletics, rich residence life, challenging and deeply caring faculty, and opportunities for travel study, leadership development, and service. In everything that we do and offer, learners are at the heart of it all. You are in for a treat as you get to know this dynamic and diverse college. We are proud of our work - and we are excited to welcome you to our college. Get ready to "Lead the Way"!

Best Wishes,

Dr. Tina Royer, Provost

EQUAL OPPORTUNITY COLLEGE

Minnesota State Colleges and Universities are committed to a policy of nondiscrimination in employment and education opportunity. No person shall be discriminated against in the terms and conditions of employment, personnel practices, or access to and participation in programs, services and activities with regard to race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission as defined by law. This document is available in alternative formats to individuals with disabilities by calling 1/800-657-3860, or for TTY communication, contact the Minnesota Relay Service at 7-1-1 or 1/800-627-3529.

In order to implement its policy on Equal Opportunity, the College shall base all decisions concerning employment on the principles of Equal Opportunity. All decisions will be consistent with applicable laws, directives, and regulations. The College will also ensure that promotion decisions are in accordance with the principles of Equal Opportunity by utilizing only valid requirements for promotional opportunities. Likewise, the College will ensure that all other actions relating to the welfare of its employees are implemented within the commitment to Equal Opportunity.

Valuing Diversity

Mesabi Range Community & Technical College has accepted a special role and responsibility in fostering diversity in our society. Managing diversity requires valuing members of the College for their individual contributions and how they differ from one another. Mesabi Range College strives to implement policies and programs that promote equal opportunity for people of protected groups.

Mesabi Range College is committed to maintaining a respectful, fair, and secure educational environment that is free from discrimination or harassment. The College publicly declares its intentions to continue to provide a multicultural learning community that does not tolerate any acts of harassment that infringe on a positive educational environment. Additionally, the College continues to establish, communicate, and enforce standards of behavior for students and staff that uphold our academic values and promote the acceptance of and respect for all members of the Mesabi Range Community & Technical College population. Mesabi Range College will continue to enforce policies that ensure an educational environment that is free from illegal harassment.

Rights and Protections Provided by the ADA

Mesabi Range Community & Technical College ensures that no otherwise qualified person with a disability will be denied access to and participation in programs, services, and activities due to their disability. Mesabi Range College will not discriminate against students with disabilities and provides reasonable accommodations, on an individualized basis, in order to enable students an equal opportunity to participate in college-sponsored programs.

Reasonable accommodation is determined on an individual basis and will reflect the functional impairment. Therefore, accommodations may vary from class to class, depending on course content, requirements, and format. The College is not only concerned with reasonable accommodation or campus accessibility, but also with the rights of individuals with disabilities to study and/or live in an environment free from harassment or discrimination.

The College's Disabilities Director has been designated to coordinate compliance with the Americans with Disabilities Act (ADA). Information concerning the provisions of the ADA, and the rights provided thereunder, is available from the Disabilities Director. The College fully complies with the ADA and Minnesota Law. The ADA Coordinator for the College is Toby Anderson, Learning Center, Virginia Campus. He can be reached at 218-749-0319 or for TTY communication, contact the Minnesota Relay Service at 7-1-1 or 1/800-627-3529. Any concerns, complaints, or other questions regarding ADA issues should be forwarded directly to Toby Anderson.

MISSION STATEMENT

Mesabi Range Community & Technical College provides high quality education resulting in rewarding employment, lifelong learning, and the enriched lives of our students and community.

VISION STATEMENT

Mesabi Range Community & Technical College will lead northeastern Minnesota in accessible, innovative, and high quality learning and educational opportunities.

GOAL STATEMENTS

1. Focus on Learning and Learners: Mesabi Range Community & Technical College will focus on the learning needs of northeastern Minnesota by serving a high percentage of local high school graduates and will diversify its student profile by increasing its enrollment of non-traditional, out-of-area, and international students. The College is committed to fostering a nurturing environment with responsive services supportive of a quality education.
2. Curriculum and Program Innovation: Mesabi Range Community & Technical College will create flexible curriculum and program initiatives to meet varied learning needs of the region in the global community.
3. Partnerships at Work: Mesabi Range Community & Technical College will create mutually rewarding partnerships with regional school districts, business and industry, student and community groups, governmental agencies, and other higher education institutions.
4. Technology Integration: Mesabi Range Community & Technical College will develop a technological infrastructure to facilitate the delivery of courses and services using emerging technology.
5. Growing Our Resources: Mesabi Range Community & Technical College will maximize and leverage state resources and increase the amount of grant funds and revenue through mutually beneficial agreements with external partners.
6. Leadership Development: Mesabi Range Community & Technical College will create and support leadership opportunities for all stakeholder groups to fulfill the potential of the College and the community it serves.

GUIDING PRINCIPLES:

1. Access: We honor and preserve geographic, low-cost, and timely access to higher education and services to a culturally diverse population.
2. Excellence: We strive for excellence in all that we do.
3. Opportunity: We provide opportunities for student success and community growth.
4. Responsiveness: We respond promptly and effectively to the needs of our stakeholders.
5. Community: We are committed to the preservation of northeastern Minnesota as a strong, viable collection of communities in Minnesota and the world.
6. Innovation: We seek to be a center of progressive, intellectual, and technological growth.

ACCREDITATION

Mesabi Range Community & Technical College is accredited by the The Higher Learning Commission, A Commission of the North Central Association of Colleges and Schools.

Higher Learning Commission
230 South LaSalle Street, Suite 7-500
Chicago, IL 60604
(312) 263-0456

HISTORY

Mesabi Range Community & Technical College was created by the merger of Mesabi Community College and Range Technical College-Eveleth on July 1, 1996. Mesabi Community College's antecedent institutions, Eveleth Junior College (established 1918) and

Virginia Junior College (established 1921), were consolidated in 1966, forming Mesabi Community College. The Eveleth Area Vocational Technical Institute was created by the Minnesota Legislature in 1963. Over the years, the legislature mandated a series of name changes for the institute. These name changes culminated in 1989 with the institutional name Eveleth Technical College. Both Mesabi Community College and Range Technical College-Eveleth had been part of regional governance units until 1996. Mesabi was part of the Arrowhead Community College Region (established in 1982), and Eveleth Technical College was part of Range Technical College (established in 1992). These regional college structures were dissolved in the Minnesota State Colleges and Universities reorganization of 1995.

In 1996, Mesabi Range Community & Technical College, along with Vermilion Community College in Ely, joined to form the Laurentian Community & Technical College District, enabling the two colleges to share senior administrative positions, programs, and services.

In November 1999, the MnSCU Board of Trustees formed the Northeast Higher Education District (NHED). Mesabi Range Community & Technical College is a member of the district. Valuing local autonomy and community-based colleges, the vision of the NHED is to enhance student access and learning options throughout the region and focus on each member college's connection to the community.

ASSESSMENT OF STUDENT LEARNING

Mesabi Range Community & Technical College believes in continuous improvement of its educational programs and services. It does so by gathering data using a variety of assessments in order to determine what works and what does not. At the classroom level, assessment is done to determine how well students are able to perform the tasks listed as course outcomes in the course outline.

Assessment is not only required to maintain accreditation by the Higher Learning Commission of the North Central Association of Colleges and Schools, but it also helps the College create a shared academic culture dedicated to assuring and improving the quality of higher education. Mesabi Range College has developed multiple methods of assessment in order to improve student learning across the curriculum. Processes and cycles of outcomes assessment occur throughout the institution.

Mesabi Range College is using a variety of methods of assessment in order to improve student learning. Assessing with multiple measures provides the College with the opportunity to gather information from different perspectives.

- Computerized Placement Test (CPT)
- Classroom Assessment
- Course Assessment
- Program Review
- Portfolios
- Developmental Education Assessment
- College Services Assessment
- New Student Surveys
- General Education & Employer Surveys
- Transfer Surveys & Data
- Placement Surveys (Career Programs)
- Graduate Exit Surveys
- Certification Tests (Career Programs)

Mesabi Range Community & Technical College has identified four major general education goals for student success in order to assist students in developing lifelong learning skills that will help them succeed in the world today and meet the challenges of the future. These goals are addressed in courses across the curriculum, and methods of instruction and assessment are varied.

Mesabi Range College's General Education Philosophy

Mesabi Range Community & Technical College provides an appropriate general education component in all degree, diploma and certificate programs as an essential intellectual and practical foundation for students' lifelong learning.

GOALS FOR STUDENT SUCCESS

Mesabi Range Community & Technical College works toward the creation of an informed citizenry with the ability to communicate effectively, to think critically, develop mathematical skills, and use information technology.

Communicate Effectively

Students of Mesabi Range Community & Technical College will use oral and written language appropriately and effectively in the various contexts of personal and professional life. Students will be able to:

- write a clear, well-organized document appropriate to audience and purpose;
- present a well-organized speech appropriate to audience and occasion;
- choose, use and assess appropriate verbal and nonverbal behavior in job and personal situations;
- apply appropriate listening skills in various situations;
- participate effectively in groups in order to achieve a common goal;
- read a document and demonstrate an understanding of its content;
- research and use information appropriate to the task.

Think Critically

Students of Mesabi Range Community & Technical College will apply effective critical/creative thinking and reasoning skills to personal and professional decision-making, problem-solving, and evaluative reasoning. Students will be able to:

- apply knowledge and skills to new problems and situations;
- make informed decisions;
- recognize and apply an appropriate model of problem-solving;
- acknowledge and incorporate a value framework in various personal and professional situations.

Demonstrate Mathematical Skills

Students of Mesabi Range Community & Technical College will demonstrate the ability to solve quantitative problems and draw conclusions within various contexts. Students will be able to:

- perform basic math calculations and applications;
- read a mathematical problem and extract relevant data;
- interpret data and draw logical conclusions;
- perform math functions necessary in coursework and career fields;
- perform math functions necessary in daily living.

Use Information Technology

Students of Mesabi Range Community & Technical College will demonstrate the ability to employ information technology in various disciplines/programs and professional life. Students will be able to:

- demonstrate skill in basic computer technology and applied computer skills;
- perform word processing/keyboarding skills;
- apply current technology to learning and occupational situations;
- demonstrate the ability to access information electronically.

General Education assessment is accomplished at several points throughout the curricula (entry, in-progress, graduation, and post-graduation). The College uses General Education assessment information to improve both the process of assessment and the effectiveness of General Education at Mesabi Range.

DIRECTORY OF COLLEGE SERVICES

Mesabi Range Community & Technical College is committed to providing its students with opportunities for intellectual and social growth and development. Mesabi Range's Student Services and activities programs are designed to meet the unique needs of students and to provide an environment of growth.

Academic Advising

218-749-7750 (Virginia), 218-744-7524 (Eveleth)

8:00 a.m.-4:30 p.m.
(Appointments 8:30 a.m.-4:00 p.m.)

Advising is an integral part of student success at Mesabi Range College. All students have the opportunity to discuss educational, personal, and career interests and goals with counselors or advisors. Other advising services include assistance with course selection, transfer, study skills, goal setting, and motivation.

Admissions

218-749-0313 (Virginia), 218-744-7506 (Eveleth)

www.mesabirange.edu

8:00 a.m.-4:30 p.m.

Student admission to Mesabi Range Community & Technical College is managed through the Admissions and Enrollment Services Office. Applications for admission, on-campus housing, college tours, and other college information can be obtained from this department.

Bookstore

218-749-7733 (Virginia)

Hours will be posted.

The bookstore maintains books and supplies required to complete coursework at Mesabi Range College. New and used books, imprinted clothing, computer software, and a wide variety of miscellaneous items are available to meet school and personal needs. No book returns will be accepted after the fifth (5th) day of the semester. Books must be in new condition and in their original wrapping. Books that have shrinkwrap removed may not be returned. VISA and Mastercard is accepted.

Business Office

218-749-7742 (Virginia)

Hours will be posted.

Tuition and fees due to the College are paid at the Business Office. Checks should be made payable to Mesabi Range Community & Technical College. All financial aid is issued through this office.

Career Center (Student Services)

218-749-7750 (Virginia)

8:00 a.m.-4:30 p.m.

All Mesabi Range College students are encouraged to use the services of the Career Center located on the Virginia Campus. A library of two- and four-year college catalogs is available, as well as information on transfer requirements, academic planning, career exploration, and job search techniques.

Career Placement Services

218-744-7471 (Eveleth)

8:00 a.m.-4:30 p.m.

Mesabi Range College has developed a placement service to aid occupational graduates in finding employment. Registrants will be aided in obtaining employment upon graduation from technical programs and upon reactivation of their files in later job placements. Services offered include job search and resume writing assistance, mock interviews, distribution of available job opportunities, and more. Job openings that are received by the Career Placement Office are posted on the College's website.

Child Care

Y-Wee Care Center (Virginia Campus)

218-749-7777

6:30 a.m.-5:30 p.m., M-F (year round)

Y Wee Care is a state-licensed child care center open to the public, providing care for children in the age range of 33 months through kindergarten. Learning activities, music and movement, literature, art, gardening, and outdoor play are enjoyed by the children. Social skills and YMCA core values (caring, honesty, respect, & responsibility) are emphasized. Y-Wee Care is a cooperative between the College and the Mesabi Family YMCA. For more information, call or stop in.

Computer Labs And Services

218-780-8063

Hours will be posted.

Mesabi Range Community & Technical College provides state-of-the-art computer facilities for classroom instruction and student applications. The computer labs offer a broad spectrum of current software for student use as well as full Internet and wireless access. Frequent upgrades to both computer software and hardware assure the student the latest in innovative technology. Computer software for students with disabilities is available.

Counseling Services

218-749-7750 (Virginia), 218-744-7533 (Eveleth)

Counseling services are provided on both campuses, either by appointment or on a walk-in basis. Services include: academic, personal and career counseling. To maximize the counseling services, outside service providers are accessed to meet students' needs when appropriate. A variety of support groups, workshops, and student success programs are instituted as necessary.

Disability Services

Virginia Campus:
Disability Director, Room L127 - 218-749-0319

Eveleth Campus:
Disability Director, Room 100 - 218-744-7467

For TTY communication, contact the Minnesota Relay Service at 7-1-1 or 1/800-627-3529

Hours will be posted.

Mesabi Range Community & Technical College ensures that no otherwise qualified person with a disability will be denied access to and participation in programs, services, and activities due to their disability. Mesabi Range College does not discriminate against students with disabilities and provides reasonable accommodations for a student, enabling that student an equal opportunity to participate in college-sponsored programs.

All students with disabilities who seek an accommodation at Mesabi Range College have the responsibility to identify themselves to the Disability Services Offices and/or the Student Support Services Program. Identification may take place at the time of admission or at any time during the student's course of study. All students with disabilities have the responsibility to provide documentation, at their own expense, in order to be eligible for accommodations. The request for accommodation and supporting documentation must be provided in a timely manner.

Services provided by the Disability Services Office may include assistance with application and registration procedures, career and academic counseling, auxiliary aids and adaptive equipment, classroom and testing accommodations, advocacy, accessibility information, and referrals to community agencies.

eFolio Project

Lisa Kvas – eFolio Program Manager

218-780-3274, 1/800-657-3860

8:00 a.m.-4:30 p.m.

Mesabi Range College's eFolio Minnesota initiative leverages the Minnesota State Colleges and Universities system's award-winning eFolio Minnesota technology to create an innovative, state-of-the-art system to support web-based personal, professional and regional economic development and assessment among K-12 students and institutions, organizations, community members, job-seekers, employers and economic developers.

Enrollment Services

218-749-0313 (Virginia), 744-7506 (Eveleth)

www.mesabirange.edu

8:00 a.m.-4:30 p.m.

Individuals wishing to attend Mesabi Range Community & Technical College, or anyone needing more information on Mesabi Range Community & Technical College, may contact the Enrollment Services Office. College tours, application forms, and up-to-date information on college programs, requirements, and enrollment procedures are available through this office.

Equity Services

Tracy Delich, Equity Coordinator, Title IX Compliance Officer, Student Services Suite, Eveleth

218-744-7533

An increasing number of students are seeking training and jobs in fields that have been considered non-traditional for their gender. An equity coordinator on the Eveleth Campus assists these students so that they can succeed in college as well as in the workforce. If you have a complaint, concern or issue regarding gender equity, please contact Tracy Delich.

Financial Aid

218-749-7753 or 218-749-7755 (Virginia)

Hours will be posted.

The primary function of the Financial Aid Office is to assist students in obtaining financial assistance in the form of grants, scholarships, loans, and student employment in order to ensure their access to education. Financial aid is available to full- and part-time students.

Food Service

218-749-7718 (Virginia), 744-7462 (Eveleth)

Hours will be posted.

A cafeteria service for snacks, breakfast and lunch is available for the convenience and enjoyment of students, staff, and guests on both campuses. Vending machines with soft drinks and snacks are also readily available.

Housing

218-748-2433 (Virginia)

For TTY communication, contact the Minnesota Relay Service at 7-1-1 or 1/800-627-3529

www.mesabirange.edu

Mesabi Range Community & Technical College has on-campus housing available to all Mesabi Range College students. Our housing units provide a comfortable, private environment at a reasonable cost. The on-campus units are located on the Virginia campus. They are "apartment-style" units with four bedrooms, two bathrooms, and they are partially furnished with beds, desks, furniture, stove, refrigerator, microwave, dishwasher, washing machine, dryer, cable, and wireless internet. The housing facility is operated by trained staff under the direction of the Residence Hall Director. Contact Mesabi Range College's Enrollment Services for more information or go to our web site at www.mesabirange.edu.

To print a housing contract and application, go to www.mesabirange.edu/future-students/housing

Library

College Center (Virginia Campus)

218-749-7712, Circulation Desk

Hours will be posted.

The Library is a vital part of the College instructional program. The Library cooperates with classroom instructors to ensure Mesabi Range College students develop skills in information literacy appropriate to their career and professional goals. An extensive collection of books, periodicals, audiovisual materials, and electronic resources are available for student, staff, and community use. The Mesabi Range College collection is accessed from locations both on and off campus via the Internet using WEBPALS, which also allows identification and borrowing of materials from more than eighty libraries statewide.

Learning Center

218-749-0319 (Virginia), 218-744-7471 (Eveleth)

Open throughout the school day.

Mesabi Range College's Learning Center offers many services to assist students with the challenges of college. Help is offered for improving study habits, test-taking skills, and time management. Trained peer tutors are available, at no expense to students, to assist with specific subject areas. Technology to assist students with disabilities can be accessed through the Learning Center.

Multi-Cultural Services

218-749-7750 (Virginia)

8:00 a.m.-4:30 p.m. (or by special appointment)

Mesabi Range Community & Technical College provides advisement, support, activities, and advocacy to meet the needs of minority students. The Minority Services' advisors monitor campus-wide activities that are designed to improve cultural awareness and diversity.

Assessment Testing

Computerized Placement Testing (CPT)

Enrollment Services

218-749-0313 (Virginia)

218-744-7506 (Eveleth)

For TTY communication, contact the Minnesota Relay Service at 7-1-1 or 1/800-627-3529

8:00 a.m.-4:30 p.m.

An assessment test is administered to all students enrolling for more than seven credits. Students will be assessed in Math, Reading and English. This assessment test will help ensure a student's success in their courses and programs. Upon request, and with the provision of the appropriate documentation, accommodations can be provided to students with physical or learning disabilities. Students should notify the Disability Services Office at least one week prior to testing if accommodations are required.

Records Office

218-749-7762 (Virginia)

Hours will be posted.

Student academic records and grade reports are maintained by the Records Office. Students may obtain transcripts, registration materials, and academic petition forms through this office. Information on veterans, personal, financial, and education questions may be obtained in the Records Office.

Student Support Services – Trio Program (SSS)

218-749-7750 (Virginia)

8:00 a.m.-4:30 p.m. (or by special appointment)

The Student Support Services Program provides eligible students with a variety of services including academic, career, and personal support services, free tutoring, support groups, and cultural activities. Participants in the SSS program are eligible to receive free credits by enrolling in a variety of courses and workshops. Program participants must meet eligibility criteria and must apply for acceptance into the program by contacting the SSS Program Director.

Tours

Enrollment Services

218-749-0314 (Virginia), 218-744-7506 (Eveleth)

www.mesabirange.edu

By special arrangement.

Visitors are always welcome at Mesabi Range College, and tours can be arranged by contacting the Enrollment Services Office. College visits are hosted by students and staff members who will acquaint you with the College, answer questions, and arrange appointments with faculty and staff upon request.

Veterans Affairs

Records Office

218-749-7762 (Virginia)

Hours will be posted.

Information regarding services and financial aid for veterans can be obtained from the Records Office. Veterans need to complete the Veterans Administration Form 22-1990 upon being accepted to the College to ensure sufficient time to process advanced payment claims through the local Veterans Affairs Office.

Veteran's Resource Center

Wes Judkins – Veteran's Affairs Coordinator

218-744-7467

Mesabi Range Community & Technical College has a Veteran's Resource Center (VRC) which is located at the Eveleth campus in the Learning Center. The VRC is staffed by Wes Judkins. The mission of the VRC is to assist veterans and their families in accessing resources to assist them in completing school.

ADMISSIONS

Mesabi Range Community & Technical College is committed to promoting equal educational and employment opportunities without regard to race, color, religion, gender, national origin, age, disability, sexual orientation, reliance on public assistance, or organizational membership.

College Visit Program

Find out if Mesabi Range is right for you. We invite you to visit us anytime, Monday through Friday between the hours of 8:00 a.m. and 4:00 p.m. Your private tour will be conducted by a personal guide who will arrange for you to visit with the instructors, advisors, or program coordinators of your choice, talk one-on-one with our financial aid staff, or speak with coaches. We want you to experience Mesabi Range Community & Technical College for yourself. We offer:

- a meeting with a member of the Enrollment Services staff to discuss Mesabi Range College's application and admissions procedures.
- a campus tour, conducted by students or staff members, to accommodate the student's interests and needs.
- an appointment with a faculty member from an academic department or technical program.
- other appointments, including a meeting with financial aid or athletic staff members.

To ensure that the Enrollment Services Office is able to provide prospective students with a complete and well-planned visit, please call, write, or email the Enrollment Services Office to arrange a campus visit.

Toll Free: 1/800-657-3860

Local: 218-749-0313

For TTY communication, contact the Minnesota Relay Service at 7-1-1 or 1/800-627-3529

b.kochevar@mr.mnscu.edu or
k.langdon@mr.mnscu.edu

Enrollment Services – Virginia Campus
Mesabi Range Community & Technical College
1001 West Chestnut Street
Virginia, Minnesota 55792

Enrollment Services – Eveleth Campus
Mesabi Range Community & Technical College
1100 Industrial Park Drive, PO Box 648
Eveleth, MN 55734

Admissions Policy

Mesabi Range Community & Technical College is committed to an open door admissions policy with the following requirements:

1. The basic requirement is a high school diploma or GED certificate.
2. A person who has neither a high school diploma nor a GED certificate may be admitted if, at the discretion of the College, that person demonstrates the potential for being a successful college student as determined by the College's Ability to Benefit assessment standards.
3. Application Fee – Submit the required $20.00 non-refundable application fee
4. College/Technical College Transcripts

Admission to the College does not guarantee admission to a specific program. Academic, fiscal and/or facilities considerations may limit admission to particular programs offered by the College. Students who are denied admission to the College may file an appeal with the Dean of Student Services. Students who have been suspended or expelled for disciplinary reasons from any postsecondary institution my be denied admission to Mesabi Range College.

Ability to Benefit Assessment

Students who do not have a GED or High School diploma may qualify for admission under the Ability to Benefit Policy. To qualify, students must be assessed by taking the Computerized Placement Test (CPT) assessment. Achievement of satisfactory scores on this assessment will allow students to be admitted to the College.

To be eligible for financial aid, a candidate must meet or exceed the minimum score on each of the three approved tests in a single testing experience. Candidates who do not meet or exceed all three passing scores may retake the complete set of three tests in alternate form.

Proof of Immunization

The immunization law states that no student may remain enrolled in a public or post-secondary educational institution without documentation of the appropriate immunizations, a statement signed by a physician that the student is medically exempt as outlined in the law, or a notarized statement that the student has not been immunized because of the student's conscientiously-held beliefs. No proof of immunization is needed from:

1. Students who have graduated from a Minnesota High School in 1997 or later.
2. Students who were born before 1956.
3. Transfer students from a different post-secondary school, if transcripts or other information from the previous school indicate that the student has met immunization requirements.

Determination of Residency

Residence status of students shall be determined at the time of registration. The permanent residence of the student's parents (or guardian if approved by the Chancellor or designee), is considered for students under 21 years of age. For students 21 years of age or older, the student's permanent residence is considered.

Exceptions to the above policies are:

- Students who have graduated from a Minnesota high school within two calendar years of application for admission to a Minnesota community college shall be granted resident status.
- Students who have graduated from a Minnesota high school and have resided in Minnesota substantially since graduation shall be granted resident status. Service in the Armed Forces of the United States shall not be considered a disruption of continuous residence.
- Students who have been employed full-time in Minnesota for one year immediately prior to the date of entrance to college shall be granted resident status, provided all income derived from such employment was subject to taxation.
- Spouses of Minnesota residents, as defined above, shall be granted resident status, provided that they are living with the spouse, and the couple's place of residence is within Minnesota. This rule shall apply regardless of the age of either spouse.
- Students serving in the armed services in Minnesota, as well as their spouses and children, shall be granted resident status.
- Aliens who are employed in Minnesota on a special visa for employment purposes, and whose wages are subject to taxation by the State of Minnesota, shall be granted resident status. The employment period must be at least twelve months (immediate past or immediate future) and must be documented by a contract or a copy of the previous year's tax return and the employment visa. This status shall also be granted to the spouses and children of such employees.
- Native Americans of 50% Indian blood who are born in Canada are to be considered residents for the purpose of registration in a Minnesota community college.
- Permanent residents of the United States, and who have been employed in seasonal agricultural labor in the State of Minnesota for a cumulative time period of not less than one year during the past five years, shall be granted resident tuition status. This status shall also extend to the spouses and children of these individuals.

Reciprocity with Wisconsin, North Dakota, South Dakota, and Manitoba, Canada

Wisconsin, North Dakota, South Dakota, and Manitoba, Canada residents may attend public institutions in Minnesota on the same basis that

Minnesota residents attend these institutions. These students are charged tuition fees similar to those charged to Minnesota residents. Potential students from these states or this province should contact their high school counselors or principals for the address of the state office which handles applications for the reciprocity program.

Midwest Student Exchange Program - MSEP

Students from the states of Michigan, Missouri, Kansas, and Nebraska may enroll in designated Minnesota institutions and programs at reduced tuition levels outside their home state. Student's tuition rate will be 150% of the Minnesota resident tuition rate.

ADMISSION PROCEDURES

Application for admission is open for the fall, spring, and summer sessions. Students may apply and register for classes through the first five class days of the semester. Early application and registration is recommended.

Enrollment Category

- **Degree-seeking:** Students are considered to be in the degree-seeking category if they have enrolled in eight credits or more and are working toward a degree or certificate.
- **Part-time:** Students are considered to be in the part-time student category if they register for 7 or fewer credits and are not working toward a degree or certificate. All part-time students must submit a special Part-Time Student Registration Form available from the Student Services Office or the Enrollment Services Office. Prior to registration for the 8th credit, part-time students must complete the admission process.
- **Credit Load:** See Credit Load in the Academic Policies and Procedures section of the catalog.

Limited English Proficiency (LEP)/English as a Second Language (ESL) Statement

Students who do not claim English as their first language must self-identify to an advisor to receive Limited English Proficiency (LEP) services during assessment testing. Students who identify themselves as needing English as a Second Language services, or wish to access LEP services during assessment testing, will not be discriminated against enrolling in Mesabi Range College programs or services. If an interpreter is needed to communicate in a language other than English, please contact the Director of Disability Services at 218-749-0319 or 1/800-657-3860. For TTY communication, contact the Minnesota Relay Service at 7-1-1 or 1/800-627-3529.

Freshmen

- Students who wish to register as freshmen must complete a Mesabi Range Community & Technical College application or standard MnSCU Application Form. Forms may be obtained from the Mesabi Range Community & Technical College's Enrollment Services Office or any Minnesota high school counselor.
- After completing the student portion of the application, applicants should contact their high school counseling office and have a transcript of courses and grades (which includes standardized test results and high school rank information) sent to Mesabi Range Community & Technical College.
- Applicants must pay a $20 non-refundable application fee.
- College/Technical College Transcripts.
- Applicants must supply documentation (month and year) of immunization against mumps, measles, rubella, diphtheria, and tetanus, if born in 1957 or later. Refer to the "Proof of Immunization" section.

Applicants must take the Computerized Assessment Test (CPT).

International Students

- Applicants must complete a Mesabi Range Community & Technical College application or standard MnSCU Application Form.
- Applicants must send a non-refundable $20 application fee.
- Applicants must submit a transcript of grades from their high school. Applicants must have graduated from the equivalent of a United States high school; transcripts should indicate this. It is most important that the transcripts be translated into English.
- International student applicants will be required to submit a detailed Financial Statement. Applicants should not rely on financial aid from the College or from other employment in the United States as a source of income. Applicants must submit proof of sufficient funds to cover all costs for an entire academic year.
- Applicants must purchase, before the time of registration, the MnSCU Injury & Sickness Insurance Mandatory Plan designed for international students. Students must maintain insurance coverage throughout the duration of attendance at MRCTC. Student coverage will be reverified every year. It is the student's responsibility to make sure insurance is renewed every year of attendance. Mesabi Range College assumes no responsibility for medical expenses.
- English proficiency is required, and documentation supporting proficiency is necessary in order for acceptance. The following measures of English proficiency are acceptable:
  - TOEFL (Test of English as a Foreign Language): score of 500 or more (paper), or 173 or more (computer).
  - Michigan Test: score of 75 or more. ESL Center (such as Hamline University) recommendation: range of 17- 20.
  - ESL - English as a Second Language Program at the University of Minnesota recommendation: "exempt from further ESL - ready for full-time academic load."
  - Documentation of English as primary language from student's high school on school letterhead.

International students must maintain a full-time course of study (12 – 18 credits) for every semester they are enrolled.

Transfer Students

Applicants who have attended other post-secondary education institutions are considered for admission as transfer students. Those applicants who have completed fewer than 10 semester credits are required to meet the criteria outlined in the previous section on freshmen.

Students transferring to Mesabi Range Community & Technical College from a post-secondary institution need to comply with the College's admission policies and must complete the following steps before enrolling:

- Complete a Mesabi Range Community & Technical College Application for Admission form.
- Request that official transcripts from each of the secondary and post-secondary institutions attended be sent to the Enrollment Services Office at Mesabi Range Community & Technical College.
- Pay a $20 non-refundable application fee to the Enrollment Services Office.
- Graduates of non-Minnesota high schools shall provide documentation (month and year) of immunization against mumps, measles, rubella, diphtheria, and tetanus, if born in 1957 or later.
- Students who have been suspended or expelled for disciplinary reasons from any postsecondary institution may be denied admission to Mesabi Range College.

Advanced Standing

Mesabi Range Community & Technical College grants college credits and/or advanced placement for the successful mastery of material contained in courses completed at the high school level when those courses are equivalent to col-

lege courses. Mesabi Range College will evaluate student records for the Advanced Placement (AP) Program, the International Baccalaureate (IB) Program, and the College-Level Examination Program (CLEP).

Credit granted through IB and CLEP programs may be used for partial fulfillment of the liberal education distribution requirements for the A.A., A.S., and A.A.S. degrees. A maximum of 24 credits obtained through advanced standing testing may be applied toward one of Mesabi Range College's degree programs. Students intending to transfer to other institutions should be aware that the receiving institution determines the acceptability of AP, IB, and CLEP credits; these institutions may have different regulations from those of Mesabi Range Community & Technical College. Contact the College's advising staff for more information about advanced standing.

Transfer of Credits

Transcripts will be evaluated to determine acceptable credits to be applied to degree or certificate programs. Lower division credits earned at a college or university accredited by a regional accrediting association may be accepted by the College's advising staff and the Academic Administrator. The grade point average (G.P.A.) from the transfer institution is not used in computing the student's G.P.A. at Mesabi Range College.

Transfer students may be given provisional admission until all transcripts are received by the College. Failure to supply the necessary transcripts may lead to suspension from the College. Students are responsible for all credits they register for prior to the College receiving late transcripts.

Students who have paid their application fee at the former Range Technical College-Eveleth will have their application fee waived.

Minnesota National Guard

Persons enlisted in the Minnesota National Guard may be eligible for educational benefits through the Guard. Such individuals should contact their Commanding Officer for more information and financial assistance registration materials.

Minnesota Post-Secondary Enrollment Options Act (PSEO)

The purpose of the Minnesota Post-Secondary Enrollment Options Act is to promote rigorous educational pursuits and to provide a wider variety of options for Minnesota's 11th and 12th grade high school students. The program enables students to seek enrollment in eligible post-secondary institutions for college-level courses/programs on a full- or part-time basis.

Students must be aware that the social and academic atmosphere at colleges may vary greatly from the high schools. More freedom and less structure in the academic and social setting of a college require maturity and responsibility in order for a student to succeed.

PSEO Eligibility Requirements

- All PSEO students shall be enrolled on the basis of available space and/or other appropriate, defined local standards and procedures.
- Students must be classified as high school juniors or seniors and cannot be classified as full-time students in their high schools.
- Students planning to attend during their junior year must have a 3.0 cumulative GPA. Students planning to attend during their senior year must have a 2.5 cumulative GPA.

PSEO Admission Procedures

- Permission to register must be obtained from the high school administration.
- Formal application to the College must be completed.
- Students must arrange with the College to take the Computerized Placement Test (CPT) to determine college level placement in English, mathematics, and reading.
- Students must place at college level in English and reading to be admitted.

Accepted students will receive a copy of the College's minimum academic progress requirements and will be subject to these requirements. Students will receive high school credit for successfully completing classes taken at Mesabi Range College. Complete information and program requirements may be obtained by contacting the Enrollment Services Office at Mesabi Range College.

PSEO Admitted Students

Once admitted to Mesabi Range College, PSEO students will be held to the same academic standards as regular college students with the following exceptions:

- PSEO students have the first 10 days of the semester to drop courses from their class schedule.
- PSEO students must meet with their high school counselor and PSEO advisor before making any changes to their schedules to ensure that their high school graduation requirements are not in jeopardy.
- PSEO textbooks are the property of Mesabi Range College and must be returned at the end of each semester. Students will be held financially responsible if textbooks are lost or stolen.
- If placed on academic probation, the PSEO student may not be allowed to take classes the following semester.
- If placed on academic suspension, the PSEO student will be suspended from Mesabi Range College and from the PSEO program. The student will not be allowed to take classes the following semester. PSEO students do not have the right to appeal this policy.
- PSEO students may register for summer classes, but will be held financially responsible for tuition, fees, books and supplies.

All questions regarding the PSEO program may be directed to the Dean of Students.

Veterans

Veterans, war orphans, and dependents of disabled or deceased veterans have the opportunity to continue their education under various educational programs administered by the United States Veterans Administration. Veterans may be entitled to obtain these benefits while pursuing a course of study at Mesabi Range Community & Technical College. Certification of Enrollment Forms must be completed by the Records Office. All inquiries concerning the ongoing veterans program should be directed to the Records Office.

EDUCATIONAL PLANNING

At Mesabi Range College, students work with professional educators, counselors, and advisors to assess their academic skills, plan their educational programs, and prepare for future employment or education.

College Readiness Exam

All students who register for seven or more credits at Mesabi Range College are required to complete the Computerized Placement Test (CPT). All students registering for an English composition or a math class are required to take the CPT exam even if they have seven or fewer credits. This assessment program combines student background information with test results in English, reading, and mathematics to identify students' current levels of ability and to aid in course placement. The assessments are not graded and are not used for any admission purposes. The purpose of assessment is to: ensure that students are placed into classes appropriate to their ability; help students plan an effective course of study; and identify support services that will assist in achieving success at Mesabi Range College.

Students meet with counselors and advisors to review CPT results, identify program requirements, and begin to develop an educational plan.

Students who have taken a CPT at another MnSCU college in the last two years are not required to take the assessment again, provided they send a copy of the test scores to the

Enrollment Services Office at Mesabi Range College.

Students transferring to Mesabi Range College who have completed college level classes with a "C" or better are encouraged to check with an advisor to determine which portions of the CPT may be waived.

Students with disabilities who need accommodation for CPT testing should contact Disability Services at 218-749-0319 (Virginia). For TTY communication, contact the Minnesota Relay Service at 7-1-1 or 1/800-627-3529.

English as a Second Language (ESL)

Mesabi Range Community & Technical College administers appropriate tests to students who self-declare English as a Second Language. Students should self-disclose prior to the testing. The Learning Center staff will serve as a liaison between the student and the appropriate college departments, and community resources to facilitate services for the ESL student. The tests given include:

- Limited English Proficiency (LEP) Reading Assessment – Accomplice Accuplacer
- Written essay on a given topic – 30 minute essay is scored by Mesabi Range College English instructors using a departmental devised scoring method.

Placement for Success

Placement for Success is a statewide MnSCU policy that ensures students enter college coursework with the skills necessary to be successful. The results of the assessment tests determine which English, reading, and mathematics courses a student needs to take in order to meet the requirements of their chosen program. All certificate, diploma, and degree programs require students to have or to develop basic skills. In addition, some certificate and diploma programs, and all degree programs, require students to have or to develop intermediate and college level skills. Check the requirements of your program for specific information.

Students who believe their placement into any of these required developmental classes is inaccurate may make an appointment to retest by contacting the College's Enrollment Services Office. Students should know, however, that few retests result in placement changes. Only one retest is permitted per academic year, and retests must be completed no later than the first week of the semester.

Developmental Education

Coursework in reading, math, study skills, or English that is numbered below 1000 (example: ENGL 0082) is considered to be developmental coursework that leads to college-level work. Depending upon a student's academic program requirements and CPT placement, specific developmental courses may be required. These courses are not counted toward graduation, and each course must be passed with a grade of "C" or higher in order to proceed to the next course in the sequence. Students may take developmental courses more than once in order to attain the "C" grade; however, financial aid will only be available for developmental courses twice.

The goal of developmental education is to provide students with a solid foundation of basic skills and knowledge as they move on to college level classes. Research has shown that students who complete developmental courses are more successful in college than students who do not complete them. Placement for success into developmental courses reflects the commitment Mesabi Range College has to ensuring the success of all students and to providing educational opportunities to those who enroll. Students who declare an A.A. major, and test into two or more developmental courses will be required to take LSK 1455 College Learning Strategies their first semester.

REGISTRATION

The registration period for each semester is outlined in the College Academic Calendar. Currently enrolled students should register prior to the beginning of each semester. Each student is required to have their program plan reviewed by a counselor or advisor prior to registration.

Professional counselors and advisors are available to assist students in reviewing their academic backgrounds, interests, and goals, and in making appropriate immediate and long-range plans.

Registration Procedures

Registration consists of the following:

- Program planning and review of the schedule with a counselor or advisor.
- Registering for classes on-line.
- Payment of fees.

Late Registration

During fall and spring semesters, students may not enroll after the fifth day of classes. The summer term may be subject to a different drop/add period. Please check with an academic advisor. Students who enroll after the first day of classes will be required to make up all missed class work.

Drop/Add Policy

Students may make a change(s) in their course schedules (drops and adds) through the fifth class day of the semester. Students will not be obligated for tuition and fees for courses dropped within the specified time frame. Dropped classes do not appear on a student's transcript but must be initiated by the student with an advisor. Students may access the online services for dropping and adding courses up to the fifth day. Although it is considered the student's responsibility to drop courses, the College reserves the right to drop students from courses for non-payment and/or non-attendance while holding students responsible for payment of tuition and fees. Students are encouraged to speak with Financial Aid when dropping/adding classes.

Drop/Add Policy for Courses Which Begin on Irregular Start Dates

Students may drop or add courses which begin on an irregular schedule prior to the second class session or within three days after the first class session, whichever comes first. Students will not be held financially responsible for courses dropped within the aforementioned time frame.

Financial aid for all registered credits will be disbursed at the regularly scheduled disbursement date (tenth day of the semester). Students who drop "irregular start date" courses for which they have received financial aid will be required to repay in accordance with federal and state repayment policies.

Withdrawal Policy

Students may withdraw from courses after the **5th class day of the semester through the 60th day of the semester**. Students may petition for a late "W" after the 60th day of the semester in which he/she is registered for the class. The petition must be signed by the instructor prior to the last day of finals in the semester in which the course was taken. Grades of withdrawal ("W") will be recorded on the student's transcript. Students must initiate the paper work process to complete course withdrawals by seeing an academic advisor. Students may not complete this process on line. Withdrawals which are not officially processed through the Records Office will be recorded on students' permanent records with a grade of "F."

No refunds will be issued for partial withdrawals. Refunds for total withdrawal are issued in accordance with the College's Refunds Policy. Students are encouraged to speak with Financial Aid when withdrawing from any or all classes.

Summer Session

Please see an academic advisor and financial aid officer prior to dropping or withdrawing from courses to check on your refund/repayment schedule, satisfactory academic progress, and financial aid eligibility.

COLLEGE COSTS

Schedule of Fees

The schedule of fees is established by the Minnesota State Colleges and Universities System and is subject to change each year.

Application Fee

An application fee of $20 is charged to each credit-seeking applicant. Exception: This fee may be waived by the College for non-matriculating students taking courses for credit.

Tuition

Tuition for a semester is based upon the number of credit hours a student takes. Tuition charges per credit are the same for day, evening, or summer session courses. Online courses have an additional fee per credit. Auditing courses requires the same payment as courses taken for credit.

Payment of tuition and fees must be made on or before the first (1st) day of the semester. Paid-in-full is defined as: having made full payment; enrollment in an approved payment plan (FACTS); a completed and filed financial aid application; or payment by third party. Students not meeting at least one of these criteria will be removed from the class roster and will be charged tuition and fees. If you do not plan on attending, you must notify the College or you will be charged for tuition and fees. If you have questions, call the Business Office. Fee, charges, and policies are as of the publication date and subject to change.

Estimate of Costs

Books and supplies are not included in the cost of tuition and fees. Book costs vary for each student each semester. The average cost for books and supplies for a full-time student is $1,000 per school year. This may vary depending on the student's programs and credit loads.

Senior Citizen Fee

A senior citizen who is a legal resident of Minnesota is entitled, without payment of tuition or activity fees to attend courses offered for credit, audit any courses offered for credit, or enroll in any noncredit courses in any state-supported institution of higher education in Minnesota when space is available. As of 2011, the senior citizen age for this program is 65 years of age. This includes Mesabi Range Community & Technical College.

Senior citizens enrolled under this program must pay any materials, personal property, or service charges for the course. In addition, a senior citizen who is enrolled in a course for credit must pay an administrative fee to recover any course costs. There shall be no administrative fee charges to a senior citizen auditing a course.

Tuition and Fees Payment Policy

Registration is complete only after a student has paid tuition and fees in full. Payment of tuition and fees must be made on or before the first (1st) day of the semester. The College may drop classes for students who have not paid or made the appropriate arrangements for payment, as well as hold students responsible for payment of those classes. Students who are removed from on-campus housing due to conduct violations will be responsible for payment of rental fees through the term of the contract. Students who are suspended or expelled will be held responsible for the tuition and fees for the semester in which the disciplinary action was taken.

REFUND POLICIES

Students may drop classes with no obligation for tuition and fees through the fifth day of the semester. Students are obligated for payment for any classes dropped after the five-day drop/add period. Students who have received Financial Aid after the drop/add period will be obligated to repay a pro-rated portion of their aid. For courses which begin on an irregular start date, students may drop classes with no obligation for tuition and fees prior to the second class session or within two days after the first class session,

whichever comes first. Financial aid for all registered credits will be disbursed at the regularly scheduled disbursement date (eighth day of the semester). Students who drop "irregular start date" courses for which they received financial aid will be required to repay in accordance with federal and state repayment policies. If a fee for a dropped class is for the recovery of costs already incurred by the College, refund of such fees is at the discretion of the Provost or designee.

Refunds for Partial Withdrawals

Refunds are not given to students who withdraw from a portion of their total credit load after the drop/add period.

Refunds for Total Withdrawals

Refunds for official total withdrawal from the College will be issued in accordance with the following schedule:

Regular Academic Year:

Withdrawal Period	Refund %
1st through 5th class day of the term	100
6th through 10th class day of the term	75
11th through 15th class day of the term	50
16th through 20th class day of the term	25
after 20th class day	0

Summer Session:

Withdrawal Period	Refund %
1st through 5th class day of the term	100
6th through 10th class day of the term	50
after the 10th class day of the term	0

Refund/Repayment of Federal (Title IV) Funds

If a student who has received Federal Grant or Loan funds withdraws from the College, the Financial Aid Office is required to calculate the amount that the student may have to repay the Federal Government. The calculation is for the amount that the student earned and the amount of unearned funds that have to be returned to the appropriate Title IV program. This calculation will be made not withstanding current MnSCU refund policies.

If the student does a total withdrawal prior to completing the 60% point of the term, a prorated refund of Federal funds will be used. The student can estimate the amount of refund due the Federal Government by dividing the number of days in the term, by the date the student withdraws. This will then give the student an idea of the amount of unearned funds that will need to be returned to the Federal Government. The refund of Federal Funds will be in the following order:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Perkins Loans
- Federal PLUS Loans
- Federal Pell Grants for which a return of funds is required
- Academic Competitiveness Grant for which a return of funds is required
- TEACH Grant for which a return of funds is required
- Federal Supplemental Educational Opportunity Grants (FSEOG) for which a return of funds is required
- Other assistance under Title IV for which a return of funds is required

Students who withdraw after the 60% point of the term will not have to repay any Federal funds.

Students who withdraw must contact an advisor in the Student Services Office to initiate an official withdrawal form.

Students who do not officially withdraw will have their withdrawal date calculated at the 50% point. Students who do not officially withdraw can therefore anticipate that 50% of all Federal Funds received were unearned and therefore must be repaid.

In all instances regarding the refund of Federal funds, the College will bill the student for the amount that has been returned to the Federal program or programs.

If the student owes a repayment of a Pell Grant because of a total withdrawal from college and fails to establish a repayment schedule with the Business Office within thirty (30) days, the National Student Loan Database System (NSLDS) will be notified that the student is in an over-payment status. The student will not be eligible for any future Title IV Federal Student Aid until the entire over-payment status has been fully repaid.

Refund/Repayment of Non-Federal Funds

Refunds for state aid programs and non-state aid programs are calculated on a proportional basis using the state mandated or institutional refund policy. To calculate the minimum refund due to the Minnesota State Grant Program, the SELF Loan Program, and other aid programs (with the exception of the State Work Study Program), the MNHESO Refund Calculation Worksheet and Appendix 14 of the Minnesota State Grant Manual is used.

Tuition Waivers Policy

A full refund of tuition and fees may be made in the case of significant personal circumstances or death or serious injury/illness requiring extensive hospital and/or convalescent care which prohibits return to class within the calendar semester. Students must complete a petition to request a tuition waiver and will be required to provide medical or other official documentation.

If a student's course schedule is reduced at the convenience of the College, such as in the case of cancellation of classes for insufficient enrollment, tuition and fees will be adjusted without penalty.

Credits and Refunds When Entering the Armed Forces

The granting of credits and refunds to a student who is enrolled at Mesabi Range Community & Technical College and leaves the College to join the armed forces of the United States shall be handled as follows:

- If a student leaves prior to the time when three-fourths of the sessions have elapsed, full refund of tuition and special fees will be made; no credit will be granted.
- If a student leaves during the last one-fourth of the sessions, he/she shall receive full credit for the courses in which he/she is enrolled if satisfactory academic progress is being made. If granted full credit in all courses, no refund of tuition and special fees will be made.
- If a student leaves during the last one-fourth of the session and if credit is granted in some courses and not in others, refund of tuition and special fees will be proportional to the amount of credit not granted.

Withholding Diplomas and Transcripts of Credits

The College will withhold the issuance of diplomas and transcripts to students until all money due to the College has been paid. Students with unpaid college financial obligations may not be permitted to register for subsequent semesters until obligations have been met or arrangements have been made to pay.

FINANCIAL AID

Mesabi Range Community & Technical College has an extensive financial assistance program to aid students in meeting their college costs. Students' financial aid at Mesabi Range College may take the form of grants, loans, employment, or scholarships, and is generally awarded in a "package" consisting of more than one type of aid. All financial assistance is awarded for one academic year only. Students must apply each year for continued financial aid.

Financial aid is determined by deducting the student's expected family contribution from the cost of attending the College. Based upon 2011-2012 rates, the budget of a typical Minnesota resident student living on campus for one academic year includes:

Tuition and fees $4,844.00

Books and supplies	$1,000.00
Housing	$3,972.00
TOTAL	$9,816.00

Several of the occupational programs have tool costs which may range from $300.00 to $2,100.00

Financial Aid and College Costs

The cost of education is a combination of direct costs (school costs) and indirect costs (cost of living expenses). The school costs are based upon tuition, fees, books, and supply costs. Costs are based upon a student load of 15 credits per semester. The student (and student's parents for dependent students) must make a realistic effort to contribute toward meeting school expenses. The primary responsibility for paying for school rests with the student and his/her family. Financial aid is intended to supplement, not replace, financial support from you and your family. Financial aid may be federal or state money that assists students in paying for their post-secondary education. Mesabi Range College knows that every student has a somewhat different financial situation and therefore may be able to review the student's and parent's ability to contribute when circumstances change. A financial aid award package may consist of funding from a combination of financial aid programs and is designed to help meet your financial needs.

How To Apply For Financial Aid

Students must first apply for admission to Mesabi Range College. After filing current year federal tax returns, applicants need to complete the Free Application for Federal Student Aid (FAFSA) based upon the completed tax return information. Students may apply online at www.fafsa.ed.gov. The process takes up to two weeks, so students should apply as early as possible after January 1. Students should be sure to read all correspondence from the College and submit any requested documents to ensure that they will have a completed financial aid file.

Separate applications are needed for Federal Stafford Loans, MN SELF Loans, Federal PLUS Loans, and Federal Perkins Loans. First time borrowers of Federal Stafford Loans who are first year students are required to be in attendance at the College for thirty days before their initial semester check can be disbursed. Loan applications are available from the Financial Aid Office.

Types of Financial Aid

The following financial aid programs are available at Mesabi Range College:

Scholarships and Grants

Federal Pell Grant – Annual awards range from $1,338 to $5,550. Pell Grant checks are disbursed each semester after the drop/add period. Full-time status is 12 semester credits. To be eligible, students must complete a FAFSA and meet the program eligibility requirements.

MN State Grant Program – Annual awards range from $288 to $728. MN State Grant checks are disbursed each semester after the drop/add period. Full time status is 15 semester credits. To be eligible, students must complete a FAFSA, be a Minnesota resident, and meet the program eligibility requirements. Eligibility for Minnesota State Grants is for only five academic years. This includes all periods of enrollment whether or not financial aid was received. Filing deadline for the MN State Grant is 30 days after the start of each term.

Federal Supplemental Education Opportunity Grants (FSEOG) – Awards range from $250 to $500. Grant checks are disbursed each semester after the drop/add period. To be eligible, students must complete a FAFSA and meet program requirements. Grants are awarded on the basis of greatest need, and are awarded until funds are exhausted. Students having complete financial aid files will receive priority consideration for FSEOG.

Work Study Programs

Work Study (Federal, State, and Institutional) – Federal and State work study provides employment for those students who have financial need and who must earn a part of their educational

expenses. Employment may be during the academic year and/or during vacation periods. Checks are disbursed bi-weekly. Institutional work study is based upon the student's academic standing as well as financial need within specific time cycles. For all work study programs, students must complete a FAFSA.

Work study jobs can be both on and off campus. Work study is normally performed between classes, after classes, or could be accomplished during the evenings and over weekends. Students generally work between six and eight work study hours per week. Students may work more hours during the summer and other vacation periods.

Loans

Federal Stafford Loan Program (Subsidized and Unsubsidized) – Loan amounts vary depending upon the student's year in college. First-year dependent students can borrow up to $3,500; second-year dependent students can borrow up to $4,500. Maximum interest rate is 8.25% with repayment of the loan beginning 6 months after the student leaves school or drops to less than half-time status. All first-time borrowers at Mesabi Range College must complete a loan counseling session. "Independent" students may be able to borrow additional unsubsidized funds depending upon their financial need. A separate loan application form is required in addition to the FAFSA. First-time, first-year borrowers will have their first loan check disbursed after the 30th day of attendance, all other checks will be disbursed after the drop/add period of each semester.

Federal PLUS (Parent Loan) and MN SELF Loans – Students desiring these loans should contact the Financial Aid Office. In addition to the FAFSA, separate loan applications are needed. Disbursement will be after the drop/add period of each semester.

Federal Perkins Loans – Students desiring these loans should contact the Financial Aid Office. Perkins Loans are based upon financial need and are at a 5% interest rate). Typical loan amounts begin at $1,800 per academic year. Disbursements of loan checks are after the drop/add period of each semester. A separate loan application is required in addition to the FAFSA.

Other Financial Aid Programs

American Indian Scholarship Assistance – Various scholarships and grants are available for American Indian students. Students must complete the FAFSA as well as a separate MN Indian Scholarship application. In addition, each of the MN American Indian tribes may be able to fund students in conjunction with the MN Indian Scholarship Program. Contact the Financial Aid Office or Minority Services for details.

Workforce Investment Act (WIA) – The Workforce Center (formerly the Northeast Minnesota Office of Job Training) provides students with an opportunity to train for jobs by paying for vocational classroom training in occupational programs. These occupational programs are designed so that individuals acquire technical skills to perform a specific job. In addition to the FAFSA, students must complete a WIA application which can be obtained from a WIA campus representative or from their main office at the Workforce Center in Virginia, MN.

Rehabilitation Services (DRS) – Aid may be available for persons who are disabled or qualify by the American Disabilities Act (ADA). Funds may be obtained for books, supplies, tuition, and, in some cases, maintenance costs. Contact the nearest Minnesota Workforce Center for further details. Students must have completed a FAFSA in order to be considered by Rehabilitation Services.

MN Non-AFDC Child Care Assistance – Contact the Financial Aid Office for current information. Child care assistance is based upon the family size, family income, and the number of credits the student is taking during the semester. Students must be eligible Minnesota residents and be enrolled in a degree-seeking program for at least six or more credits. Funding is awarded on a first come, first serve basis. Check with the Financial Aid Office as to deadlines.

Conditions of Financial Aid

Federal and State regulations require that all financial aid recipients maintain "Satisfactory Academic Progress (SAP)" and that they advance steadily toward the completion of their degree or certificate.

Satisfactory Academic Progress is met by maintaining a 2.0 (C) Grade Point Average (GPA), and the completion of 67% of all credits attempted.

Students receiving financial aid who do not maintain Satisfactory Academic Progress will be placed on probation for one term. If the deficiencies are not corrected during the probationary term, the student will be placed on financial aid suspension. Students have the right to appeal for reinstatement of financial aid.

If at the end of the probationary period, the student who has been on probationary status, and has met the institution's qualitative and quantitative standards for all courses in which he or she was enrolled during the probationary period; but has not met Mesabi Range College's cumulative standards, may be permitted to retain financial aid eligibility under a "Continued Probation" status, until such time as:

- The student has met the College's 2.0 GPA and 67% completion standards, at which time the student's financial aid eligibility will be reinstated, or
- The student fails to meet the College's 2.0 GPA and 67% completion rate for the courses that the student is enrolled in during the probationary period. At such time, the student will be suspended from financial aid, or
- The College determines that it is not possible for the student to raise his or her GPA or course completion rate to meet the College's standards before the student would reach the end of the program for which he or she is receiving financial aid. At such time, the College shall suspend the student from financial aid.

A student who has been suspended from enrollment may return to the College after an appeal has been approved or the period of suspension has passed. The student remains on probation upon return to the College. However, for the purposes of financial aid, a student who returns after a period of suspension must complete a written appeal for reinstatement of financial aid. The student must meet with an advisor and develop an Academic Plan. The Academic Plan, along with the written appeal, is submitted to the Financial Aid office. The Academic Plan will be monitored each term to ensure that the student is adhering to the plan. Courses not found on the Academic Plan are ineligible for financial aid. Should the appeal be denied by the Financial Aid Office, the student may further appeal.

Students must be enrolled and attending classes in order to receive financial aid. The College shall monitor attendance prior to the initial disbursement of funds for each term. If it is determined that a student has not been attending classes prior to the first disbursement date, those classes will be made ineligible for financial aid, and will not be included in the award calculation or disbursement. However, since the student did not drop the course within the drop/add period, the student is still responsible for all course costs.

Students who have in excess of 96 semester credits, or who already have an Associate or Bachelor Degree will have to petition to receive financial aid. Students who desire to appeal to the maximum time frame limits (96 credits) for other than a change in majors will have to provide documentation of extenuating circumstances. Those circumstances include, but are not limited to, death of a family member, illness of student or family member, college initiated changes to the curriculum, etc. In all cases, the student must meet with an advisor and develop an Academic Plan. The student will submit the written appeal along with the Academic Plan to the Financial Aid Office. Should the appeal be denied by the Financial Aid Office, the student may further appeal.

Student Responsibilities

Students have the responsibility to review and consider all information about a program before they enroll. Students must pay special attention to their financial aid applications, completing the FAFSA accurately and submitting the FAFSA for processing in a timely manner. Students must

return all requested documents to the Financial Aid Office. Failure to do so will result in their files being incomplete and their financial aid being delayed.

ACADEMIC POLICIES AND PROCEDURES

Academic Alert Reports

Instructors prepare deficiency reports on students who are not achieving at a satisfactory academic level. These reports are submitted to the Student Services Office at specific intervals during the semester. Students are notified of their deficiency and encouraged to seek assistance from counselors or advisors.

Academic Appeals

Students may appeal for exceptions to college procedures by obtaining a student petition form from the Student Services Office, discussing the circumstances of the petition with an academic advisor, and following the appropriate steps for each type of appeal.

Academic Credit

Normally, a one-contact-hour class taught in a lecture format carries one semester hour of credit. In a laboratory format a two- to three-contact hours class carries one semester hour of credit.

Academic Forgiveness Policy

Mesabi Range Community & Technical College's Academic Forgiveness Policy is intended to give the undergraduate student, who has been away from Mesabi Range College at least five (5) years, an opportunity to establish a new GPA. The student must have been absent from Mesabi Range College for a minimum of five consecutive years prior to the "Petition for Academic Forgiveness" in order to be eligible. Students who wish to apply for "academic forgiveness" should pick up a petition form from the Records Office, give reasons for the previous poor performance, and provide information about current educational plans for success. The Suspension/Probation Committee will review the petition and determine whether academic forgiveness is a better approach than use of the repeat policy. Upon readmission, the student must demonstrate adequate academic ability by completing 12 undergraduate credits at Mesabi Range College with a minimum GPA of 2.0. "Forgiveness" will be noted and granted only after the first semester back is successfully completed under the above criteria.

Academic Grade Appeal Policy

Instructors at Mesabi Range Community & Technical College are empowered to make final decisions on all student grades subject to MnSCU and College policies. In the event that a grade is in dispute, the student is encouraged to attempt to resolve this dispute directly and informally with the instructor. If no resolution is possible, the student may, under **exceptional circumstances**, initiate a formal appeal process. Forms are available in the Records Office.

The formal appeal process must be initiated before the end of the semester following the one in which the course was completed, excluding the Summer Semester. Documentation, including tests, assignments, and supporting materials for the claim may be required.

(See Student Handbook for more details on this policy.)

Academic Integrity Policy

Past, present, and prospective students have a right to expect that the College will not condone any action that compromises, undermines, or invalidates the credibility of their academic achievements.

Academic dishonesty is defined as any instance in which a student behaves in a manner that adversely affects the integrity of the academic process. Students who consciously choose to violate the standards of academic honesty to benefit themselves and/or others marginalize and devalue the honest efforts of all other students who are products of this institution. Intentional acts of academic dishonesty also damage the reputation of the College, the community, the

instructors, and fellow students. Examples of such behavior include, but are not limited to, the following:

Cheating: the use, or attempted use of unauthorized materials, information, or study aids; unauthorized copying or collaboration

Plagiarizing: the use of another's words, ideas, or product without appropriate acknowledgement

Falsifying Academic Information: the intentional misrepresentation or invention of any information, such as falsifying research, inventing or exaggerating data

Collusion: to assist another to commit an act of academic dishonesty, such as paying or bribing someone to acquire a test or assignment, to take a test or do an assignment for someone else

Other Academic Misconduct: to intentionally violate Mesabi Range College policies, such as tampering with grades; sabotaging another student's work, etc.

It is the policy of Mesabi Range Community & Technical College to resolutely uphold the integrity of its academic programs by actively promoting ethical behavior while sanctioning unethical conduct.

(See Student Handbook for further details on this policy.)

Academic Honors List

Students who enroll for 12 or more credits and achieve a G.P.A. of 3.0 will be recognized on the Honors list. High Honors will be granted to students achieving a 3.5 G.P.A, and Highest Honors will be granted to students with a 3.75 or higher G.P.A.

Attendance

Students are expected to attend all scheduled classes and are responsible for all work missed during absences. All instructors have their own policies on absences and make-up work. Absences should be discussed with the instructor.

Credit Award Alternatives

Advanced Placement (AP) Program

Students whose scores on the College Board Advance Placement Examination are rated "3," "4," or "5" will be considered for advanced placement and/or credit. Students who wish to apply for advanced placement should have their test results sent to the Enrollment Services Office. There is no limit on the number of AP credits a student may earn.

College Level Examination Program (CLEP)

The College Level Examination Program enables students to earn college credit by examination. Anyone may take CLEP tests to demonstrate college-level competency. A student interested in taking the CLEP exam should contact a CLEP testing center. Students should contact the Student Services Office for more information.

CLEP offers two types of standardized tests. The General Examinations are given in the areas of English composition, humanities, natural sciences, social sciences, and history. A score of 500 will earn 9 college credits in each of those areas. A grade of P is recorded for these credits. The Subject Examinations, given in 47 specific subject areas, measure achievement in specific college courses and are used to grant exemption for and credit for those courses.

Students successfully completing either CLEP General Examinations and/or Subject Examinations with a score at the 50th percentile or above will receive college credit.

Course Test-Out Procedure

Course test-out and grading system (P/F or A, B, C, D, F) is at the discretion of departmental instructors at the College. Whenever possible, test-outs will be given to groups on specific, assigned days/times.

To earn credit, the student must pay the tuition and assessed fees for the course as well as the administrative costs of the test. A student may not earn credit by examination for courses with lower numbers or at a lower skill level than one already passed. Students who fail the examination must take the course to receive credit. There will be no

additional charge to take the course if it is done the same semester as the attempted test out.

A $25 non-refundable, per credit, administrative fee will be charged for each test taken.

Students may only attempt to test-out of a course that is being offered in the current semester. Students who wish to test-out must do so during the drop/add period. Students must meet with an advisor.

Credit or Waiver for Armed Services Training

Credit or waiver of credit will be authorized using "A Guide to the Evaluation of Educational Experiences in the Armed Services," after evaluation by a transfer credit evaluator.

Independent Study

Students may register for one to four credits of independent study during any semester of the academic year. Students may earn a maximum of nine elective credits through this method. Independent study credits are accepted toward graduation.

Registration must be preceded by discussion with the supervising instructor. The nature of the project, the number of credits to be awarded, and the independent study plan is subject to the approval of the Academic Administrator or designee prior to the start of the semester during which the credits will be earned.

International Baccalaureate (IB) Program

Students successfully completing the IB Higher Level Examination with scores of "4," "5," "6," or "7" will be considered for advanced placement and/or credit. Diploma or certificate copies should be sent to the Enrollment Services Office.

Credit Load

A normal course load varies in relation to a student's ability and achievements, usually 12 to 18 credits per semester. To be a full-time student, one must take at least 12 credits of course work. Students who wish to carry a credit load in excess of 18 credits must have written approval from an academic advisor. Students may attend less than full-time. Credit load status is determined as:

- Full-time: 12 or more credits
- Three-quarter time: 9 through 11 credits
- Half-time: 6 through 8 credits
- Less than half-time: 5 credits or less.

Faculty Office Hours

Faculty members maintain office hours for consultation with students. Copies of faculty members' office hours are posted on their office doors.

Field Placements

It is the policy of the Mesabi Range Community & Technical College to support internships, clinical practicums and training, and supervised occupation experience (SOE) as a part of the educational process for students enrolled in technical programs. Students eligible to be placed in such experiences must be making satisfactory academic progress as established by the College and must also meet the criteria established and published by each department at the College.

Final Examinations

Final examinations are held according to a schedule which is issued by the administration. All students must take scheduled final examinations. Any circumstances which require a special examination arrangement other than the exam specifically scheduled must be arranged by a petition to the Academic Administrator or designee prior to the tenth day before the end of the semester. **Only under extreme circumstances will students be allowed to change final exam dates.**

The scheduling of class-related examinations will normally correlate with the time allotted and assigned for the class meeting and/or occur during scheduled examination periods established by the College administration.

When an instructor deems it necessary and desirable to schedule assignments and/or examinations during other periods of time, the instructor will give the students due notice of the intent and purposes of same and make adequate and fair provisions for individuals who have scheduling conflicts which interfere with their attendance at or compliance with the same.

Grades

Students who complete credit courses shall be assigned grades according to the following definitions:

Grade Achievement		Grade Points Per Credit
A	Superior	4
B	Above Average	3
C	Average	2
D	Below Average	1
F	Inadequate	0
P	Passing	Not computed
NC	No Credit	Not computed
I	Incomplete	Not computed
V	Visitor or Audit	Not computed
W	Withdrawn From Course	Not computed
X	Continuation of another course or courses is necessary because grades cannot be determined until the full sequence is completed.	

** No grade submitted by an instructor as of printed grade reports.

All required course work as defined by the instructor must be complete before any grade will be recorded on a student's permanent transcript.

A student who wishes a grade of "Incomplete" must receive the instructor's permission. An incomplete will be changed to an "F" at the end of one semester (following the semester in which the incomplete is received).

A student may register to audit a course by filling out the appropriate form in the Records Office. Auditing is allowed on a space-available basis and financial aid is not available for audited courses.

Grade Point Averages (GPA)

A student's grade point average is determined by adding all grade points and dividing by the sum of all credits attempted.

Students may view their grades by going online at www.mesabirange.edu. Students will need to use their Student ID and PIN numbers to access their grades. Upon written request, grades may be mailed to students. Written requests MUST be provided to the Records Office. With the exception of PSEO students, grades are not automatically mailed to students at the end of each semester, unless a request is made (as described above).

EXAMPLE (Calculation of GPA):

Course Title	# of Credits	Grade Earned	Grade Points Earned
Intro to Accounting	3	C	2.0 x 3 credits = 6
Freshman English	3	B	3.0 x 3 credits = 9
Biology	5	D	1.0 x 5 credits = 5
Intro to Psychology	3	A	4.0 x 3 credits = 12
Music Appreciation	2	F	0.0 x 2 credits = 0

Total # of credits attempted = 16
Total grade points earned = 32
Total grade points earned, divided by total number of credits attempted = 32/16 = 2.0 GPA
(Grade Point Value: "A" = 4.0, "B" = 3.0, "C" = 2.0, "D" = 1.0, "F" = 0.0)

Pass/Fail Grading Options

A student is allowed to exercise the Pass/Fail Option for a maximum of 12 credits. "P" grades do not enter into the computation of grade point average, but credit is given for all courses completed with a "P" grade. Most general education courses are offered with the Pass/Fail option to give students an opportunity to explore areas of study without fear of affecting their grade point average. Prerequisites must be followed as in the normal class sequence. Students who opt to take a course on a Pass/Fail option must achieve at least a grade of "C" to receive a passing grade (P) for that course. Students earning grades of "D", "F," or "NC" (for developmental courses), will receive the grade earned.

Students must understand that Pass/Fail courses are best taken to fulfill general education requirements. Senior colleges will not accept Pass grades in major or minor fields of study. Students may not, therefore, select the Pass/Fail option for courses within their chosen major fields or those closely related to minors. A.A.S. degree students may not select the Pass/Fail option for courses bearing technical prefixes or those which are required within their programs. Students should seek advice from the advising staff in regard to the Pass/Fail option. Students working toward an A.A. degree or those who plan to transfer to a four-year college should have no more than twenty percent (20%) of their college credits in Pass/Fail credit. The College, therefore, limits students to a total of 12 credits of Pass/Fail with not more than 5 Pass/Fail credits in any one semester.

A petition obtained from the Records Office must be signed for each course taken as Pass/Fail. This petition must be completed within one week following mid-semester examinations.

Definitions/Conditions:

Completed Credits: Completed credits include A, B, C, D, P, and F. They do not include "I" (incomplete), "W" (withdraw), "V" (visitor/auditor), "NC" (no credit), or classes dropped during the first five days of the term. Completed credits may qualify for retroactive payment of financial aid.

Credits: The unit by which academic work is measured.

Cumulative Credits: Cumulative credits are the total number of credits registered for all terms of enrollment at the College, including summer terms.

Developmental Credits: Developmental credits awarded for remedial course work (below 1000 level). Students may receive financial aid for developmental credits up to a maximum of 30 semester hours, when they are enrolled in additional courses above 1000 level.

Earned Credits: Earned credits are successfully completed credits that count toward the required percentage of completion. Earned credits include only A, B, C, D, and P.

Grade Point Average: Grade point average (G.P.A.) is the quotient of the student's grade point total divided by the grade point credits. Each grade report shows the student's G.P.A. for the term and cumulative G.P.A. since admission. "P" does not carry a grade point value and, as such, is not calculated in the G.P.A. A "P" will not improve the student's G.P.A. However, "P" credits count toward registered credits.

Grade Point Total: Grade point total is the sum of grade points earned as determined by multiplying the grade point value of the grade by the number of course credits.

Grade Points: A letter grade is assigned at the end of the term for each course in which the student is enrolled. A grade point value for each credit in the course is assigned to each letter grade. Only the grades of A, B, C, D, and F carry grade point value.

Incompletes: The mark of "I" is a temporary grade that is assigned, at the discretion of the instructor, only in exceptional circumstances. It will be given only to students who cannot complete the work of a course on schedule because of illness or other circumstances beyond their control. An "I" grade will automatically become an "F" grade (or "NC" in the case of courses numbered below 1000) at the end of the next term (not including summer sessions) if requirements to complete course work have not been satisfactorily met.

Instructors have the option of setting an earlier completion date for the student.

Registered Credits: Registered credits are the total number of credits for which a student is officially enrolled at the end of the registration period for each term.

Repeating a Course: Students who wish to repeat a course may do so. Students should discuss their intentions with an advisor and complete a course repeat form. Both the old and new grades remain on the student's transcript, but only the new grade will be used to complete the grade point average. The new grade will be used for grade point average computation whether it is a higher or lower grade. Requests to repeat a course will be official only after being processed by the Records Office.

Financial aid may be applied to only the first retake in the case of D, F, or NC grades. Subsequent repeats will not be eligible for financial aid. Students who are repeating courses in which B or C grades were received must self-pay the costs of the course; financial aid may not be applied to those courses.

Transfer Credits: Transfer credits are credits earned at another college that are accepted by this College. Transfer credits are not included when calculating satisfactory academic progress or grade point average.

Maximum Credit Allowance For Credit Alternatives

Credits granted through IB, CLEP, and Credit by Examination may be used to complete up to two-thirds of the minimum requirements in each liberal education distribution area for the Associate in Arts Degree. Students may earn a maximum of 24 credits through such testing.

Students intending to transfer to other institutions should be aware that the receiving institution determines the acceptability of IB, CLEP, and Armed Services Training credits; these institutions may have different regulations than those of Mesabi Range Community & Technical College.

Supervised Occupational Experience (SOE)

Since job placement is a primary goal of Mesabi Range College's technical programs, consideration may be given to allowing release from classes for work directly related to a graduating student's technical program and approved by the program director and academic dean. Complete information is available from technical program directors and academic advisors.

Prior Learning Experience

In certain technical program areas, students may request that prior learning experience be substituted for any required or elective course. Students may request credit for prior learning experience by submitting documented proof on a work history verification form. Prior learning experience will be evaluated on an individual basis due to changing technology. Contact an academic advisor for more information.

Registration

Students may register prior to the beginning of each semester. Each student is required to have their program plan reviewed by a counselor or advisor prior to registration. Professional advisors are available to assist students in reviewing their academic backgrounds, interests, and goals and in making appropriate immediate and long-range plans. New students should contact Enrollment Services for admission and new student registration procedures.

Financial Aid Satisfactory Academic Progress Policy

Mesabi Range Community & Technical College requires that students make satisfactory academic progress toward a degree or certificate to remain in good standing. Additionally, federal law requires that a recipient of state or federal financial aid make satisfactory academic progress toward a degree or certificate to remain eligible for aid. The Satisfactory Progress Standards shall be the same as, or stricter than, the College's academic standards for a student

enrolled in the same educational program who is not receiving financial assistance. Students bear primary responsibility for their own academic progress and for seeking assistance when experiencing academic difficulty. However, the College does provide tutoring, testing, and other related services that may be able to assist students with improving their academic standing. To that end, the advisors and counseling staff are available to assist students in developing a course of action to improve their academic standing. Students are encouraged to keep a file of their grades and transcripts.

Requirements

Qualitative Measure: Students are expected to meet the minimum cumulative GPA levels on the chart below. Grades of A, B, C, D, and F will be included in the GPA calculation.

Cumulative Registered Credits	Minimum Required GPA
0 – 5	0.00
6 +	2.00

Post Secondary Enrollment Options courses taken at Mesabi Range Community & Technical College will be used in the calculation of cumulative Grade Point Averages.

Quantitative Measure: All students who have attempted more than five credits are required to maintain a minimum of 67% of all cumulative registered credits, including remedial non-credit courses as indicated in the chart below:

Cumulative Registered Credits	Cumulative Completion Rate
0 – 5	0%
6 +	67%

Courses for which a student receives a letter grade of A, B, C, D, F, S and P are included in the calculation of cumulative credit completion percentage as courses successfully completed. Courses for which a student receives a letter grade of N, NC, W, and I will be treated as credits attempted but not successfully completed. Blank (Z) grades will be treated as credits attempted but not successfully completed. Audited courses (AU) are not counted. Courses taken under Post Secondary Enrollment Opportunities (PSEO) will be counted.

Maximum Time Frame or Credits: All students are expected to complete their degree/certificate within an acceptable period of time. The maximum time frame of credits for financial aid recipients is 150% of the published credit length of the program. Non-credit remedial courses, ESL, and transfer credits will count toward the maximum time frame completion. All Post Secondary Enrollment Options Credits taken at Mesabi Range Community & Technical College, or transferred in, will be counted.

Students Pursuing an Additional Major/Double Major: Students who have already completed their program and now change their major or are pursuing an additional major or have a double major will have financial aid for only those courses that relate to the completion of the additional or changed major. These students will be required to complete an Academic Plan, which will be monitored each term. Only those courses listed in the Academic Plan will be eligible for financial aid. Credits that have been transferred in from other institutions will be counted towards completion of maximum time frame.

Evaluation Period

A student will be placed on academic suspension for failure to maintain satisfactory academic progress. Academic progress will be monitored as follows:

- All students with registered credits during a semester will be evaluated at the end of the semester, including summer semester.
- Any student who fails to meet minimum satisfactory academic progress requirements for one semester will be placed on probation for one semester, commencing immediately.
- A student on probation who fails to meet the minimum satisfactory academic progress requirements for a consecutive semester will be placed on suspension, one year in duration, commencing immediately.

The College may immediately suspend financial aid for a student in the event of extraordinary cir-

cumstances, such as, a student who was previously suspended and whose academic performance falls below acceptable levels during a subsequent semester, a student who is registered but does not earn any credits for two consecutive semesters, or a student who demonstrates an attendance pattern that abuses the receipt of financial aid, etc.

Notification

Students failing to meet the minimum satisfactory academic progress requirements will be notified in writing as to their status.

Appeals

A student who fails to make satisfactory academic progress and is suspended from either enrollment and/or financial aid has the right to appeal based on unusual or extenuating circumstances which lead to unavoidable absenteeism. These could include, but are not limited to: death in the family, student's injury or illness, changes in the curriculum, etc. Generally, unless the appeal is solely for financial aid, the appeal must be submitted in writing on a form available in the Records Office of each campus. The appeal must include an explanation of the circumstances that affected academic progress. If requested, the appeal must also include supporting documentation beyond the written explanation (e.g., a physician's statement, etc.). Appeals must be directed to the Committee on Appeals. The committee's decision will be provided to the student in writing. The committee's decision is final. For appeals that deal with Financial Aid only, the appeal is directed to the Director of Financial Aid or designee. If denied, the student may appeal to the Committee on Appeals. The committee's decision will be final.

Appeals for financial aid beyond the maximum time frame use the same form that can be obtained from the Financial Aid Office. However, appeals for financial aid beyond the maximum time frame will be granted only in the case of documented mitigating circumstances. Among these, are: death in the family, illness or injury of student, family emergencies, changes in the curriculum, etc.

The student must meet with an advisor or counselor and develop an Academic Plan which indicates the course work necessary to complete the degree/certificate. The Financial Aid Office will review the Academic Plan and, if found acceptable, will inform the student in writing. The Academic Plan will be monitored each term to ensure that the student is adhering to the plan. Courses not found on the Academic Plan are ineligible for financial aid. Should the appeal be denied, the student may appeal to the Committee on Appeals. The decision of the committee shall be final.

Reinstatement

A student who has been suspended from enrollment may return to the College after an appeal has been approved or the period of suspension has passed. The student remains on probation upon returning to the College. However, for the purposes of financial aid, a student who returns after the period of suspension must complete a written appeal for reinstatement of financial aid and direct the appeal to the Financial Aid Director or designee. The student must meet with an advisor or counselor and develop an Academic Plan that is submitted with the Financial Aid Appeal. The form is the same one that can be obtained from the Records Office. The Academic Plan will be monitored each term to ensure that the student is adhering to the Plan. Courses not found on the Academic Plan are ineligible for financial aid. Should the Financial Aid Director deny the appeal, the student may appeal to the Committee on Appeals. The committee's decision shall be final.

Continuation of Students on Probation Status

If at the end of the probationary period, the student who has been on probationary status and has met the institution's qualitative and quantitative standards for all courses in which he or she was enrolled during the probationary period, but has not met Mesabi Range Community &

Technical College's cumulative standards, may be permitted to retain his or her financial aid eligibility under a "continued probation" status, until such time as:

1. The student has met the College's qualitative and quantitative standards, at which time the student's financial aid eligibility may be reinstated; or
2. The student fails to meet the College's qualitative or quantitative standards of the courses that the student is enrolled in during the probationary period. At such time, the College will suspend the student from financial aid eligibility immediately upon completion of the review; or
3. The College determines that it is not possible for a student to raise his or her GPA or course completion percentage to meet the College's qualitative or quantitative standards before the student would reach the end of the program for which he or she is receiving financial aid. The College will suspend the student from financial aid eligibility immediately upon completion of the evaluation period.

Awarding of Two Degrees/Double Majors

In some instances, students may want to complete two related technical programs or degrees (A.A., A.S., or A.A.S.) to enhance their employment potential. Students who desire a double major or two degrees will not necessarily have to accumulate the total number of credits required in both programs provided they have completed all of the required courses for both degrees.

Students who desire to complete a double major or two degrees should select their electives in the first program from courses in the second program to reduce the time factor involved. Students should be aware that it is difficult to complete a double major or two degrees in the standard two-year enrollment period.

Time Limit for Meeting Graduation Requirements

It is the policy of Mesabi Range Community & Technical College that students may follow the catalog requirements listed at the time they enter college. Students who enroll, withdraw, and re-enter must follow the requirements in effect at the time of their re-enrollment.

TRANSFER INFORMATION

The Minnesota State Colleges and Universities system is working to make transfer easier. Students are urged to PLAN AHEAD, ASK QUESTIONS, and DEVELOP PROGRAM PLANS WITH AN ACADEMIC ADVISOR. Some of the services and policies that make it easier to plan progress and prevent loss of time and credits are:

- help from the transfer advisors on campus;
- transfer guides on the MnSCU Transfer website;
- written Articulation Agreements with other institutions regarding:
  - transfer of general education courses and the Associate in Arts Degree;
  - early application/admission to a university;
  - courses to take for transfer in key areas such as engineering and nursing;
- understanding the criteria for admission to the institution/major selected; and
- the transfer appeals process on every campus.

Applying for Transfer Admission

- Application for admission is always the first step in transferring. Students desiring to transfer should complete an application as early as possible prior to deadlines. Required application fees should be enclosed.
- Students should request that official transcripts be sent from every institution attended. Students may be required to provide a high school transcript or GED test scores.

- Most colleges do not make decisions until all required documents are in the student's file. Students should follow-up to be certain the College or university received all the necessary paperwork.
- If the intended college of transfer does not respond after one month, students should call to check on the status of their application.
- After the College notifies students that they have been accepted for admission, their credits will be evaluated for transfer. At a minimum, a written evaluation should indicate which credits do not transfer. How a transfer student's courses specifically meet degree requirements may not be decided until orientation or the choice of major has been made. Students with questions about their evaluations should call the Office of Admissions and ask to speak with a credit evaluator. Rationale for judgments regarding specific courses should be available. Many concerns can be cleared up if students understand why decisions were made. If not satisfied, transfer students can appeal.

E-transcripts

- Students transferring to a Minnesota State Colleges and Universities institution will need to request that the school to which they are transferring acquire a Mesabi Range College e-transcript.

Preparing for Transfer

Students who are currently enrolled in a college or university should:

- confer with a campus transfer advisor about transfer plans to determine who can assist in selecting courses that will transfer.
- visit the intended transfer college and pick up a college catalog and transfer brochure.
- call the intended transfer college and find out what the admissions criteria are for the institution/major of interest. Request transfer application materials, find out what materials (e.g. portfolio, transcripts, test scores) may be required for admission, ask whether there is a deadline for all materials to be submitted, and request information about financial aid and application deadlines.
- make an appointment to talk with an advisor/counselor in the College or program of interest to the student. Ask about course transfer and admission criteria. Prepare for this meeting by reading catalog information about the specific major or area of interest.

Rights of Transfer Students

Transfer students are entitled to:

- a clear, understandable statement of an institution's policy.
- a fair credit review and an explanation of why credits were or were not accepted.
- a copy of the formal appeals process. Usual steps are:
  - student fills out an appeals form (providing supplemental information such as a syllabus, course description, or reading list can help);
  - department or committee will review;
  - student receives, in writing, the outcome of the appeal (students can appeal the decision to the Academic Administrator);
  - a review of eligibility for financial aid or scholarships takes place.

Some Facts About Transfer of Credits

- Once a student has been admitted to a college or university, all courses earning grade points shall be considered for transfer.
- The receiving college or university decides which credits meet its degree requirements. The accreditation of both the originating and the receiving institution can affect the transfer of the credits the student has earned.
- Institutions accept transfer courses to the major if they are similar to courses they offer. They look for similarity in course goals, content, and level. "Like" transfers to "like."
- Not all transfer credits will help a student graduate. Baccalaureate degree programs usual-

ly count credits in three categories: general education, major/minor courses and prerequisites, and electives. The key question is, "Will credits fulfill requirements of the degree or program chosen?"

- If students change career goals or majors, they might not be able to complete all degree requirements within the usual number of graduation credits.

For help with transfer questions or problems, the transfer specialist may be consulted.

Mesabi Range Transfer Procedures

Admission in Good Standing

Applicants are admitted to Mesabi Range Community & Technical College in good standing if they are eligible to return to the last institution(s) attended and if they have a 2.0 overall grade point average based on a 4.0 scale for all courses taken at all post-secondary institutions attended.

The grade point average (G.P.A.) from the transfer institution is not used in computing the student's G.P.A. at Mesabi Range College.

Transfer students may be given provisional admission until the College receives all transcripts. Failure to supply the necessary transcripts may lead to suspension from the College.

Transfer of Credits

Transcripts will be evaluated to determine credits that are acceptable to be applied to degree or certificate programs. Lower division credits earned at a college or university accredited by a regional accrediting association may be accepted as equivalent courses or as electives as determined by the College's credit evaluator. Students may appeal the transfer credit evaluation by filing a petition with the Academic Administrator or designee.

All college courses in which a student has received a grade of A, B, C, or D, shall be considered for transfer evaluation. P grades shall be accepted as earned credit. If the student's cumulative G.P.A. at the originating institution is less than 2.0; "D" grades will not be accepted in transfer from that school. Students retain the right to appeal the acceptance of credits.

Transfer of Technical Credits

Mesabi Range College may accept, for full credit, college-parallel general education courses offered by Minnesota Technical Colleges with regional accreditation.

Mesabi Range College's Virginia Campus shall accept for transfer as electives a maximum of 16 semester credits of college level occupational or professional courses offered by Minnesota Technical Colleges with regional accreditation.

Mesabi Range College shall accept for transfer occupational/professional credits from technical colleges for those courses that are judged to be comparable or equivalent to courses offered at Mesabi Range Community & Technical College.

Regional accreditation for this policy is defined as the accreditation conferred by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools and by parallel accreditation agencies in other regional areas of the United States.

STUDENT ACTIVITIES

Student activities at Mesabi Range Community & Technical College are planned to provide a social, cultural, and physical complement to the formal academic aspect of the College. A variety of intramural and intercollegiate athletics, speakers, concerts, social gatherings, and special interest clubs and organizations are available to all students.

Athletics (Intercollegiate)

Mesabi Range College's Norsemen and Norsewomen compete in a variety of intercollegiate sports. Men's activities include football, basketball, and baseball. Women's activities include volleyball, basketball, and softball. Mesabi Range College's athletic teams are members of the MN College Athletic Conference (MCAC) and Region XIII of the National Junior College Athletic Association (NJCAA).

Athletics (Intramurals)

An active intramural competition program is offered at Mesabi Range College. Activities include basketball, volleyball, frisbee golf, hockey, bowling and more. Watch for informational posters and sign-up sheets.

Clubs and Organizations

Student activities are an important part of college life. All students are encouraged to participate in Student Senate and organized clubs and organizations. Clubs at Mesabi Range Community & Technical College are open to all students. Existing clubs include the Phi Theta Kappa Honor Society, Human Services, Business Professionals of America, Graphic Arts, Theatre, Nursing, Mesabi Creativity Connection (Entrepreneurship) and more.

Fitness Center

Mesabi Range College has a well-equipped fitness center designed to fit the needs of a wide range of users. Many pieces of equipment are provided for increasing aerobic fitness. Weight training machines and free weights are also available.

Music

Students are welcome to become involved in the College/Community Band, Choir, and Orchestra.

Special Events

Mesabi Range College has an active Student Life Program which provides a variety of social and cultural opportunities to students. Speakers and performers, homecoming activities, dances, field trips and other special events are included in this program. Four times a year, Mesabi Range College offers a full-week of activities: Welcome Week, Fall Homecoming, Deep Freeze, and Spring Fling.

Student Life Committee

Mesabi Range College's Student Life Committee exists to provide recommendations regarding programs and budgets. Representatives on this committee are nominated by the Student Senate.

Student Senate

Mesabi Range Community & Technical College has an officially recognized Student Senate, which serves as the official representative body of the students. The campus' Student Senate consists of elected officers and representatives. The student governments of each campus of Mesabi Range College meet with the College administration to forward concerns and generate input into the College's decision-making process. Student leaders have the opportunity to participate in lobbying efforts with the MnSCU Board of Trustees, Minnesota State Legislature, and other agencies affecting higher education.

The Minnesota State Colleges and Universities system has adopted a policy which gives students, through their student government, the right to present their views and make written recommendations on decisions that affect them. At Mesabi Range College, the Student Senate is the governing body for the students.

STUDENT RIGHTS & RESPONSIBILITIES

Mesabi Range College expects its students to respect the rights and property of the College and its students and to know and observe federal, state, and local laws. Students violating any of the above can expect to be dealt with by campus officials and/or civil authorities. Conversely, students who feel that they have been dealt with unfairly are provided a process whereby their complaints or grievances may be heard.

A student handbook, which further defines academic and student life policies, is given to each student.

Code of Conduct Policy

Mesabi Range Community & Technical College's Student Code of Conduct serves two purposes: the first purpose is to serve as a guide for student behavior; the second purpose is to outline the procedures to be followed, both by students and College officials, should violation of the Code occur. **Students are responsible to know of and abide by all the rules and regulations of Mesabi Range Community & Technical College.**

In the eyes of the College, a student's conduct, while on campus or while participating in an off-campus, college-sponsored activity, is guided by the rules, regulations, and policies of the College, the authority for which is granted by the Minnesota State Colleges and Universities Board of Trustees.

Violations of these rules and regulations will result in disciplinary action. Violations include, but are not limited to, the following:

- Academic dishonesty including, but not limited to: cheating; plagiarism; misrepresentation of student status; resume falsification; and unacknowledged use of materials prepared by another person or agency engaged in selling or otherwise providing term papers or other academic materials. Plagiarism includes, but is not limited to: the use of, by paraphrase or direct quotation, the published or unpublished work of another person without full and clear acknowledgment.
- Intentionally, recklessly, or negligently placing any person under mental duress or causing any person to be in fear of physical danger through verbal abuse, harassment (including repeated phone calls), sexual harassment, hazing, intimidation, threats, or other conduct which threatens or endangers that person's emotional, mental or physical well-being.
- Criminal sexual behavior including, but not limited to: the implied use or threatened use of force to engage in any sexual activity against a person's will and/or engaging in such behavior with a person who is unconscious, substantially mentally impaired (including intoxicated); intentionally touching another person's genitals, buttocks, or breasts without the person's consent; indecent exposure; voyeurism.
- Use or possession of weapons, unless expressly authorized by the College. "Weapon" is broadly defined to include, but is not limited to: all firearms (including BB guns); dangerous knives; explosives; explosive fuels; dangerous chemicals; billy clubs; and fireworks.
- Use, possession, distribution, or being in the presence of any controlled substance or drugs and/or drug paraphernalia.
- Use, possession, distribution, or being in the presence of alcohol except as expressly permitted by college policy.

As an institution dedicated to teaching and learning, Mesabi Range Community & Technical College has a vested interest in maintaining an environment in which students are free to pursue their academic interests and responsibilities. Conduct that unreasonably restricts such freedoms and interferes with the College's mission of promoting student learning is subject to regulations and/or sanction by the College. The creation of such an environment is premised on the assumption that students have both rights and responsibilities. Therefore, a major function of the College is to guarantee student rights while demanding student responsibility.

In the event of expulsion or suspension for 10 or more days, the student may request a hearing which will be conducted pursuant to Minnesota Stat. 15.051 Subd. 3.

A complete copy of the Code of Conduct including procedures for enforcing the Code, possible sanctions, and appeal guidelines may be obtained from the Student Services Office.

Confidentiality of Student Records Policy

Students have the right to access any and all information the Admissions, Records, and Financial Aid Offices keep on them.

Mesabi Range Community & Technical College will release directory information (address, phone number, dates of attendance, major, degrees and awards received, and most recent high school attended) upon request unless students specifically provide written notification to the Records Office that they do not want this information released. Student records of personal, private, or confidential information are maintained by and available to authorized staff members. This policy may vary for students under the age of eighteen.

Additionally, authorized state and federal entities may obtain access to such records to conduct educational studies or other business authorized by law. Such agencies include, but are not limited to: MN Higher Education Board, MN Legislative Auditor, U.S. Department of Education, and the U.S. Veterans Administration. Others wishing access to the confidential items in a student's file must receive permission in writing from the student.

A complete copy of Mesabi Range Community & Technical College's policy on Confidentiality of Student Records may be obtained in the Student Services Office.

Crime Awareness and Campus Security Policy

Mesabi Range Community & Technical College is committed to providing its students and staff with a safe and secure educational and working environment and to providing education and information to prevent, handle, and report crimes.

All students and staff are provided a written report of the Crime Awareness and Campus Security Policy prior to the beginning of the academic year. This report contains a three-year history of campus crime statistics, information on crime prevention and personal safety, reporting procedures and resources for crime victims. Students and staff are expected to report any criminal activity or other emergencies occurring on campus to the Student Services Office. It is the policy of college administration to engage local law enforcement agencies as appropriate.

A complete copy of Mesabi Range Community & Technical College's policy on Crime Awareness and Campus Security may be obtained in the Student Services Office.

Drug and Alcohol-Free Campus Policy

It is the policy of the Minnesota State Colleges and Universities system as well as that of Mesabi Range Community & Technical College that the possession, use, sale, or distribution of alcoholic beverages and 3.2% malt liquor at institutions and institution-sponsored events - on or off campus - is prohibited. Alcohol and/or illegal drugs are not permitted on the Mesabi Range Community & Technical College Campus grounds except for instructional purposes and other permitted uses set out in the full MnSCU Alcohol and Drug Policy. The complete policy is printed in the Student Handbook.

When students misuse and/or abuse alcohol, academic performance, health, personal relationships and safety suffer. Mesabi Range Community & Technical College is committed to a standard of student conduct that prohibits the unlawful possession, use, being in the presence, or distribution of alcohol or other illegal drugs. The College will impose administrative and legal sanctions on those who violate this policy as outlined in the Drug-Free Schools and Communities Act Amendments of 1989 (Public Law 101-226) and Minnesota Statutes 152.

A complete copy of Mesabi Range Community & Technical College's policy on a Drug and Alcohol Free Campus may be obtained in the Student Services Office.

Tobacco Free Campus Policy

Mesabi Range Community & Technical College recognizes that the use of tobacco in any form poses serious and long-term health risks to all individuals who use or are exposed to it. Therefore, Mesabi Range College is committed to creating a clean, safe, and healthy learning and working environment for all students, employees, and visitors on college property.

As of August 1, 2011, smoking, tobacco use, and tobacco sales (including the use or sales of smokeless tobacco products) are prohibited on college-owned, -operated or -leased property, including all college-owned vehicles.

A complete copy of Mesabi Range Community & Technical College's Tobacco Free Campus policy may be obtained in the Student Services Office.

Non-Discrimination Policy

The Minnesota State Colleges and Universities system is committed to a policy of nondiscrimination in employment and education opportunity. No person shall be discriminated against in the terms and conditions of employment, personnel practices, or access to and participation in, programs, services, and activities with regard to race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission as defined by law.

Harassment of an individual or group on the basis of race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission has no place in a learning or work environment and is prohibited. Sexual violence has no place in a learning or work environment. Further, the Minnesota State Colleges and Universities system shall work to eliminate violence in all its forms. Physical contact by designated system, college, and university staff members may be appropriate if necessary to avoid physical harm to persons or property.

Sexual Harassment and Sexual Violence Policy

Sexual harassment in any context is reprehensible and is a matter of particular concern to an academic community in which students, faculty, and staff must rely on strong bonds of intellectual trust and dependence.

Mesabi Range Community & Technical College has a legal and ethical responsibility to enforce policies in order to ensure that all students can study in an environment free of sexual harassment, sexual violence, or harassment based on sexual orientation. Sexual harassment is a form of sexual discrimination, which is prohibited by state and federal law.

Mesabi Range College is committed to maintaining a working and learning environment in which students and staff can develop intellectually, professionally, personally, and socially. Such an environment must be free of intimidation, fear, coercion, and reprisal. Sexual harassment may cause others unjustifiable offense, anxiety, and injury. Sexual harassment by College staff and students is prohibited. Sexual harassment that occurs on the College campuses violates College and MnSCU policy. Sexual harassment may also constitute violations of criminal and civil laws of the State of Minnesota and the United States.

Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, sexually motivated physical conduct, and other verbal or physical conduct of a sexual nature when:

1. submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or education, evaluation of a student's academic performance, or term or condition of participation in student activities or in activities sanctioned by the College; or
2. submission to or rejection of such conduct by an individual is used as the basis for employment or academic decisions or other decisions about participation in student activities or other events or activities sanctioned by the College; or
3. such conduct has the purpose or effect of threatening an individual's work or academic

performance; or creating an intimidating, hostile, or offensive work or educational environment.

Harassment, whether intentional or unintentional, has the effect of undermining the quality of the educational environment. Whether a poorly considered sexual joke or overt demand for sexual favors, harassment may interfere with the quality of an individual's performance and may create an intimidating, hostile or offensive environment. Mesabi Range Community & Technical College has established a complaint procedure to deal with reports of harassment. Mesabi Range Community & Technical College encourages any person who feels he or she has been or is being subjected to discrimination or harassment to report the incident to a Mesabi Range Community & Technical College staff or faculty member. A designated officer may then be asked to conduct an investigation.

A complete copy of Mesabi Range Community & Technical College's policy on Non-discrimination in Employment and Education Opportunity may be obtained in the Student Services Office.

Student Travel Policy

Mesabi Range Community & Technical College's Student Travel Policy governs all travel that involves enrolled students as well as individuals who participate in College-sponsored travel. Each student going off campus for any class or activity (with or without an advisor) must complete and sign an Activity Participation Form acknowledging that effective from the time they leave campus until they return, they understand and agree that:

- Mesabi Range College policies on alcohol, drugs, tobacco, harassment/violence are in effect.
- The Student Code of Conduct is in effect.
- Only Mesabi Range College students/ employees are authorized to ride in college vehicles.
- Only the Advisor* or a student employed by the College can drive a college vehicle. When this is not possible, the Advisor will request a waiver from the Chief Finance and Facilities Officer.
- Students who violate policies may be sent home at their own expense.
- Alleged violations of Mesabi Range College and MnSCU policies will be addressed upon the student's return to campus.

*An Advisor is any College employee including coaches, faculty and staff, or designee appointed by the College Administration to accompany students.

The complete Student Travel Policy may be obtained in the Administration Office.

GRADUATION REQUIREMENTS FOR DEGREES

Mesabi Range Community & Technical College awards the Associate in Arts Degree, the Associate in Science Degree, and the Associate in Applied Science Degree.

In addition to completing the specific requirements of each degree, all students seeking degrees from Mesabi Range Community & Technical College must:

1. Successfully complete a minimum of 60-72 credits from courses numbered 1000 or above.
2. Complete the required number of courses from the Minnesota Transfer Curriculum.
3. Have a minimum Grade Point Average of 2.0.
4. Complete a minimum of 20 credits at Mesabi Range Community & Technical College in courses numbered 1000 or above. The residency requirement shall be reduced to 11 credits for students transferring at least 9 credits from another MnSCU institution.
5. File an application for graduation in the Records Office by the end of the semester preceding graduation.

Associate in Arts Degree (A.A.)

The Associate in Arts Degree is designed for students who plan to transfer to senior institutions. By completing this degree, students will meet the standards required by the Minnesota Transfer Curriculum, thereby fulfilling the lower division general education requirements at all state universities in Minnesota, at all colleges within the University of Minnesota, and at many of the private four-year colleges and universities.

The Associate in Arts Degree requires:

a. The successful completion of a minimum of 64 credits from courses numbered 1000 or above, to include:
   1. A minimum of two 1-credit Physical Education activities courses.
   2. One Health course (minimum of 2 credits).

b. A minimum of 40 credits of liberal arts and sciences selected from the Minnesota Transfer Curriculum.

c. Sufficient elective credits to fulfill the required 64 credits.

Associate in Science Degree (A.S.)

The Associate in Science Degree may be awarded after the successful completion of a program in a designated field or area which transfers to a baccalaureate major in a related scientific, technical, or non-liberal arts professional field. The program must be designed for transfer to a baccalaureate major in a related scientific or technical field, or may be designed for employment.

The Associate in Science Degree must include the following:

a. Successful completion of a minimum of 60-64 credits from courses numbered 1000 or above.

b. A minimum of 30 semester credits in general education.

c. The general education credits must be selected from at least six of the ten goal areas of the Minnesota Transfer Curriculum.

d. The balance of the credits shall be within the pre-professional or technical area.

Associate in Applied Science Degree (A.A.S.)

The Associate in Applied Science Degree is awarded to students who complete the requirements in approved occupational programs and technical course components.

This degree is designed for students who plan to seek employment after completing their specific career programs. The Associate in Applied Science Degree requires the following:

a. Successful completion of 60-72 semester credits from courses numbered 1000 or above (see specific program requirements).

b. A minimum of 25 percent of the credits required for an A.A.S. Degree must be general education credits.

c. General education credits must be from at least three of the ten goal areas of the Minnesota Transfer Curriculum.

d. The balance of the credits shall be in the program-related occupational or technical area.

GRADUATION REQUIREMENTS FOR CERTIFICATES AND DIPLOMAS

1. Successful completion of the program credit requirements from courses numbered 1000 or above.
2. A minimum Grade Point Average of 2.0.
3. Meet the residency requirement of minimum of 11 credits or one-third of the program graduation requirements.
4. Obtain the Advisor's signature.

Diplomas

Diplomas are not designed for transfer. The Diploma program is designed to provide students with either entry-level employment skills or upgraded employment skills. The Diploma program requires the following:

a. Successful completion of 30-64 college-level credits.

b. Eight credits of general education coursework.

Certificates

The Occupational Certificate is not designed for transfer. It is designed to provide students with entry-level employment skills. Advanced Technical Certificates are designed to enhance or raise a student's technical skills. The minimum standards shall include graduation from an appropriate diploma or degree program or an appropriate term of related employment. The Academic Certificate is designed to certify a student's knowledge and/or professional skills in a specific area or knowledge and/or professional skills in a specific area of knowledge or practice. The Certificate programs require the following:

a. Successful completion of 9-32 college-level credits.

b. Completion of requirements for one of the certificate programs.

MESABI RANGE COMMUNITY AND TECHNICAL COLLEGE
Associate in Arts Degree/Minnesota Transfer Curriculum
Graduation Worksheet
(Effective for New Incoming Students: 2011-2012)

To be eligible for graduation with an A.A. Degree you must satisfy the following requirements:

- Must complete 60 credits with a cumulative GPA of 2.0 for all courses completed.
- Within these 60 credits, must complete the 40 credits of the Minnesota Transfer Curriculum (MnTC) and additional graduation requirements listed below.
- No courses numbered below 1000 may be used to complete degree.
- Must complete PSYC 1415 Freshman Year Experience course the first semester of attendance.
- Complete a minimum of 20 credits at Mesabi Range in courses numbered 1000 or above. The residency requirement shall be reduced to 11 credits for students transferring at least 9 credits from another Minnesota community college.
- A course can be used in up to 2 goal areas (cross-listed) of the Minnesota Transfer Curriculum (MnTC); however, the credits for any course can count only once toward the total degree credits.

MINNESOTA TRANSFER CURRICULUM

GOAL 1: Communication

➢ Must complete the following courses for a minimum of 10 credits:

ENGL 1511 (4) ___ College Writing I **and**
ENGL 1512 (4) ___ College Writing II **or** ENGL 1532 (3) ___ Technical Writing **and**
SPCH 1550 (3) ___ Introduction to Communication **or** SPCH 1555 (3) ___ Public Speaking **or**
SPCH 1565 (3) ___ Interpersonal Communication

Must have 10 Credits Total _____

GOAL 2: Critical Thinking

➢ Must complete all 40 credits of the MnTC to satisfy this goal.

GOAL 3: Natural Sciences

➢ Must complete a minimum of 7 credits including 1 Life Science course and 1 Physical Science course (1 must be a lab science).

Life Science (choose one)

BIOL 1415 (4) ___ Intro to Anatomy &Physiology
BIOL 1535 (3) ___ Intro to Microbiology
BIOL 1536 (4) ___ Contemporary Issues in Biology [10]
BIOL 1545 (4) ___ Human Biology
BIOL 1546 (4) ___ Environmental Science [10]
BIOL 1551 (5) ___ College Biology I
BIOL 1552 (5) ___ College Biology II
BIOL 2551 (4) ___ Human Anatomy & Physiology I
BIOL 2552 (4) ___ Human Anatomy & Physiology II

Physical Science (choose one)

CHEM 1511 (4) ___ Fundamentals of Chemistry
CHEM 1522 (5) ___ General Chemistry I
CHEM 1523 (5) ___ General Chemistry II
GEOG 1555 (3) ___ Physical Geography [10]
PHYS 1541 (4) ___ Physical Science
PHYS 1551 (4) ___ Introductory Physics
PHYS 1561 (4) ___ College Physics I
PHYS 1562 (4) ___ College Physics II
PHYS 1567 (3) ___ Astronomy

Must have 7 Credits Total _____

GOAL 4: Math/Logical Reasoning

➢ Must complete a minimum of 3 credits from the following courses:

MATH 1511 (3) ___ Foundations of Mathematics I
MATH 1521 (4) ___ College Algebra
MATH 1556 (4) ___ Survey of Calculus
MATH 1561 (5) ___ Calculus I
MATH 1562 (5) ___ Calculus II
STAT 2551 (4) ___ Statistics I

Must have 3 Credits Total _____

GOAL 5: History/Social and Behavioral Science

➢ Must complete a minimum of 9 credits with courses from at least 3 areas:

Anthropology

ANTH 1515 (3) ___ Introduction to Indian Studies [7]
ANTH 1525 (3) ___ Introduction to Cultural Anthropology [8]
ANTH 1535 (3) ___ Human Origins [10]
ANTH 2555 (3) ___ Introduction to Archaeology [10]

Economics

ECON 1555 (3) ___ Survey of Economics [8]
ECON 1556 (3) ___ Principles of Economics – Micro [8]
ECON 1557 (3) ___ Principles of Economics – Macro [8]
ECON 1565(3) ___ Introduction to the World Economy [8]

Geography

GEOG 1556 (3) ___ Human Geography [8]
GEOG 1557 (3) ___ Conservation of Natural Resources [10]
GEOG 1558 (3) ___ World Regional Geography [7]

History

HIST 1555 (4) ___ History of Western Civilization: Paleolithic to 1500 [8]
HIST 1556 (4) ___ History of Western Civilization: 1500 to Present [8]
HIST 1565 (4) ___ American History: To 1877 [7]
HIST 1566 (4) ___ Amer. Hist 1877 to Pr [7]
HIST 1567 (3) ___ Native Amer History [7]
HIST1568 (3) ___ Minnesota History[10]

Journalism

Jour 1555 (3) ___ Intro to Mass Communications [9]

Multicultural Studies (Ethnic/Cultural Studies)

SPCH 1585 (3) ___ Intercultural Communications [8]
MCS 1555 (1-3) ___ Educational Travel [8]
MCS 1556 (3) ___ Culture Through Film [7]
MCS 2555 (3) ___ The Holocaust [9]

Political Science

POLS 1556 (3) ___ American Government [9]
POLS 1557 (3) ___ State and Local Government [9]
POLS 1559 (3) ___ International Relations [8]

Psychology

PSYC 1555 (3) ___ Psychology of Men [7]
PSYC 2551 (4) ___ General Psychology
PSYC 2555 (3) ___ Psychology of Aging [7]
PSYC 2556 (4) ___ Industrial/Organizational Psychology [7]
PSYC 2558 (3) ___ Abnormal Psychology [7]
PSYC 2567 (4) ___ Lifespan Development [7]

Sociology

SOC 1452 (3) ___ Crime and Delinquency
SOC 1551 (3) ___ Introduction to Criminal Justice [9]
SOC 1555 (3) ___ Introduction to Sociology [7]
SOC 1556 (3) ___ Intro to Community Organize & Develop [9]
SOC 1557 (3) ___ Courtship, Marriage, & Family [7]
SOC 1558 (3) ___ Human Relations [7]
SOC 1559 (3) ___ Human Sexuality [7]
SOC 1565 (3) ___ Social Problems [7]

Must have 9 Credits (3 areas) Total ____

GOAL 6: Humanities/Fine Arts

➢ Must complete a minimum of 9 credits with 1 course from each of these 3 areas:

History, Appreciation or Theory

ART 1521 (3) ___ Art History: Prehistoric to Pre-Renaissance
ART 1522 (3) ___ Art History: Early Renaissance-Modern
ART 1541 (3) ___ Introduction to Art
ART 1556 (3) ___ North American Indian Art [7]
MUSC 1525 (3) ___ World Music [8]
MUSC 1555 (3) ___ American Popular Music [7]
MUSC 1559(3) ___ Introduction to Music [8]
MUSC 1565(3) ___ History of Rock & Roll
MUSC 1566 (3) ___ Fundamentals of Music Theory
PHIL 1551 (3) ___ Introduction to Ethics [9]
PHIL 1556 (3) ___ World Religions [8]
PHIL 1565 (3) ___ American Indian Philosophy [10]
PHIL 1575 (3) ___ Introduction to Philosophy [9]
PHIL 1585 (3) ___ Environmental Ethics [10]
THTR 1555 (3) ___ Introduction to Theatre

Literature

ENGL 1559 (3) ___ Art of the Film
ENGL 1575 (3) ___ Introduction to Literature
ENGL 1576 (3) ___ Literature of Science Fiction
ENGL 1579 (3) ___ World Literature [8]
ENGL 2515 (3) ___ Native American Literature [10]
ENGL 2535 (4) ___ Survey of British Lit. to 18th Century
ENGL 2536 (4) ___ Survey of British Lit. 18th – 20th Century
ENGL 2537 (3) ___ American Literature to 1865 [7]
ENGL 2538 (3) ___ American Literature from 1865 [7]
ENGL 2546 (3) ___ North American Nature Writers [10]
ENGL 2547 (3) ___ The Bible as Literature [8]
ENGL 2577 (3) ___ World Mythology [8]
ENGL 1578 (3) ___ Literature by Women [7]

Creative Process/Interpretive Performance

ART 1531 (3) ___ Drawing I
ART 1532 (3) ___ Drawing II
ART 1545 (3) ___ Ceramics
ART 1551 (3) ___ Painting - Oil
ART 1552 (3) ___ Painting II
ART 1565 (3) ___ Basic Photography
ART 1566 (3) ___ Digital Photography
ART 2535 (3) ___ Painting - Watercolors
ENGL 2545 (3) ___ Creative Writing
SPCH 2565 (3) ___ Oral Interpretation
THTR 1565 (3) ___ Beginning Acting

Must have 9 Credits (3 areas) Total _____

GOAL 7: Human Diversity

➢ To complete this goal, choose a cross-listed course or complete 1 of the following courses for a minimum of 3 credits.

ANTH 1515 (3) ___ Introduction to Indian Studies [5]
ART 1555 (3) ___ North American Indian Art [6]
BIOL 1515 (3) ___ Biology of Women
ENGL 1578 (3) ___ Literature by Women [6]
ENGL 2537 (3) ___ American Literature to1865 [6]
ENGL 2538 (3) ___ American Literature from 1865 [6]
GEOG 1558 (3) ___ World Regional Geography [5]
HIST 1565 (4) ___ American History: To 1877 [5]
HIST 1566 (4) ___ American History: 1877 to Present [5]
HIST 1567 (3) ___ Native American History [5]
MCS 1556 (3) ___ Culture through Film [5]
MUSC 1555(3) ___ American Popular Music [6]
PSYC 1555 (3) ___ Psychology of Men [5]
PSYC 2555 (3) ___ Psychology of Aging
PSYC 2556 (4) ___ Industrial/Organizational Psychology [5]
PSYC 2558 (3) ___ Abnormal Psychology [5]
PSYC 2567 (4) ___ Lifespan Development [5]
SOC 1555 (3) ___ Introduction to Sociology [5]
SOC 1557 (3) ___ Courtship, Marriage, & Family [5]
SOC 1558 (3) ___ Human Relations [5]
SOC 1559 (3) ___ Human Sexuality [5]
SOC 1565 (3) ___ Social Problems [5]
SPCH 1586 (3) ___ Leadership & Group Communication [9]

Must have a cross-listed course or a minimum of 3 Credits Total _____

GOAL 8: Global Perspective

➢ To complete this goal, choose a cross-listed course or complete 1 of the following courses for a minimum of 3 credits.

ANTH 1525 (3) ___ Cultural Anthropology [5]
ECON 1555 (3) ___ Survey of Economics [5]
ECON 1556 (3) ___ Principles of Economics – Micro [5]
ECON 1557 (3) ___ Principles of Economics – Macro [5]
ECON 1565(3) ___ Intro to World Economy [5]
ENGL 1577 (3) ___ World Mythology [6]
ENGL 1579 (3) ___ World Literature [6]
ENGL 2547 (3) ___ The Bible as Literature [6]
FREN 2463 (4) ___ French III
FREN 2464 (4) ___ French IV
GEOG 1556 (3) ___ Human Geography [6]
HIST 1555 (4) ___ History of Western Civ: Paleolithic to 1500 [5]
HIST 1556 (4) ___ History of Western Civ: 1500 to Present [5]
MCS 1555(1-3) ___ Educational Travel [5]
MUSC 1525 (3) ___ World Music [6]
MUSC 1559 (3) ___ Introduction to Music [6]
PHIL 1556 (3) ___ World Religions [6]
POLS 1559 (3) ___ International Relations [5]
SPAN 2463 (3) ___ Spanish III
SPAN 2464 (3) ___ Spanish IV
SPCH 1585 (3) ___ Intercultural Communication [5]

Must have a cross-listed course or a minimum of 3 Credits Total _____

GOAL 9: Ethical & Civic Responsibility

➢ To complete this goal, choose a cross-listed course or complete 1 of the following courses for a minimum of 3 credits.

JOUR 1555 (3) ___ Intro to Mass Communication [5]
MCS 2555 (3) ___ The Holocaust [5]
PHIL 1551 (3) ___ Introduction to Ethics [6]
PHIL 1575 (3) ___ Introduction to Philosophy [6]
POLS 1556 (3) ___ American Government [5]
POLS 1557 (3) ___ State and Local Government [5]
SOC 1551 (3) ___ Introduction to Criminal Justice [5]
SOC 1556 (3) ___ Intro to Community Organizing & Develop. [5]
SPCH 1586 (3) ___ Leadership & Group Communication [7]

Must have a cross-listed course or a minimum of 3 Credits Total _____

GOAL 10: People and the Environment

➢ To complete this goal, choose a cross-listed course or complete 1 of the following courses for a minimum of 3 credits.

ANTH 1535 (3) ___ Human Origins [5]
ANTH 2555 (3) ___ Introduction to Archaeology [5]
BIOL 1536 (4) ___ Contemporary Issues in Biology [3]
BIOL 1546 (4) ___ Environmental Science [3]
ENGL 2515 (3) ___ Native American Literature [6]
ENGL 2546 (3) ___ North American Nature Writers [6]
GEOG 1555 (3) ___ Physical Geography
GEOG 1557 (3) ___ Conservation of Natural Resources [5]
GEOL 1557 (4) ___ Physical Geology
HIST 1568 (3) ___ Minnesota History [5]
PHIL 1565 (3) ___ American Indian Philosophy [6]
PHIL 1585 (3) ___ Environmental Ethics [6]

Must have a cross-listed course or a minimum of 3 Credits Total _____

Must have a total of 40 credits from all goal areas: Total MnTC Credits _____

NOTE: A course can be used in up to 2 goal areas (cross-listed) of the Minnesota Transfer Curriculum (MnTC); however, the credits for any course can count only once toward the total degree credits. The 2nd goal area is indicated in parentheses after the course name.

ADDITIONAL A.A. DEGREE GRADUATION REQUIREMENTS

Freshman Year Experience

PSYC 1415 (1) ____ Freshman Year Experience

Must have 1 Credit Total _____

Physical Education

➢ Must complete at least 2 one-credit physical education activity courses:

Must have 2 Credits Total _____

Health

➢ Must complete a minimum of 1 course for at least 2 credits:

HLTH 1455 (3) ___ Personal and Community Health
HLTH 1459 (3) ___ Wellness
HLTH 1465 (2) ___ Drug Use and Abuse
HLTH 2459 (3) ___ Introduction to Nutrition

Must have a minimum of 2 Credits Total _____

Electives:

Please list electives: e.g.,

Dept.	Number	Credits
CSCI	1455	3

Elective Credits Total _____

Total Additional Requirements Total Credits _____

DEGREE SUMMARY

Total Credits from Minnesota Transfer Curriculum _____

Total Credits from Additional Requirements _____

Total Credits from other Elective Classes and Major Requirements _____

****Must have 60 Credits Total for A.A. Degree Total Credits _____**

NOTE: A 2.0 MnTC GPA is required for the 40 credits of the Minnesota Transfer Curriculum.

NOTE: Students are reminded that two-years of a single high school foreign language or one-year of a college foreign language is an admissions requirement at many four-year colleges and universities. Please check with your transfer institution for admissions/graduation requirements.

Students thinking about a career that requires four or more years of schooling should plan course selection with transfer in mind. The university parallel (transfer) curricula at Mesabi Range College are designed for lower-division and pre-professional preparation for students who intend to transfer to a four-year college or university. Depending on a student's intended major, the goal in a transfer curriculum should generally be completion at Mesabi Range College of either an Associate in Arts (A.A.) Degree or an Associate in Science (A.S.) Degree. The programs consist of typical lower division requirements for a variety of major fields. ***Since lower division course requirements vary from one college to another, students must consult their counselors or advisory and the catalogs of the colleges or universities to which they plan to transfer.***

All four-year public colleges in Minnesota accept the Minnesota Transfer Curriculum Associate in Arts Degree as complete fulfillment of their lower division general education distribution requirements. Each baccalaureate program has its own requirements. The classes listed in this section are a general guide to help you start planning. Check with your counselor or advisor for more information and specific requirements.

CURRICULAR OFFERINGS

TRANSFER MAJORS

The transfer curricula at Mesabi Range Community & Technical College are designed to offer lower-division and pre-professional preparation for students who intend to transfer to a four-year college or university. Students who know they will transfer should plan their course selections with this goal in mind; once the transfer institution has been chosen, courses should be selected to meet the major and graduation requirements of that college. Depending on their intended majors at transfer institutions, the goals of students in a transfer curriculum should generally be completion of an Associate in Arts Degree at Mesabi Range College. Listed below are some of the four-year degree and pre-professional programs that students may begin at Mesabi Range College:

Accounting

Agriculture

American Indian Studies

Anthropology

Pre-Architecture

Art

Astrophysics

Biology

Biology (A.S. Degree)

Business

Business (A.S. Degree)

Chemistry

Chiropractic

Communication

Computer Science

Criminology/Criminal Justice

Pre-Dental Hygiene

Pre-Dentistry

Economics

Education
(Early Childhood, Elementary and Secondary)

- Art Education
- Communication Arts/Literature
- Pre-Communication Disorders
- Early Childhood Studies/Special Education
- Earth and Space Science Education
- Elementary Education
- Exercise Science Education
- Life Science Education
- Mathematics Education
- Music Education
- Physical Education – Chemistry Concentration
- Physical Education – Physics Concentration
- Physical Science Education
- Social Studies Education

Pre-Engineering

- Aerospace Engineering
- Biomedical Engineering
- Bio/Agricultural Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Geological Engineering
- Materials Science Engineering
- Mechanical Engineering

English

Environmental Science

Exercise & Sports Science

Forestry/Natural Resources

Geography

Geology

Geophysics

History

Human Services Generalist

Industrial Technology/Industrial Arts

International Relations/Studies

Pre-Law

Liberal Arts/Humanities

Mathematics

Pre-Medicine

Medical Technology

Pre-Mortuary Science

Music

Nursing (4-year Degree)

Nutrition/Dietetics

Pre-Occupational Therapy

Pre-Optometry

Pre-Pharmacy

Pre- Physical Therapy

Physics

Political Science

Psychology

Social Work

Sociology

Pre-Veterinary Medicine

Career programs are designed to prepare students for immediate employment in a career by providing technical skills that can be acquired in one-year Certificate, two-year Diploma or two-year Associate in Applied Science programs. Associate in Applied Science programs include a comprehensive core of general education courses which provide the foundation for a long-term professional career. Students who graduate may also transfer to continue their education and receive an advanced four-year degree.

Our campuses feature up-to-date equipment, as well as instructors who make it a point to know all of the latest advances in technology. This combination of highly qualified and skilled instructors, and the most modern equipment available, enables our career program graduates to stay on the competitive edge of the job market. Every career program combines classroom instruction with exciting, hands-on learning—often at actual business and industrial sites throughout the region.

Check with your advisor for additional information.

*Prerequisite Required For All Career Programs		
GECL 1155	College Seminar	1 cr.

**Unless student meets required guidelines.*

Technical programs must be completed within 5 years of the start date.

BUSINESS

One-Year Diploma

The One-Year Diploma in Business is designed to provide a concentration of business courses for individuals who are interested in a business career or for currently employed individuals who wish to update their business skills and knowledge. The curriculum is designed to facilitate access to multiple business degree programs.

CREDITS REQUIRED FOR GRADUATION: 33

FALL SEMESTER

PROGRAM REQUIREMENTS		Credits
ACCT 2691	Principles of Accounting I	4
BUS 1655	Introduction to Business	3
ECON 1556	Principles of Economics: Micro	3
ENGL 1511	College Writing I	4
**Business Elective*		3
Total Semester Credits		17

SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits
ACCT 2692	Principles of Accounting II	4
BUS 2655	Legal Environment of Business	3
BUS 2675	Principles of Management	3
CSCI 1455	Introduction to Computers	3
SPCH 1565	Interpersonal Communication	3
Total Semester Credits		16

*Highly Recommended Business Electives		
BUS 1666	Principles of Marketing	3
ECON 1557	Macro Economics	3

BUSINESS

Two-Year A.S. Degree

The AS Degree in Business curriculum provides an option for students who want maximum transferability of course work and is designed for students who wish to balance business-related courses with liberal arts and science courses. The A.S. Degree in Business gives students an opportunity to prepare for an immediate career in the expanding field of business, with the option of transferring the credits earned to another college or university to complete a bachelor's degree in accounting, business administration, economics, marketing, management or related fields.

CREDITS REQUIRED FOR GRADUATION: 60

PROGRAM REQUIREMENTS		Credits
ACCT 2691	Principles of Accounting I	4
ACCT 2692	Principles of Accounting II	4
BUS 1655	Introduction to Business	3
BUS 1666	Principles of Marketing	3
BUS 2655	Legal Environment of Business	3
BUS 2675	Principles of Management	3
CSCI 1455	Introduction to Computers	3
STAT 2551	Statistics I	3
**Business Electives or Minnesota Transfer Curriculum*		4
Total Credits		30

Required Minnesota Transfer Curriculum		
ECON 1556	Principles of Economics: Micro	3
ENGL 1511	College Writing I	4
ENGL 1532	Technical Writing	3
PHIL 1551	Introduction to Ethics	3
SOC 1555 SOC 1558 SOC 1565	Introduction to Sociology or Human Relations or Social Problems	3
SPCH 1555 SPCH 1565	Public Speaking or Interpersonal Communication	3
Minnesota Transfer Curriculum		11
Total Credits		30

*Recommended Business Elective		
ECON 1557	Principles of Economics: Macro	3

CARPENTRY

Two-Year Diploma

Lab activities involve actual hands-on construction. Working models and mock-ups as well as actual recreational and storage buildings and garages will be constructed by first-year students. Second-year students will build a project on a local site. Related instruction emphasizes math, blueprint reading, estimating, materials of construction, tools and equipment, principles of carpentry and safety.

Helpful Background

Courses in math, design, drawing, drafting and woodworking are helpful. Business courses in accounting, management, sales and general business can be very useful.

Employment Opportunities

Graduates find work with small and large contractors doing new construction and remodeling, sash and window companies, lumber companies, and many become self-employed. Remodeling and energy conservation work are projected to become major areas of growth. Carpenters may advance to positions such as job supervisor, superintendent or a self-employed contractor. Other related employment possibilities include sales, lumberyard management, building inspection, cabinet making, roofing, drywall installation, maintenance carpentry or factory rep positions.

CREDITS REQUIRED FOR GRADUATION: 64

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
CARP 1221	Blueprint Reading and Estimating	3	(1/2)
CARP 1225	Hand & Power Tools	2	(1/1)
CARP 1226	Math for Carpenters	2	(1/1)
CARP 1231	Principles of Carpentry I-A Theory	2	(2/0)
CARP 1241	Principles of Carpentry I-A Lab	5	(0/5)
GEDM 1165	Technical Math	2	(2/0)
Total Semester Credits		16	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
CARP 1222	Planning & Estimating	1	(1/0)
CARP 1227	Intro. to Building Codes	1	(1/0)
CARP 1228	Cabinet Making	2	(0/2)
CARP 1229	Concrete	1	(0/1)
CARP 1232	Principles of Carpentry I-B Theory	3	(3/0)
CARP 1242	Principles of Carpentry I-B Lab	6	(0/6)
CSCI 1455	Intro to Computers	3	(3/0)
Total Semester Credits		17	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
CARP 2255	Foundations, Concrete, and Site Layout	4	(1/3)
CARP 2256	Blueprint Reading and Codes	2	(1/1)
CARP 2257	Scaffolding, Ladders and Power Tools	1	(0/1)
CARP 2258	Floor Framing	1	(0/1)
CARP 2259	Wall Framing	2	(1/1)
CARP 2265	Roof Framing	2	(1/1)
CARP 2266	Roof Coverings and Safety	2	(1/1)
GEDC 2176	Technical Communication	2	(2/0)
Total Semester Credits		16	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
CARP 2275	Exterior Finishing	2	(0/2)
CARP 2276	Remodeling	2	(1/1)
CARP 2277	Insulation & Drywall	3	(1/2)
CARP 2278	Small Projects & Estimating	1	(1/0)
CARP 2285	Interior Finishing	2	(1/1)
CARP 2286	Cabinets, Floor Covering & Stair Finishing	4	(1/3)
GECL 2175	Job Search Strategies	1	(0/1)
Total Semester Credits		15	

EXECUTIVE OFFICE MANAGEMENT

The Executive Office Management program prepares students to use the latest technology; the diverse training prepares graduates for employment in today's automated office environment. The increasing use of sophisticated office technology has tremendous implications for those entering the business office.

Training emphasizes the development of communications skills in an office networking system, as well as the use of word processing, spreadsheet, database, desktop publishing, and business presentation software.

Two-Year – A.A.S. Degree

CREDITS REQUIRED FOR GRADUATION: 60

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits
BUS 1657	Business and Professional Communication	3
BUS 1655	Introduction to Business	3
EOM 1241	Project Management: Microsoft Word	3
EOM 1242	Project Management: Microsoft Excel	3
EOM 1243	Project Management: Records/ Data Management	3
Total Semester Credits		15

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits
SPCH 1586	Leadership & Group Communication	3
EOM 1244	Project Management IV: Microsoft PowerPoint & Publisher	3
EOM 1245	Project Management V: Microsoft Access	3
EOM 1251	Operations Management I: The Professional Office	3
EOM 1252	Operations Management II: Business Accounting with QuickBooks	3
Total Semester Credits		15

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits
ENGL 1511	College Writing I	4
BUS 1666	Introduction to Marketing	3
PHIL 1551	Introduction to Ethics	3
EOM 2253	Operations Management III: Customer Relations in a Global Environment	3
EOM 2254	Operations Management IV: Project Management	3
Total Semester Credits		16

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits
ENGL 1532	Technical Writing	3
SPCH 1585	Intercultural Communication	3
PSYC 2556	Industrial/Organizational Psychology	4
EOM 2246	Project Management VI: Emerging Technology	1
EOM 2261 BUS 2620	Capstone Project or Internship	3
Total Semester Credits		14

One-Year Diploma

CREDITS REQUIRED FOR GRADUATION: 33

FALL SEMESTER

PROGRAM REQUIREMENTS		Credits
BUS 1657	Business and Professional Communication	3
BUS 1655	Introduction to Business	3
EOM 1241	Project Management: Microsoft Word	3
EOM 1242	Project Management: Microsoft Excel	3
EOM 1243	Project Management: Records/ Data Management	3
EOM 2253	Operations Management III: Customer Relations in a Global Environment	3
Total Semester Credits		18

SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits
SPCH 1586	Leadership & Group Communication	3
EOM 1244	Project Management IV: Microsoft PowerPoint & Publisher	3
EOM 1245	Project Management V: Microsoft Access	3
EOM 1251	Operations Management I: The Professional Office	3
EOM 1252	Operations Management II: Business Accounting with QuickBooks	3
Total Semester Credits		15

GRAPHIC DESIGN MEDIA

Graphic Design Media students will be trained in the fast pace and exploding field of graphic design, advertising art, pre-press and print communications. The program uses the latest technology in design software and pre-media equipment. This program is for the creative student as well as the production oriented student.

Employment Opportunities

The graphic design media industry has many employment opportunities. Students will seek employment as graphic designers, web designers, pre-press technicians and press technicians. The program will focus on the design of flyers, magazine advertisements, newspapers, brochures, web pages, typography, and digital photography. Students will also learn the printing process of all materials to include paper, inks, plates, and estimating.

Instructors are directly involved with assisting students in seeking employment. The program is proud of its 100% placement. The program is the only nationally accredited program in the State of Minnesota. Accreditation is by the Graphic Arts Education and Research Foundation.

Two-Year A.A.S. Degree

CREDITS REQUIRED FOR GRADUATION: 75/76

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
GRAP 1225	Digital Plate Technology	2	(1/1)
GRAP 1226	Introduction to Media	2	(1/1)
GRAP 1227	Layout and Imposition	3	(1/2)
GRAP 1235	Digital and Offset Systems I	4	(1/3)
GRAP 1238	Introduction to Video	3	(2/1)
ENGL 1511	College Writing I	4	(4/0)
Total Semester Credits		18	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
GRAP 1245	Estimating for Media	3	(2/1)
GRAP 1248	Video Production	3	(1/2)
GRAP 1247	Finishing Operations	2	(1/1)
GRAP 1255	Digital and Offset Systems II	4	(1/3)
GRAP 1256	Quality Control in Media	2	(1/1)
MATH 1511	Foundations of Math <u>or</u>	3	(3/0)
MATH 1521	College Algebra	4	(4/0)
Total Semester Credits		17/18	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
GRAP 2251	Mac OS	1	(1/0)
GRAP 2252	Design & Layout with Indesign	3	(1/2)
GRAP 2253	Elements of Design & Typography	2	(1/1)
GRAP 2254	Adobe Indesign	3	(1/2)
GRAP 2261	Illustration with Adobe Illustrator	3	(1/2)
GRAP 2271	Adobe Photoshop & Digital Photography	2	(1/1)
GECL 2175	Job Search Strategies	1	(0/1)
PHYS 1561	College Physics I	4	(3/1)
Total Semester Credits		19	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
GRAP 2263	Preflight/Pagination	2	(1/1)
GRAP 2264	Advanced Design and Layout	3	(1/2)
GRAP 2285	Adobe Flash Animation	2	(1/1)
GRAP 2272	Dreamweaver and WebPage Design	3	(1/2)
GRAP 2274	Industrial Portfolio Capstone Project	2	(1/1)
GRAP 2262	Portfolio Building/Print Ed GAERF Accreditation	2	(1/1)
SOC 1555	Intro to Sociology	3	(3/0)
PSYC 2551	General Psychology	4	(4/0)
Total Semester Credits		21	

Two-Year Diploma

CREDITS REQUIRED FOR GRADUATION: 64

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
GRAP 1225	Digital Plate Technology	2	(1/1)
GRAP 1226	Introduction to Media	2	(1/1)
GRAP 1227	Layout and Imposition	3	(1/2)
GRAP 1235	Digital and Offset systems I	4	(1/3)
GRAP 1238	Introduction to Video	3	(2/1)
GEDM 1165	Technical Math	2	(2/0)
Total Semester Credits		16	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
GRAP 1245	Estimating for Media	3	(2/1)
GRAP 1247	Finishing Operations	2	(1/1)
GRAP 1248	Video Production	3	(1/2)
GRAP 1255	Digital and Offset Systems II	4	(1/3)
GRAP 1256	Quality Control in Media	2	(1/1)
CSCI 1455	Intro to Computers	3	(3/0)
Total Semester Credits		17	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
GRAP 2251	Mac OS	1	(1/0)
GRAP 2252	Design & Layout with Indesign	3	(1/2)
GRAP 2253	Elements of Design & Topography	2	(1/1)
GRAP 2254	Adobe InDesign	3	(1/2)
GRAP 2261	Illustration with Adobe Illustrator	3	(1/2)
GRAP 2271	Adobe Photoshop & Digital Photography	2	(1/1)
GEDC 2176	Technical Communications	2	(2/0)
Total Semester Credits		16	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
GRAP 2263	Preflight/Pagination	2	(1/1)
GRAP 2264	Advanced Design and Layout	3	(1/2)
GRAP 2285	Adobe Flash Animation	2	(1/1)
GRAP 2272	Dreamweaver and Web Page Design	3	(1/2)
GRAP 2274	Industrial Portfolio Capstone Project	2	(1/1)
GRAP 2262	Portfolio Building/Print Ed GAERF Accreditation	2	(1/1)
GECL 2175	Job Search Strategies	1	(0/1)
Total Semester Credits		15	

HUMAN SERVICES

Human Services is designed for students interested in helping people to help themselves with problems of psychological or social survival. The clients generally have such massive problems of survival that the realistic goal is to help an individual or group learn to function effectively in today's world.

The A.A.S. Program is designed to provide the training appropriate for beginning employment in a human services occupation. One can also obtain an A.A. Degree with a concentration in human services which provides the foundation for a long-term career in a professional field. To complete an A.A. Degree in Human Services or Human Services/Chemical Dependency, students must complete the General Education minimums.

Mesabi Range Community & Technical College does have specific transfer articulation agreements with the Social Work programs at the College of St. Scholastica and the University of Wisconsin – Superior leading to a BSW degree and an articulation agreement with the Applied Psychology Program at Bemidji State University.

Career Opportunities

A graduate from the A.A.S. Mesabi Range Human Services program will have acquired an understanding of the concepts, principles, skills, methods, and techniques of human service agencies, hospitals, nursing homes, schools, half-way houses, and public service related business or industry. Students who graduate with the A.A. degree in Human Services can transfer to continue their education and receive an advanced professional four-year degree.

Two-Year A.A.S. Degree

CREDITS REQUIRED FOR GRADUATION: 64

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
ENGL 1511	College Writing I	4	(4/0)
HLTH 1465	Drug Use & Abuse	2	(2/0)
HSER 1231	Intro. to Human Services	4	(4/0)
PSYC 2551	General Psychology	4	(4/0)
CDEP 1255 CDEP 1261	Psychology of Addiction <u>or</u> Chemical Dependency Theories	3	(3/0)
Total Semester Credits		17	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
ENGL 1512	College Writing II	4	(4/0)
HSER 1232	Helping Process	3	(3/0)
HSER 1233	Interviewing	2	(2/0)
PSYC 2567	Lifespan Development	4	(4/0)
General Electives		3	
Total Semester Credits		16	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
HSER 2240	Human Services Internship	2	(2/0)
PHIL 1551	Introduction to Ethics	3	(3/0)
PSYC 2655	Group Dynamics	3	(3/0)
SPCH 1555 SPCH 1565	Public Speaking or Interpersonal Communic.	3	(3/0)
General Electives		4	
Total Semester Credits		15	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
HSER 2234	Crisis Intervention	3	(3/0)
HSER 2240	Human Services Internship	2	(2/0)
SOC 1558	Human Relations	3	(3/0)
**Math/Science Electives*		3	
General Electives		5	
Total Semester Credits		16	

HUMAN SERVICES
CHEMICAL DEPENDENCY SPECIALIST
Two-Year A.A.S. Degree

Chemical Dependency Specialist is a Human Services option designed for people interested in entering or furthering their present level of training in the chemical dependency field. A graduate will have acquired an understanding of the concepts, principles, skills, methods, and techniques needed to work with those whose lives have been seriously affected by chemical abuse. Graduates may seek employment in chemical dependency treatment programs; information, diagnostic, and referral centers; outpatient or follow-up care programs; halfway houses, schools, hospitals, clinics, prisons, social agencies; and programs supported by business, church, and government. (See addendum in reference to licensure.)

CREDITS REQUIRED FOR GRADUATION: 64

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
ENGL 1511	College Writing I	4	(4/0)
HLTH 1465	Drug Use and Abuse	2	(2/0)
HSER 1231	Intro. to Human Services	4	(4/0)
PSYC 2551	General Psychology	4	(4/0)
Elective			
CDEP 1255	Psychology of Addiction	3	(3/0)
Total Semester Credits		17	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
CDEP 1261	Chemical Dependency Theories	3	(3/0)
HSER 1232	Helping Process	3	(3/0)
HSER 1233	Interviewing	2	(2/0)
ENGL 1512	College Writing II	4	(4/0)
SPCH 1555 SPCH 1565	Public Speaking or Interpersonal Communic.	3	(3/0)
Total Semester Credits		15	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
CDEP 2240	Chemical Dependency Internship	5	(0/5)
CDEP 2262	Chemical Dependency Assessment	3	(3/0)
PHIL 1551	Introduction to Ethics	3	(3/0)
PSYC 2655	Group Dynamics	3	(3/0)
SOC 1558	Human Relations	3	(4/0)
Total Semester Credits		17	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
CDEP 2263	Treatment and Procedures	3	(3/0)
HSER 2234	Crisis Intervention	3	(3/0)
PSYC 2567 PSYC 2558	Abnormal Psychology or Lifespan Psychology	3	(3/0)
**Math/Science Electives*		3	(3/0)
Electives from MnTC Goal Areas 1-10		3	(3/0)
Total Semester Credits		15	

Until 2008, an additional 440-hour (total of 880 hours) internship (two 5-credit CDEP 2240 Chemical Dependency Internships) or work experience under the supervision of a licensed chemical dependency counselor and successful completion of the Minnesota State Health Department examination is necessary to obtain licensure. In 2008 a Baccalaureate degree will also be required in order to obtain licensure.

INDUSTRIAL MECHANICAL TECHNOLOGY

Students learn safety, measurements, troubleshooting, repair procedures and the use of hand and power tools. The program also covers hydraulics, pneumatics, lubrication systems, heating systems, cooling systems and welding. This knowledge is put to use in the repair of actual plant and pit equipment such as cranes, pumps, speed reducers, and other field equipment.

Helpful Background

Courses in industrial arts, math, science and mechanical drawing are very helpful. Hard toed boots, hard hats (helmets), and safety glasses will be required.

Employment Opportunities

Job placement for Industrial Mechanical Technology students has traditionally been very high, as industry cannot afford to be shut down for too long. Qualified mechanics/millwrights find work repairing both plant and weld equipment. A demand exists for mechanics/millwrights in a variety of manufacturing and processing facilities such as hardboard plants, paper companies, food processing plants, and mining companies. Graduates have also found employment with heavy equipment dealers, contractors, rail maintenance crews, and in specialty areas involving hydraulics, parts distribution, solar energy, logging, cooling, and heating.

Two-Year A.A.S. Degree

CREDITS REQUIRED FOR GRADUATION: 61

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
ITSF 1486	MSHA New Miner Training	1	(1/0)
CSCI 1455	Introduction to Computers	3	(3/0)
IMT 1237	Elements of Mechanics – Equipment Operations	3	(1/2)
IMT 1241	Basic Blueprint Reading & Sketching	3	(1/2)
IMT 1251	Basic Maintenance Welding & Cutting	2	(1/1)
IMT 1231	Industrial Accident Prevention I	2	(1/1)
MATH 1511 MATH 1521	Foundations of Math or College Algebra	3/4	(3/0)
Total Semester Credits		17/18	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
ENGL 1532	Technical Writing or	3	(3/0)
ENGL 1511	College Writing	4	(4/0)
IMT 1232	Industrial Accident Prevention II	2	(1/1)
IMT 1245	Lubrication and Bearings	3	(1/2)
IMT 1238	Rigging	2	(1/1)
IMT 1256	Drive Components & Troubleshooting	3	(1/2)
IMT 1257	Measuring Tools and Layout	1	(0/1)
Total Semester Credits		14/15	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
IMT 2225	Pumps	2	(1/1)
ITSF 1487	MSHA Refresher/Fire Safety & Response	1	(1/0)
EIAT 1235	Electrical for Industrial Mechanical Technology	2	(1/1)
IMT 2231	Safety & Equipment and Maintenance I	3	(0/3)
PHYS 1541 PHYS 1551	Physical Science or Intro to Physics	4	(3/1)
IMT 2251	Advanced Maintenance Welding & Cutting	3	(1/2)
GEDC 2175	Job Search Strategies	1	(1/0)
Total Semester Credits		16	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
IMT 2261	Hydraulics and Schematics	3	(1/2)
IMT 2265	Alignment and Introduction to Conveyors	2	(1/1)
IMT 2232	Safety & Equipment and Maintenance II	4	(0/4)
IMT 2242	Advanced Blueprint Reading	3	(1/2)
SPCH 1550 SPCH 1565	Intro to Communication or Interpersonal Communic.	3	(3/0)
Total Semester Credits		14	

Two-Year Diploma

CREDITS REQUIRED FOR GRADUATION: 60

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
IMT 1231	Industrial Accident Prevention I	2	(1/1)
IMT 1235	Basic Hydraulic Symbols & Components	1	(1/0)
IMT 1237	Elements of Mechanic/Equipment Operations	3	(1/2)
IMT 1238	Rigging	2	(1/1)
IMT 1241	Basic Blueprint Reading & Sketching I	3	(1/2)
IMT 1251	Basic Maintenance Welding & Cutting I	2	(1/1)
IMT 1257	Measuring Tools & Layout	1	(1/0)
GEDM 1165	Technical Math	2	(2/0)
Total Semester Credits		16	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
IMT 1232	Industrial Accident Prevention II	2	(1/1)
IMT 1242	Basic Blueprint Reading & Sketching II	2	(1/1)
IMT 1245	Lubrication & Bearings	3	(1/2)
IMT 1247	Hydraulic Basics	1	(0/1)
IMT 1252	Basic Maintenance Welding & Cutting II	2	(1/1)
IMT 1256	Drive Components Troubleshooting	3	(1/2)
CSCI 1455	Intro to Computers	3	(3/0)
Total Semester Credits		16	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
IMT 2225	Pumps	2	(1/1)
IMT 2231	Safety & Equipment Maintenance I	3	(0/3)
IMT 2251	Advanced Maintenance Welding & Cutting	3	(1/2)
IMT 2261	Hydraulics & Schematics	3	(1/2)
IMT 2265	Alignment & Introduction to Conveyor Systems	2	(1/1)
ITSF 1487	MSHA Refresher/Fire Safety & Response	1	(1/0)
Total Semester Credits		14	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
IMT 2232	Safety & Equipment Maintenance II	4	(0/4)
IMT 2242	Advanced Blueprint Reading	3	(1/2)
IMT 2262	Pneumatics & Hydraulic Troubleshooting	3	(1/2)
EIAT 1235	Electrical for Industrial Mechanical Technology	2	(1/1)
GECL 2175	Job Search Strategies	1	(0/1)
EMSV 1488	Heart Saver/First Aid/AED & CPR	1	(1/0)
Total Semester Credits		14	

MASONRY

One-Year Certificate

Graduates of the Masonry Certificate program will be prepared to enter into a career in the masonry trades profession, with the knowledge and skills necessary in the residential construction market today. Students will be required to move brick, stone, and blocks for completion of curriculum requirements. The proper use of hand tools is necessary to properly mortar masonry units together. Students will learn to work off residential blueprints to compute materials and costs on the job. No previous masonry knowledge is necessary or implied.

Helpful Background

A basic background in geometry will be helpful as the student will learn the Pythagorean Theorem, compute areas of cylinders, yardage of concrete, and mortar mixes.

Career Opportunities

The program will fulfill the growing need for professional masons. There are skilled mason shortages in most large cities across the United States. Nearly 100% of homes built today contain some type of masonry construction. Masonry construction is very strong, low maintenance, and serves the needs of our population with roads, buildings, water and drain systems, factories, hospitals, homes, etc. The journeyman mason averages over $22 per hour across the United States while Minnesota averages $30 per hour.

CREDITS REQUIRED FOR GRADUATION: 32

FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
MASN 1221	Blueprint Reading and Estimating	2	(0/2)
MASN 1223	Principles of Blocklaying	5	(1/4)
MASN 1224	Mortar/Concrete	2	(0/2)
MASN 1225	Hand & Power Tools	2	(1/1)
MASN 1226	Math for Masons	2	(1/1)
CARP 1250	Green Building and Sustainable Design	3	(2/1)
Total Semester Credits		16	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
MASN 1222	Planning & Estimating	1	(1/0)
MASN 1233	Principles of Bricklaying	6	(1/5)
MASN 1243	Principles of Stonework	6	(1/5)
MASN 2257	Scaffolding	1	(0/1)
MASN 1227	Intro to Building Codes	1	(1/0)
GECL 2175	Job Search Strategies	1	(0/1)
Total Semester Credits		15	

MOBILE EQUIPMENT SERVICE TECHNICIAN

Two-Year Diploma

The Mobile Equipment Service Technician program focuses on critical mobile equipment for the construction, mining, paper and pulp, logging, and county/state/garage employment opportunities.

CREDITS REQUIRED FOR GRADUATION: 58

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
MEST 1246	Mobile Equipment Safety and Rigging	2	(1/1)
MEST 1245	Mobile Equipment Fundamentals	3	(1/2)
MEST 1250	Basic Electrical Systems	4	(2/2)
IMT 1251	Basic Maintenance Welding and Cutting	3	(1/2)
GECL 1155	College Seminar	1	(1/0)
GEDM 1165	Technical Math	2	(2/0)
Total Semester Credits		15	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
MEST 1251	Steering Systems	2	(1/1)
MEST 1261	Brake Systems I	4	(1/3)
MEST 1255	Mobile Equipment Hydraulics I	3	(1/2)
MEST 1258	M.E. Electronics and Computers	4	(2/2)
CSCI 1400	Introduction to Computers	2	(2/0)
ITSF 1486	MSHA New Miner of CPR	1	(1/0)
Total Semester Credits		16	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
MEST 2257	Fuel Systems	2	(1/1)
MEST 2256	Engine Repair	4	(1/3)
MEST 2270	Power Transmission	3	(1/2)
MEST 2255	Mobile Equipment Hydraulics II	3	(1/2)
GEDC 2176	Technical Communications	2	(2/0)
Total Semester Credits		14	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
MEST 2262	Brake Systems II	3	(1/2)
MEST 2272	Power Transmission II	3	(1/2)
MEST 2285	Truck Systems	3	(1/2)
MEST 2276	Mobile Equipment Air Conditioning	3	(1/2)
GECL 2175	Job Search Strategies	1	(1/0)
Total Semester Credits		13	

NURSING

INTRODUCTION TO NURSING/CERTIFIED NURSING ASSISTANT/HOME HEALTH AIDE

The Nursing Assistant (NA)/Home Health Aide (HHA) program is approved by the Department of Health in Minnesota. It prepares students for jobs in a variety of health care settings such as nursing homes, semi-independent living facilities, hospitals, group homes and home care agencies. Responsibilities include such skills as personal care, positioning, transferring, vital signs and documentation.

The 4-credit course consists of lecture, lab, text work, group activities and hands-on clinical experience in a long-term setting. This course is a requirement for the Practical Nursing program. Upon completion of the course, students are eligible to take the Minnesota State Competency Examination. This test is offered at the end of the class. Successful completion of this test allows students to be certified and placed on the Nursing Assistant/Home Health Aide Registry for the State of Minnesota.

CREDITS REQUIRED FOR GRADUATION: 4

Theory

- Introduction to Health Care
- Resident's Need for Psycho-Social Adjustment
- Resident's Need for a Clean, Safe and Comfortable Environment
- Resident's Need for Skin Care
- Nursing Assistant Competencies
- Resident's Need for Rest and Sleep
- Resident's Need for Communication
- Resident's Need for Activity and Exercise
- Resident's Need for Nourishment
- Resident's Need for Comfort
- Home Health Care

Clinical

- Students will be assigned 3-4 days of resident care in a long-term care facility at the completion of course work.
- Evening care
- Morning care
- Related Patient Care
- Home Health Care

PRACTICAL NURSING

Three-Semester Diploma

The Mesabi Range Community & Technical College Practical Nursing program is a member of the Itasca Nursing Education Consortium (INEC). This enables the nursing student to continue his or her nursing education within this consortium without concern for transferability of nursing courses.

Upon completion of this nursing program, students may advance to the next level of their nursing education or complete the NCLEX-PN examination to become a Licensed Practical Nurse.

Program Description:

Before admission to the Practical Nursing program, students need to have successfully completed, with a letter grade of "C" or better, Intro to Computers (CSCI 1455) and General Psychology (PSYC 2551). Prior to the second semester of the Practical Nursing program, students must also have successfully completed the 4 credit Introduction to Nursing course (NURS 1215) with a letter grade of "C" or better and a CPR course (BLS for Healthcare Providers). Two liberal arts courses, Lifespan Development (PSYC 2567) and College Writing (ENGL 1511), are included as part of the program.

All prerequisite and Semester I courses must be successfully completed with a letter grade of "C" or better before proceeding to Semester II courses. Students must obtain an 80 percent ("C") success rate in each instructional course in order to continue in the program. Semester II courses must be completed with an 80 percent ("C") success rate in order to continue to Semester III.

During the clinical portion of the program, occurring during Semester II and III, students spend two days of each week at the Virginia Regional Medical Center, the Virginia Convalescent Care Unit, and other facilities. Background checks are required.

Course equivalency determination is subject to review and approval by the Mesabi Range Community & Technical College admissions personnel and the Practical Nursing Program Director.

Employment Opportunities:

According to the Bureau of Labor statistics, health-related careers are expanding. There continues to be a significant demand for LPNs throughout the state and nation, as well as the local area.

Practical nurses may find employment in hospitals, clinics, long-term care facilities, home care, public health agencies, the armed services, and other areas.

The INEC program provides an opportunity for graduates to continue in advanced educational programs to obtain an Associate in Arts Degree, a Bachelor of Nursing Degree, or a Master in Nursing Degree.

CREDITS REQUIRED FOR GRADUATION: 51

Prerequisites:		Credits	L/L
CSCI 1455	Intro to Computers	3	(3/0)
PSYC 2551	General Psychology	4	(4/0)
*NURS 1215	Introduction to Nursing	4	(2/2)
** CPR (BLS for Healthcare Providers)			

SPRING SEMESTER I (January start date)

PROGRAM REQUIREMENTS		Credits	L/L
NURS 1225	Nutrition	2	(2/0)
NURS 1227	Medical Terminology	1	(1/0)
NURS 1257	Trends in Nursing	1	(1/0)
ENGL 1511	College Writing I	4	(4/0)
PSYC 2567	Lifespan Development	4	(4/0)
***BIOL 1415	Introduction to Anatomy & Physiology	4	(3/1)
Total Semester Credits		16	

FALL SEMESTER II

PROGRAM REQUIREMENTS		Credits	L/L
NURS 1222	Applied Nursing Skills	4	(0/4)
NURS 1232	Applied Math & Medications	2	(1/1)
NURS 1242	Maternal/Child Health & Clinical	5	(3/2)
NURS 1261	Adult Nursing I & Clinical	8	(4/4)
Total Semester Credits		19	

SPRING SEMESTER III

PROGRAM REQUIREMENTS		Credits	L/L
NURS 1226	Gerontology & Clinical	4	(2/2)
NURS 1255	Mental Health Concepts & Clinical	3	(2/1)
NURS 1258	Role Transition	1	(1/0)
NURS 1262	Adult Nursing II & Clinical	7	(3/4)
GECL 2175	Job Search Strategies	1	(0/1)
Total Semester Credits		16	

Elective			
NURS 1275	N-Clex Review	2	(2/0)

** Recommended to be taken prior to Semester II unless currently working as Certified Nursing Assistant.*

*** Required to be currently certified throughout Semester II & III. Course does not need to be taken for college credit.*

**** Students are encouraged to take Anatomy & Physiology I & II in place of BIOL 1415. A & P I must be taken prior to Semester I. A&P II would be taken during Semester I.*

This program is based on recommendations from the INEC committee and the program directors throughout the state. The general education courses are within the first semester (except for Job Search Strategies) because these foundational courses set the groundwork for future nursing classes.

PARAMEDIC

Paramedic Program
Two-Year A.A.S. Degree

Graduates of this Associate in Applied Science Degree program will be qualified and skilled professionals in the field of Emergency Medical Services as a Paramedic. The Emergency Medical Technician-Paramedic (EMT-P) is a person who works in the exciting, expanding field of Emergency Medical Services (EMS). This degree incorporates theoretical knowledge with extensive clinical application and experience. The advanced education and training in the care and transport of the critically injured can mean the difference between life and death. A.A.S. degree graduates have enhanced potential for upward progression in the career of pre-hospital care. The curriculum includes a general education component that gives the student a well-rounded foundation of knowledge.

Helpful Background

Current EMT-B Certification is a prerequisite for this program. It is beneficial to have completed Anatomy/Physiology I before paramedic classes begin.

Career Opportunities

Career opportunities for paramedics include: private ambulance companies, hospitals, industry and city health agencies, fire departments and law enforcement agencies. Park services, ski patrols, and other groups in many countries often educate their personnel to become EMTs or paramedics as part of their duties. This prepares students to write the National Registry Paramedic Exam.

CREDITS REQUIRED FOR GRADUATION: 72

Prerequisites:		Credits	L/L
HLTH 1458	GPR Healthcare Provider Certification (AHA Guidelines)	1	
EMSV 1656	EMT Basic Certification (State of Minnesota)	6	

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EMTP 1120	Paramedicine I	3	(3/0)
EMTP 1220	Paramedicine Skills I	3	(0/3)
EMTP 1235	Drug Dosage Calculations for the Paramedic	2	(0/2)
BIOL 1455	Medical Terminology	1	(0/1)
BIOL 2551 BIOL 1415	Anatomy/Physiology I or Introduction to Anatomy & Physiology	4	(3/1)
CSCI 1455	Intro to Computers	3	(3/0)
Electives		Credits	L/L
PHED 1415 PHED 1416 PHED 1449	Weight Training or Aerobic Fitness or Walking for Fitness	1	(0/1)
Total Semester Credits		16-17	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EMTP 1225	Pharmacology	2	(2/0)
EMTP 1420	Paramedicine II	3	(3/0)
EMTP 1520	Paramedicine Skills II	3	(0/3)
PSYC 2551	General Psychology	4	(4/0)
SOC 1555 SOC 1565	Intro to Sociology or Social Problems	3	(3/0)
Total Semester Credits		15	

SUMMER SESSION

PROGRAM REQUIREMENTS		Credits	L/L
EMTP 1600	Critical Care Clinical	2	(0/2)
EMTP 1700	Support Services Clinical	2	(0/2)
EMTP 1800	ALS Ambulance Clinical	4	(0/4)
Total Session Credits		8	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EMTP 2020	Paramedicine III	4	(4/0)
EMTP 2120	Hazardous Materials	1	(1/0)
EMTP 2220	Paramedicine IV	3	(3/0)
EMTP 2300	ACLS Provider	1	(1/0)
EMTP 2380	AMLS Provider Course	1	(1/0)
HLTH 1465	Drug Use & Abuse or	2	(2/0)
HLTH 1459	Introduction to Wellness	3	(3/0)
SPCH 1565	Interpersonal Communication	3	(3/0)
Total Semester Credits		15-16	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EMTP 2340	PALS Provider	1	(1/0)
EMTP 2360	NRP Provider Course	1	(1/0)
EMTP 2320	ITLS International Trauma Life	1	(1/0)
EMTP 2400	Emergency Room Clinical	3	(0/3)
EMTP 2500	Acute Care Clinical	3	(0/3)
EMTP 2600	Paramedic Internship	8	(0/8)
Total Semester Credits		17	

PROCESS AUTOMATION SYSTEMS

The Process Automation Systems program provides training in the areas of electrical maintenance, industrial electronics, process control, instrumentation, fluid power, electrical-mechanical systems and integrated computer control.

The first semester of the program focuses on the fundamentals of electrical/electronic theory in lecture and practical applications performed in lab exercises. The second semester of the program teaches the basics of industrial control, including motor control, instrumentation/process control, programmable logic controllers, and the national electrical code. In the second year of the program, lecture-based lab work builds on the basics with additional technology continually being introduced.

Career Opportunities

In order for industries to remain competitive, they must reduce cost while improving productivity. This requires adapting to modern technology. Automation of equipment and processes is increasingly used to accomplish this goal. A need exists for personnel trained in servicing and maintaining high technology equipment. The job outlook for service and technical personnel is expanding.

Opportunities exist in plant engineering/maintenance in almost all sectors of industry including paper/pulp, manufacturing, assembly, mining, transportation, warehousing/distribution, utilities, graphics/publishing, chemical processing, and petroleum refining.

Two-Year A.A.S. Degree

CREDITS REQUIRED FOR GRADUATION: 74

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 1253	Intro to DC/AC Electronics	4	(1/3)
EIAT 1233	Intro to Solid State Electronics	4	(1/3)
EIAT 1243	Intro to Digital Electronics	3	(1/2)
EIAT 1295	Basic Soldering	1	(0/1)
EIAT 1244	Industrial Pneumatics	2	(0/2)
CSCI 1455	Intro to Computers	3	(3/0)
Math Elective from Goal Area 4		3	(3/0)
Total Semester Credits		20	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 1251	Programmable Logic Controllers	3	(1/2)
EIAT 1265	National Electrical Code	2	(2/0)
EIAT 1266	Industrial Motor Control	6	(2/4)
EIAT 1275	Introduction to Process Control	2	(1/1)
EIAT 1276	Electrical/Mechanical Equipment and Systems	2	(0/2)
EIAT 1260	Electrical Safety	1	(1/0)
ENGL 1511	College Writing I	4	(4/0)
Total Semester Credits		20	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 2264	Advanced Components and Equipment	2	(1/1)
EIAT 2266	Temperature, Strain, and Analytical Instruments	3	(1/2)
EIAT 2267	Pressure, Flow, and Level Instruments	3	(1/2)
EIAT 2252	Advanced Programmable Logic Controllers	4	(1/3)
PHYS 1551	Introductory Physics or	4	(3/1)
**General Education Elective listed below*			
GECL 2175	Job Search Strategies	1	(0/1)

GENERAL EDUCATION ELECTIVE		Credits	L/L
*PHYS 1561	College Physics I	4	(3/1)
*PHYS 1541	Physical Science	4	(3/1)
Total Semester Credits		17	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 2276	Automated Industrial Control	4	(0/4)
ENGL 1532	Technical Report Writing	3	(3/0)
SOC 1558	Human Relations	3	(3/0)
Electives from MnTC Goal Areas 5, 6, 7 or 9		3	(3/0)
**Elective EIAT 2200 Course Level*		4	
Total Semester Credits		17	

TECHNICAL ELECTIVES		Credits	L/L
*EIAT 2295	Computer Aided Design	2	(0/2)
*EIAT 2235	Industrial Data Communications	3	(1/2)
*EIAT 2245	Industrial PC Applications	3	(1/2)
*EIAT 2277	Controllers and Control Loops (Tuning)	2	(1/1)

Two-Year Diploma

CREDITS REQUIRED FOR GRADUATION: 66

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 1253	Intro to DC/AC Electronics	4	(1/3)
EIAT 1233	Intro to Solid State Electronics	4	(1/3)
EIAT 1243	Intro to Digital Electronics	3	(1/2)
EIAT 1295	Basic Soldering	1	(0/1)
EIAT 1244	Industrial Pneumatics	2	(0/2)
CSCI 1455	Intro to Computers	3	(3/0)
Total Semester Credits		17	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 1251	Programmable Logic Controllers	3	(1/2)
EIAT 1265	National Electric Code	2	(2/0)
EIAT 1266	Industrial Motor Control	6	(2/4)
EIAT 1275	Introduction to Process Control	2	(1/1)
EIAT 1276	Electrical/Mechanical Equipment and Systems	2	(0/2)
EIAT 1260	Electrical Safety	1	(1/0)
ENGL 1532	Technical Writing*	3	(3/0)
Total Semester Credits		19	

*ELECTIVE (may be taken in place of ENGL 1532)

ENGL 1511	College Writing I	4	(4/0)

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 2264	Automation Components and Equipment	2	(1/1)
EIAT 2266	Temperature, Strain, and Analytical Instruments	3	(1/2)
EIAT 2267	Pressure, Flow, and Level Instruments	3	(1/2)
EIAT 2268	Automation Lab	2	(0/2)
EIAT 2252	Advanced Programmable Logic Controllers	4	(1/3)
GECL 2185	Human Dynamics	1	(1/0)
GECL 2175	Job Search Strategies*	1	(1/0)
Total Semester Credits		16	

*ELECTIVE (may be taken in place of GECL 2175)

SOC 1558	Human Relations	3	(3/0)

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 2295	Computer Aided Design	2	(0/2)
EIAT 2235	Industrial Data Communications	3	(1/2)
EIAT 2245	Industrial PC Applications	3	(1/2)
EIAT 2276	Automated Industrial Control	4	(0/4)
EIAT 2277	Controllers and Control Loops (Tuning)	2	(1/1)
Total Semester Credits		14	

TEACHER'S ASSISTANT/ INSTRUCTIONAL AID

The Teacher's Assistant/Instructional Aid Degree consists of 60 semester credits. This degree prepares graduates for employment as a paraprofessional educator in a Kindergarten – 12th grade school district or early childhood program. The curriculum is developed to cover the nine Minnesota Core Competency Areas:

- Philosophical, historical, and legal foundations of education
- Characteristics of learners
- Assessment, diagnosis and evaluation
- Instructional content and practice
- Supporting the teaching and learning environment
- Managing student behaviors and social interaction skills
- Communication and collaborative partnerships
- Professional and ethical practices
- Academic instructional skills in math, reading and writing

Graduates who decide to continue their education, and are interested in a professional education, need to work closely with their advisor to ensure that their career goals are achieved.

Two-Year A.A.S. Degree

CREDITS REQUIRED FOR GRADUATION: 60

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits
TAIA 1202	Guiding Children's Development & Behavior I	3
TAIA 1204	Understanding & Communicating with Diverse Families	2
TAIA 1214	Supporting Learners	3
TAIA 1216	Professionalism on the Education Team	3
ENGL 1511	College Writing I	4
Total Semester Credits		15

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits
TAIA 1208	Guiding Children's Development & Behavior II	3
TAIA 1210	Historical & Legal Foundations of Education	2
TAIA 1212	Environments for Learning	3
TAIA 1218	Health, Safety & Nutrition	3
MATH 1511	Foundations of Mathematics I or	3
MATH 1415	Math for Elementary Teachers	4
HLTH 1465	Drug Use & Abuse	2
Total Semester Credits		16-17

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits
TAIA 2202	Foundations in Assessment & Special Education	4
TAIA 2206	Child Abuse & Neglect	3
TAIA 1210	The Art of Home Visiting	2
SPCH 1585	Intercultural Communication or	3
SPCH 1565	Interpersonal Communication	3
PSYC 2551	General Psychology	4
Total Semester Credits		16

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits
TAIA 2208	Assisting with Language & Literacy	3
TAIA 2212	Assisting with Math & Science	3
PSYC 2567	Lifespan Psychology	4
SOC 1557	Courtship, Marriage & Family	3
Total Semester Credits		13

EARLY CHILDHOOD PERSONAL CARE ATTENDANT

Certificate

The Early Childhood Personal Care Attendant Certificate is comprised of 16 semester credits and is specifically designed to train individuals to provide educational assistance and personal care to children from birth to eight years of age. Recipients of this certificate will be prepared to work in the following environments: the child's home, foster care, child care homes and centers, preschool programs, Head Start and Early Childhood Family Education.

SCHOOL AGE PERSONAL CARE ATTENDANT

Certificate

The School Age Personal Care Attendant Certificate is comprised of 16 semester credits and is specifically designed to train individuals to provide educational assistance and personal care to school age children. Recipients of this certificate will be prepared to work in the following environments: the child's home, foster care, after school child care programs, and public and private schools.

WELDING

AMERICAN WELDING SOCIETY (AWS) ACCREDITED PROGRAM

Entry-Level Welding Diploma/ Advanced Welding Diploma

Students may take one or two years of the program depending on their needs and goals. This curriculum has been planned and approved by the Welding Advisory Committee consisting of representatives from the industry.

The first year emphasizes arc, gas, TIG, MIG, cutting, brazing and arc-air operations. Second year students will have the opportunity to specialize in advanced light metal fabrication, pipe, stainless steel, TIG and MIG applications and actual repair projects. Classroom instruction in both years will include math, blueprint reading, metallurgy and safety. The American Society of Mechanical Engineers and American Welding Society applications will be taught during the second year.

Students may graduate either as combination welders or with specialties in welding fabrication. Graduates will be better qualified to obtain employment in today's demanding job market by completing both years of the program.

Helpful Background

Basic math, machine shop, drafting and metals courses, manual dexterity and a desire to learn will enable a person to complete successfully the program requirements.

Employment Opportunities

Nationwide opportunities exist for the employment of welders. Graduates find employment in small and large industrial fabrication shops, shipbuilding, plant and field equipment repair, the building trades and mining. Some graduates are self-employed doing repair and maintenance welding.

This training provides an excellent background for employment in trade or plant apprenticeship programs. Graduates are also employed with construction or equipment contractors, foundries, utilities and tank and transport manufacturers.

CREDITS REQUIRED FOR GRADUATION: 64

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
WELD 1221	Intro SMAW	1	(1/0)
WELD 1222	Basic SMAW Skills	2	(0/2)
WELD 1223	SMAW Low Hydrogen Skills	2	(0/2)
WELD 1224	SMAW Alloyed Metals Skills	2	(0/2)
WELD 1231	Intro to Thermal Cutting Processes	1	(1/0)
WELD 1232	Flame Joining Processes	1	(0/1)
WELD 1233	Cutting and Gouging Processes	4	(0/4)
WELD 1255	Welding Mathematics	1	(1/0)
ENGL 2446	Critical Thinking	2	(2/0)
Total Semester Credits		16	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
WELD 1241	Blueprint Reading	1	(1/0)
WELD 1251	Assigned Projects	1	(0/1)
WELD 1261	Gas Metal Arc Welding I	1	(.5/.5)
WELD 1262	Gas Metal Arc Welding II	2	(0/2)
WELD 1271	Gas Tungsten Arc Welding I	3	(1/2)
WELD 1272	Gas Tungsten Arc Welding II	2	(0/2)
WELD 1281	Flux Cored Arc Welding I	2	(0/2)
WELD 1282	Flux Cored Arc Welding II	2	(0/2)
GEDC 2176	Technical Communications	2	(2/0)
Total Semester Credits		16	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
WELD 2240	Properties of Welding I	1	(1/0)
WELD 2241	Shielded Metal Arc Welding – Pipe	5	(0/5)
WELD 2242	Advanced Blueprint Reading	1	(1/0)
WELD 2244	SMAW – Structural	2	(0/2)
WELD 2245	GTAW – Pipe & Tube	3	(0/3)
WELD 2275	Stainless Steel Welding	2	(0/2)
General Educations Suggested Courses		3	(3/0)
Total Semester Credits		17	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
WELD 2250	Properties of Welding II	1	(1/0)
WELD 2251	Gas Metal Arc Welding III	4	(0/4)
WELD 2252	Gas Tungsten Arc Welding III	3	(0/3)
WELD 2253	Template Development	2	(2/0)
WELD 2243	Flux Core Arc Welding III	4	(0/4)

General Electives

GECL 2175	Job Search Strategies	1	(0/1)
Total Semester Credits		15	

GENERAL EDUCATION ELECTIVES (SUGGESTED)

ENGL 1511	College Writing I
ENGL 1512	College Writing II
ENGL 1532	Technical Writing
GEDM 1165	Technical Math
ITSF 1485	OSHA
ITSF 1486	MSHA Certification
DRFT 1356	Intro to CAD (or higher level)
HLTH 1458	Community CPR
HLTH 1655	Emergency Response
HLTH 1657	Responding to Emergencies
MATH	Any classes from MNTC Goal Area 4
PHYS 1571	Engineering Physics I
PHYS 1572	Engineering Physics II
PHYS 1581	Engineering Physics Lab I
PHYS 1582	Engineering Physics Lab II
PSYC 2556	Industrial Psychology

WIND ENERGY TECHNOLOGY

Two-Year – A.A.S. Degree

The Wind Energy Technology Program is an A.A.S. Degree program that provides training and troubleshooting on utility scale wind turbine equipment.

This two-year program features learning opportunities throughout the year at both an operating wind energy facility and an operating wind component factory. The program requires students to secure a wind industry internship, many leading to future employment in the industry. Mesabi Range College's Wind Energy Technology Degree Program prepares students for good jobs and advancement in the wind industry and/or further education in engineering.

The Wind Energy Technology curriculum provides students with a core set of wind technician skills including courses that cover turbine safety and tower rescue, knowledge of supply chain, electrical transmission infrastructure, cranes and rigging, turbine instrumentation and communication, mechanical, electrical, hydraulic, and pneumatic systems, motor control, composite repair, environmental concerns, small wind, community wind and dispersed generation, and wind development and project management.

Students may choose to go on to further education or choose immediate wind industry employment in manufacturing, construction, or operations and maintenance.

CREDITS REQUIRED FOR GRADUATION: 72

FRESHMAN YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
WET 1220	Intro to Wind Energy	3	(3/0)
WET 1230	Field Training and Project Operations	4	(3/1)
PHYS 1541	Physical Science	4	(3/1)
ENGL 1532	Technical Writing	3	(3/0)
CSCI 1400	Computer Essentials	2	(2/0)
Total Semester Credits		16	

FRESHMAN YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 1243	Intro to Digital Electronics	3	(1/2)
EIAT 1253	Intro to DC/AC Electronics	4	(1/3)
EIAT 1260	Electrical Safety	1	(1/0)
WET 1235	OSHA 10 and Wind Turbine Safety	1	(1/0)
WET 1255	Wind Cranes and Rigging	3	(2/1)
WET 1245	Tower Rescue	1	(0/1)
MATH 1521	College Algebra	4	(4/0)
Total Semester Credits		17	

SUMMER SESSION

PROGRAM REQUIREMENTS		Credits	L/L
WET 1265	Wind Energy Internship	6	

SOPHOMORE YEAR – FALL SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
EIAT 1251	Programmable Logic Controllers	3	(1/2)
EIAT 1266	Industrial Motor Control	6	(1/5)
WET 2221	Wind Turbine Instrumentation and Communication	3	(1/2)
WET 2222	Wind Turbine Mechanical Systems	3	(1/2)
WET 2231	Composite Repair	1	(0/1)
Total Semester Credits		16	

SOPHOMORE YEAR – SPRING SEMESTER

PROGRAM REQUIREMENTS		Credits	L/L
WET 2255	Power Generation and Distribution	2	(2/0)
WET 2265	Wind Turbine Electrical Systems	3	(2/1)
WET 2275	Wind Turbine Project Management	2	(1/1)
IMT 2262	Pneumatics and Hydraulics Troubleshooting	3	(1/2)
IMT 1256	Drive Components and Troubleshooting	3	(1/2)
PSYC 2556	Industrial/Organizational Psychology	4	(4/0)
Total Semester Credits		17	

CENTER FOR IDEATION & INNOVATION

The strength of Mesabi Range Community & Technical College's ability to excel and innovate in the ways it serves its students and community will define its future. The Center for Ideation & Innovation's mission is to generate new ideas and resources, explore opportunities, strengthen internal and external relationships, and build collaboration and services to better support the institution and meet the needs of students and the community.

In accomplishing its mission, the Center focuses on five "E" areas for idea generation, innovation, and services including:

- Education
- Community Engagement
- Emerging Technologies
- Renewable and Sustainable Energy
- Entrepreneurship

The Center for Ideation & Innovation also includes the following programs and initiatives:

Continuing Education

Continuing Education provides life-long learning for community members and provides outreach services to rural Northeastern Minnesota. The Continuing Education Department values families and bases its programs on community resources and needs. It encourages and incorporates ideas from community members and works in cooperation with social services, public health, community action groups, and public education to best meet the educational needs of the communities.

Customized Training

The Customized Training Department is dedicated to helping business and industry increase effectiveness in their organization. Specialized courses focusing on professional development and personal growth are offered in formats adapted to employees' needs and schedules. Courses are available in the location most convenient to the client. Customized training packages may result in the awarding of Professional Development Certificates and other certificate and/or degree programs. Contracted services are client-driven and may include organizational development, preparation and administration of work skills assessments, teambuilding, strategic planning and customer service seminars. The customized training professionals assist businesses in identifying, initiating, and integrating any training needs.

Firefighter Training

The Firefighter Training Department offers a variety of courses, including structural and wildland firefighting, and rescue courses. Structural firefighting classes begin with the basic courses, also known as Firefighter I, which is approximately 96 hours in length. Advanced Firefighting, Firefighter II is also offered through this department, and is approximately 24 hours in length. Both of these courses offer classroom and hands-on firefighter training, including live fire evolutions. Customized fire training is often developed to meet the needs of individual firefighters, individual fire departments, or for business and industrial fire brigades. These two courses (Firefighter I and Firefighter II) meet the minimum firefighting qualifications for most full time departments in Minnesota.

Mesabi Range College also offers numerous wildland fire training courses. The entry-level courses: Basic Wildland Firefighting Training and Introduction to Wildland Fire Behavior are offered every June at the MN Wildfire Academy held at the Itasca Community College in Grand Rapids, along with advanced level wildland fire courses. Wildland firefighters from all over the country attend our wildland fire training courses at the academy. Instructors come from all over the country and have years of experience in firefighting and rescue operations.

Emergency Medical Services

Mesabi Range Community & Technical College offers a large number of Emergency Medical Services programs. The following certification classes are offered Fall and Spring semesters, as well as off-campus, scheduled at the clients' request:

- Blood Borne Pathogens & First Aid
- First Responder (traditional or on-line)
- First Responder Refresher (traditional or – online)
- Emergency Medical Technician (EMT) – Basic
- Emergency Medical Technician (EMT) – Refresher
- Paramedic Refresher

Basic and advanced customized courses are also available, each developed to fit the clients' needs for continuing education throughout the year.

Safety and Health Training

With the changing role of safety in the workplace, it is becoming extremely challenging for industry to keep current with these changes. Continual changes in Occupational Safety and Health legislation have made the role of safety programs and committees an important factor of day-to-day business. The mission of the Safety and Health Department is to provide quality training and consulting services to business and industry in the areas of Safety, Health, and Industrial Hygiene. Our services are established on an individual basis, tailored to fit each company's needs.

The Safety and Health Department provides high quality safety and health services by:

- assessing the workplace for potential hazards which could affect employee safety.
- providing comprehensive and confidential services and training to clients based on assessed needs.
- working in cooperation with management to provide training on-site wherever possible.
- working with companies to develop and maintain written safety programs.

We currently offer classes and expertise in:

- MSMA Part 46 and 48
- OSMA 10 and 30 hour
- Forklift Certification
- HAZWOPER
- Confined Space Training
- Fire Safety and Extinguisher Training
- Written Programs
- Technical Rescue

and much more!

eFolio Minnesota Program

Under a 2007 Minnesota Legislature provision, the eFolioMinnesota™ Program was created as a pilot project to use Minnesota State Colleges and Universities' state-of-the-art eFolioMinnesota™ technology to serve residents and impact economic and workforce development in Northeast Minnesota. Mesabi Range Community & Technical College uses eFolio to assess student learning and for institutional accreditation. The tool also enables students and job seekers to provide a much more comprehensive view of their careers, work and education history and plans. The information available on an e-portfolio offers potential employers a deeper understanding of the job candidate's capabilities, work style, written communications among other attributes. The eFolioMinnesota™ Program currently serves Northeast Minnesota's secondary and postsecondary education systems, workforce centers and employment agencies, and employers and business and industry professionals.

Credit for Prior Learning

Mesabi Range Community & Technical College recognizes the educational importance of learning accomplished outside traditional academic settings. In taking the position that what is learned is educationally more important than where or how it is learned, Mesabi Range Community & Technical College offers the possibility of formally granting credit for prior learning from adult life and work experience.

Credit granted for demonstrated prior experiential learning may be applied toward the fulfillment of education objectives of participating Mesabi Range Community & Technical College programs. Credit is awarded for college level learning that can be demonstrated, articulated, documented, or otherwise communicated. Evidence that the prior learning is comparable to

the content of a particular course of study at Mesabi Range Community & Technical College must be provided. Individuals must follow proper procedures and meet specific guidelines and course requirements in order to receive CPL credits.

The Credit for Prior Learning initiative has the following goals:

- To provide credit for past work/life-long learning and/or educational achievement to those who demonstrate evidence of knowledge and proficiency, using the Course Equivalence Credit Model.
- To eliminate duplication of a student's educational effort, while maintaining a high standard of educational quality, to insure the student's future occupational success.

To maintain the College's integrity and accreditation, as an institution of higher education, through valid and reliable evaluation by appropriate college personnel.

ACCOUNTING

ACCT 1646
Payroll Accounting
(2 Lec; 2 Cr)

This course covers the various state and federal laws pertaining to the computation and payment of salaries and wages. Topics include preparation of employment records, payroll registers, time cards, employee earnings records, and state and federal reports.

ACCT 2691
Principles of Accounting I
(4 Lec; 4 Cr)

This is a practical accounting course which stresses basic principles of accounting and reinforces those principles with illustrations, examples, and correlated problems. Topics given special emphasis are the accounting cycle, special journals, end of cycle procedures, payroll records and taxes, control systems, evaluations of current and fixed assets, accruals and deferrals, current liabilities, and an introduction to corporate accounting.

ACCT 2692
Principles of Accounting II
(4 Lec; 4 Cr)

This is a practical accounting course which stresses basic principles of accounting and reinforces those principles with illustrations, examples, and correlated problems. This course builds on Fundamentals of Accounting I to include long-term liabilities, additional corporate accounting, financial statement analysis, and managerial accounting.

Prerequisite: ACCT 2691

ANTHROPOLOGY

ANTH 1515
Introduction to Indian Studies
(3 Lec; 3 Cr)

Goals 5 & 7

This course examines Native American cultures from contact to present. Historical change, Native contribution, and present day concerns are addressed.

ANTH 1525
Introduction to Cultural Anthropology
(3 Lec; 3 Cr)

Goals 5 & 8

This course is a survey of cultural development from the beginning of human history to the present. Ancient, preliterate, and modern societies are compared and contrasted, pointing out the differences and similarities used in solving the problems of human societies.

Prerequisite: Minimum CPT Score of 72, or "C" or better in READ 0082

ANTH 1535
Human Origins
(3 Lec; 3 Cr)

Goals 5 & 10

This course will study the biological and cultural evolution and variation of the human species from its earliest hominid form to the development of written history. This course will examine the data provided through the interdisciplinary study of physical Anthropology including the mechanisms of evolution, archeology and primatology.

ANTH 2555
Introduction to Archaeology
(3 Lec; 3 Cr)

Goals 5 & 10

A holistic introduction to the basic methods and theoretical approaches as well as the multidisciplinary nature of scientific Archaeology worldwide. Archaeology has played an integral role and is a primary source in the examination and interpretation of humankind prehistorically and historically. Also examined are interpretive techniques and analysis, Archaeology and Native Americans, and Archaeology and endangered cultural resources.

Prerequisite: READ 1455

ART

ART 1521
Art History I – Prehistoric to Early Renaissance
(3 Lec; 3 Cr)

Goal 6

This course is a survey of ancient, medieval and renaissance art to the 17th century, with emphasis on architecture, painting, sculpture, and other relevant forms of artistic expression of the Western culture.

ART 1522
Art History: Early Renaissance to Modern
(3 Lec; 3 Cr)

Goal 6

This course is a survey of Western art from 1400 (early Renaissance) to the Modern period, with emphasis on the architecture, painting, and sculpture of the Western culture.

ART 1531
Drawing I
(1 Lec, 2 Studio; 3 Cr)

Goal 6

This course provides the fundamentals of representative freehand drawing with emphasis on expression and organization. There is experimentation with materials and techniques and development of perceptual skills. This course is intended for Art majors or a general audience.

ART 1532
Drawing II
(1 Lec, 2 Studio; 3 Cr)

Goal 6

This course provides an expanded study in representational freehand drawing and visual thinking. A variety of materials and subjects are explored to direct the student to alternative methods of expression and development of personal expression.

Prerequisite: Art 1531

ART 1541
Introduction to Art
(2 Lec, 1 Studio; 3 Cr)

Goal 6

This is a course that provides an opportunity to understand the fundamental nature of visual art. It is an orientation to art-related problems, techniques, and materials, as well as an introduction to the principles of two and three dimensional design for students with little or no experience in creative art.

ART 1542
Design
(2 Lec; 2 Cr)

Goal 6

This introductory course offers the student an opportunity to examine two-dimensional design. Art elements and principles of design are studied and applied in reinforcing compositional skills.

Prerequisite: Art 1541

ART 1545
Ceramics
(1 Lec, 2 Studio; 3 Cr)

Goal 6

This course offers an introduction to building pottery by hand and forming on the wheel, as well as experimenting with decoration on clay body through texturing and on bisque-ware pottery with glazes.

ART 1551
Painting - Oil
(1 Lec, 2 Studio; 3 Cr)

Goal 6

This course is an orientation to painting in oils. It is a study and exploration of technique, development of sophistication, and concept development. This course is intended for the beginner.

Prerequisite: ART 1541

ART 1552
Painting II
(1 Lec, 2 Studio; 3 Cr)

Goal 6

Painting II involves continued development of basic foundations in painting with an emphasis on the development of individual interests and style. Student/instructor generated goals are implemented and the exploration of alternative avenues to expression, technique and methods is encouraged.

Prerequisite: ART 1551

ART 1556
North American Indian Art
(3 Lec; 3 Cr)

Goal 6 & 7

This course is designed to increase awareness of North American Indian culture through the study of cultural diversity and the basic elements of creative arts. The course surveys North American Indian art from its pre-European influences to modern trends.

ART 1565
Basic Photography
(3 Lec; 3 Cr)

Goal 6

This course is designed for the beginning photographer and concentrates on the fundamentals of black and white photography, with a strong emphasis on artistic expressions via photographic composition. Students are required to spend a minimum of 20 hours in the darkroom, in addition to the classroom.

ART 1566

Digital Photography

(3 Lec; 3 Cr)

Goal 6

This course is designed for the beginning photographer and concentrates on digital fundamentals. It is an introduction to photography as a fine art. Strong emphasis is placed on artistic expression via composition and manipulation.

ART 2535

Painting-Watercolor

(1 Lec, 2 Studio; 3 Cr)

Goal 6

This course is an application of the watercolor medium with stress on composition and technique.

Prerequisite: ART 1541

BIOLOGY

BIOL 1415

Introduction to Anatomy and Physiology

(3 Lec, 1 Lab; 4 Cr)

Goal 3

This one semester course is designed as an introduction to human anatomy and physiology for students in the Practical Nursing program and other allied health fields who have minimal background in biological science. The focus includes principles of cells, metabolism and the chemical basis of life; as well as organ systems of support and movement, integration and coordination, transport, absorption and excretion, and the human life cycle. Emphasis is on the interrelatedness and interdependency of organ systems.

Prerequisite: College level reading

BIOL 1455

Medical Terminology

(1 Lab; 1 Cr)

This is a self-paced program designed to enhance basic word-attack skills and medical vocabulary for students and workers in the allied health sciences field.

BIOL 1515

Biology of Women

(3 Lec; 3 Cr)

Goal 3 & 7

This is a theme-based course covering basic biological concepts that pertain to women. The course will examine the pivotal points in a woman's life span from conception through menopause. Major topics covered include women's health issues, both physical and emotional; gender differentiation; reproductive anatomy and physiology.

BIOL 1535

Introduction to Microbiology

(2 Lec, 1 Lab; 3 Cr)

Goal 3

This course is an introduction to the basic characteristics of microorganisms and their beneficial and detrimental effects. This study includes an introduction to the cell, viruses, bacteria, fungi, and protozoa. A special emphasis is placed on microorganisms of medical significance. Aseptic techniques are of major concern in the laboratory.

BIOL 1536

Contemporary Issues in Biology

(3 Lec, 1 Lab; 4 Cr)

Goals 3 & 10

This course will focus on current issues in biology. Basic biology concepts and lab demonstrations will be applied to current topics.

Prerequisites: College Level Reading, placement by CPT score or a grade of C or better in MATH 0091 (or previous course MATH 090)

BIOL 1545

Human Biology I

(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course is designed for the non-science major and is a general introduction to human biology with a structure/function approach. Major topics include cell biology, transmission genetics, and anatomy and physiology of body systems.

Prerequisites: College Level Reading, Placement by CPT score or a grade of C or better in MATH 0091 (or previous MATH 090)

BIOL 1546

Environmental Science

(3 Lec, 1 Lab; 4 Cr)

Goals 3 & 10

Offering an introduction to ecology and natural systems, this course includes the study of human impact on ecosystems including pollution, energy, and agriculture.

Prerequisites: College Level Reading, Placement by CPT sore or a grade of C or better in MATH 0091 (or previous course MATH 090)

BIOL 1551

College Biology I

(4 Lec, 1 Lab; 5 Cr)

Goal 3

This course is a study of cell structure, function, and metabolism; principles of reproduction and inheritance; and a survey of the kingdoms Monera and Protista including taxonomy, morphology, physiology, ecology, and phylogeny.

Prerequisites: College Level Reading, High School Algebra recommended

BIOL 1552

College Biology II

(4 Lec, 1 Lab; 5 Cr)

Goal 3

This course is a survey of the plant, fungi, and animal kingdoms, including taxonomy, morphology, physiology, and ecology.

Prerequisites: BIOL 1551 (or previous course BIOL 111 and 112), College Level Reading, High School Algebra recommended

BIOL 2315

Science Internship

(1-4 Cr)

This course offers the student an opportunity to apply the principles and skills learned in the classroom to gain practical experience in an on-the-job training opportunity. Students will need to apply for positions through the instructor and most job opportunities will be during the summer.

Prequisites: BIOL 1551, CHEM 1522, College Level Reading, College Algebra or higher

BIOL 2415

Pathophysiology

(3 Lec; 3 Cr)

This course provides a more in-depth study of human physiology, the resulting abnormal functioning of diseased organs, and integration of systems to compensate for the disease and to maintain homeostasis. Major topics include pathophysiological studies of cardiopulmonary, gastrointestinal, reproductive, renal, immunological, endocrine, and neurological disruptions.

Prerequisites: BIOL 2551 & 2552 (or instructor consent), College Level Reading, Placement by CPT score or a grade of C or better in MATH 0091 (previous MATH 090)

BIOL 2425

Human Biology II

(3 Lec, 1 Lab; 4 Cr)

This course, the second in a two course non-science major's sequence, continues the introduction to the Human Body through a structure and systems approach. The course will include a review of cell biology with a more in-depth look into the structure and function of DNA. The course continues with the study of anatomy and physiology of additional organ systems not previously covered in Human Biology I. Molecular genetics is a focus and the organ systems covered include the urinary, reproductive, and nervous systems.

Prerequisites: BIOL 1545, College Level Reading, placement by CPT score or a grade of C or better in MATH 0091 (or previous course MATH 090)

BIOL 2435

Special Topics in Biology

(1-3 Cr)

Topics to be arranged based on student interest and each will include a biotechnology component. Possible topics include (but are not limited to) biotechnology, forensics, evolution, genetic engineering, and recombinant DNA.

Prerequisites: BIOL 1551 or BIOL 2536 or BIOL 2551 or instructor consent, College Level Reading, MATH 0093 or Equivalent CPT score

BIOL 2451

Human Physiology I

(1 Lec; 1 Cr)

This course will offer students who are co-enrolled in Biology 2551 (Anatomy & Physiology I) a more thorough examination of the physiological topics covered through small group discussions, computer-based physiology simulations, and case studies. The examination of the physiologic processes will be primarily through clinical applications, making this course ideal for those students interested in a career in the health field. Students must be co-enrolled in A & P I.

Prerequisites: Co-requisites BIOL 2551 and college level reading (Computer skills helpful)

BIOL 2452

Human Physiology II

(1 Lec; 1 Cr)

This course will offer students who are co-enrolled in 2552 (Anatomy & Physiology II) a more thorough examination of the physiological topics covered through small group discussions, computer-based physiology simulations, and case studies. The examination of the physiologic process will be primarily through clinical applications, making this course ideal for those students interested in a career in the health field. Students must be co-enrolled in A & P II.

Prerequisites: Corequisites BIOL 2552 and college level reading (Computer skills helpful)

BIOL 2535

Microbiology

(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course encompasses a survey of bacteria, fungi, protozoa, viruses, and parasites, and how these microorganisms interact with the environment, emphasizing microbe/human interactions such as disease and immune response. The course is intended for science majors and allied health field majors.

Prerequisites: BIOL 1545, BIOL 1511, or BIOL 2551 (or instructor consent), college level reading, and High School Algebra, placement by CPT score or a grade of C or better in MATH 0094 (or previous course MATH 098)

BIOL 2551

Human Anatomy & Physiology I

(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course introduces the structural and functional aspects of selected human body systems with a strong emphasis on lab dissections and study. It is designed for nursing, medical technology, and related health sciences majors, as well as students majoring in physical education and liberal arts.

Prerequisites: BIOL 1545 or BIOL 1551 (or instructor's consent), and college level reading

BIOL 2552

Human Anatomy & Physiology II

(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course presents the structural and functional aspects of selected human body systems with a strong emphasis on lab experimentation. It includes study of those systems not covered in Human Anatomy and Physiology I.

Prerequisites: BIOL 2551 (or previous course BIOL 221) and college level reading

BIOL 2556

Genetics

(3 Lec; 3 Cr)

Goals 3 & 9

This course provides an introduction to genetics including topics in transmission, molecular, and population genetics. Special emphasis will be placed on the social impact and ethical considerations of advances in genetic research.

Prerequisites: BIOL 1551 or instructor's consent, College Level Reading, Math 0093 or equivalent CPT score

BUSINESS

BUS 1655

Introduction to Business

(3 Lec; 3 Cr)

This course examines the business system in the United States. Topics for discussion will include the management and organization of business, how products and services are produced and marketed, human resources and productivity, financial aspects of business, international business operations, and factors that will affect the future of business.

BUS 1657

Business Communication

(3 Lec; 3 Cr)

This course encompasses the theory of written business communication used to produce effective business letters, memorandums, reports, and resumes. Emphasis is placed on developing effective and positive communication through the written message. Various aspects of oral business communication are covered. Typing skill is strongly recommended.

BUS 1666

Principles of Marketing

(3 Lec; 3 Cr)

This course is an introductory study of marketing as an important element of our economy. This course examines marketing institutions and their characteristics, basic marketing functions, price theory and methods, product decisions, marketing segmentation, and marketing communications as related to social and political issues.

BUS 2620

Business Internship

(2 Lab; 2 Cr)

This course offers the student an opportunity to apply the principles and skills learned in the classroom to gain practical work experience in an on-the-job training opportunity (arranged and supervised by the instructor).

Prerequisite: Sophomore level or consent of instructor

BUS 2655

Legal Environment of Business

(3 Lec; 3 Cr)

This course presents consideration of the forms and functions of law in society with an emphasis on public law and regulation of business activities.

BUS 2675

Principles of Management

(3 Lec; 3 Cr)

This is a broad-based course in fundamentals as they apply to management as a career. This course includes the study of current philosophies and approaches to management as they apply to successful practice of this profession.

BUS 2677

Human Resource Management

(3 Lec; 3 Cr)

This course is a study of retail personnel management, personnel policies, motivation, insights into personal behavior, and the skills and personal habits necessary for better employer/employee communication. Recruitment, placement, and training of personnel are studied. Legislation as it affects management is also included.

CARPENTRY

CARP 1221

Blueprint Reading and Estimating

(1 Lec, 2 Lab; 3 Cr)

This course covers the basics of reading and drawing blueprints for residential construction. Estimating the material requirements and making up material lists is also covered.

CARP 1222

Planning and Estimating

(1 Lec; 1 Cr)

This course covers the planning, coordination, scheduling and estimating needed to make a construction project run efficiently.

Prerequisite: CARP 1221

CARP 1225

Hand and Power Tools

(1 Lec, 1 Lab; 2 Cr)

This course covers the study of the nomenclature and proper use of hand, portable and stationary power tools. Each student will perform exercises to bring him or her to a level of competency acceptable to the trade.

CARP 1226

Math for Carpenters

(1 Lec, 1 Lab; 2 Cr)

This course covers the mathematics commonly used in the carpentry trade. Material covered will include: fractions, percentages, linear measures, area, volume, proportions, powers and roots.

CARP 1227

Introduction to Building Codes

(1 Lec; 1 Cr)

This course covers the introduction to building codes. It includes the purpose for codes, scope of building codes, and how to use the IBC code book.

CARP 1228

Cabinet Making

(2 Lab; 2 Cr)

This course covers the theory and actual construction of cabinets with drawers, doors, shelves, etc. The student will learn how to properly install and trim plastic laminates for counter tops.

Prerequisites: CARP 1221 and CARP 1225

CARP 1229

Concrete

(1 Lab; 1 Cr)

This course includes actual "hands on" experience of forming, pouring and finishing a slab.

CARP 1231

Principles of Carpentry I-A Theory

(2 Lec; 2 Cr)

This course is designed to make the student aware of the dangers involved in the trade. The student will study safe work habits and basic first aid. The theory portion of preparation of a job site for the construction of a building is taught. Also covered are the fundamentals of footings, foundation walls, floor, wall, ceiling and roofing framing. Roofing material will be discussed along with all framing material.

CARP 1232

Principles of Carpentry I-B

(3 Lec; 3 Cr)

This course includes types, methods of installation, and finishing of drywall. Various types of windows and doors and their installation and technique to finish them are also studied. Exterior finish, insulation, finish flooring, stair building, finish carpentry, etc. are also topics to be covered.

Prerequisite: CARP 1231

CARP 1241
Principles of Carpentry I-A
Lab
(5 Lab; 5 Cr)
This course covers the lab portion of preparation of a job site for the construction of a building and teaches the fundamentals of footings and foundation walls. Also covered in this course are the types of floor, wall, ceiling, roof framing, and the materials associated with framing.
Prerequisites: CARP 1221 and CARP 1225

CARP 1242
Principles of Carpentry I-B
Lab
(6 Lab; 6 Cr)
This course includes actual "hands on" experience of hanging sheet rock, installing doors and windows, installing insulation, trim work, siding and stair building. This is accomplished through exercises, construction of small buildings and an on-site garage project.
Prerequisite: CARP 1241

CARP 1250
Green Building and Sustainable Design
(3 Lec; 3 Cr)
This course will be an introduction to the philosophy of green building, sustainable design, and conserving energy. Students will learn design techniques for building durable, energy efficient homes. This course has a "green" emphasis which will examine the use of resources such as energy, water, and materials in building design, as well as decreasing waste in the construction process.

CARP 2255
Foundations, Concrete, and Site Layout
(1 Lec, 3 Lab; 4 Cr)
This course will focus on constructing a house foundation according to blueprints of a house project. Laying and finishing concrete floors, slabs and sidewalks, and developing building layouts for wall lines, elevations, and angles according to house blueprints are also covered.

CARP 2256
Blueprint Reading and Codes
(1 Lec, 1 Lab; 2 Cr)
This course focuses on the language of blueprints and applies this knowledge to an actual project. Students will be working with building inspectors and building codes.

CARP 2257
Scaffolding, Ladders, and Power Tools
(1 Lab; 1 Cr)
This course will introduce students to residential and commercial scaffolding and ladders. Students will be able to erect and use safely scaffolding and ladders. It will also enable students to use skills developed in the lab and apply them to construction on the job site.

CARP 2258
Floor Framing
(1 Lab; 1 Cr)
This course covers the different types, materials and application of floor framing.
Prerequisite: Carpentry I or one year of carpentry experience

CARP 2259
Wall Framing
(1 Lec, 1 Lab; 2 Cr)
This course will focus on researching new materials, choosing the best materials, and applying the materials correctly. It also covers wall framing.
Prerequisite: First year carpentry courses or one year of carpentry experience

CARP 2265
Roof Framing
(1 Lec, 1 Lab; 2 Cr)
This course covers new construction roof framing of all styles.
Prerequisite: First year carpentry courses or one year of carpentry experience

CARP 2266
Roof Coverings and Safety
(1 Lec, 1 Lab; 2 Cr)
This course will focus on enabling students to finish roof exteriors properly, safely and neatly. It also covers safety of construction equipment from stationary tools to heavy equipment.
Prerequisite: First year of carpentry courses or one year of carpentry experience

CARP 2275
Exterior Finishing
(2 Lab; 2 Cr)
This course covers exterior wall finishes, cornice, and application.
Prerequisite: Carpentry I or one year of carpentry work experience

CARP 2276
Remodeling
(1 Lec, 1 Lab; 2 Cr)

This course covers remodeling of new and old structures.

Prerequisite: Carpentry I or one year of carpentry experience.

CARP 2277
Insulation and Drywall
(1 Lec, 2 Lab; 3 Cr)

This course will focus on calculating R-Value, installing vapor barriers, ventilation, and insulation. It also covers sheetrock, taping, and interior sheeting.

Prerequisite: First year carpentry courses or one year of carpentry experience

CARP 2278
Small Projects and Estimating
(1 Lec; 1 Cr)

This course covers materials and cost estimating.

Prerequisite: First year carpentry courses or one year of carpentry experience

CARP 2285
Interior Finishing
(1 Lec, 1 Lab; 2 Cr)

This course covers interior finishing of moldings, trim, doors, windows, and suspended ceilings.

Prerequisite: Carpentry I or one year of carpentry experience

CARP 2286
Cabinets, Floor Covering, and Stair Finishing
(1 Lec, 3 Lab; 4 Cr)

This course will focus on designing, layout, and installing cabinets. It also covers measuring, installing, and understanding the use of the different types of floor coverings and advanced stair building.

Prerequisite: First year of carpentry courses or one year of carpentry experience

CHEMICAL DEPENDENCY SPECIALIST

CDEP 1255
Psychology of Addiction
(3 Lec; 3 Cr)

This course is a study of addictive systems and practical approaches to intervening in these systems. Emphasis will be placed on symptomology, therapeutic approaches, and treatment design.

Prerequisites: College level reading and writing

CDEP 1261
Chemical Dependency Theories
(3 Lec; 3 Cr)

This course will examine the various theories of addiction and modalities of treatment. Emphasis will be placed on effects of addiction on relationships, family systems, and business and industry. The "Minnesota Model of Addiction," both theory and treatment, will be a major thrust of the course.

Prerequisites: College level reading and writing, CDEP 1255

CDEP 2240
Chemical Dependency Internship
*(5 Lab; 5 Cr)**

The course is designed to equip the student with the intellectual tools and core counseling skills necessary to become an effective program counselor. It is during this internship phase that the student has the opportunity to practice and further develop these skills under the supervision of a licensed chemical dependency counselor at an approved internship site. A weekly seminar to discuss the field experience is also required. Five credits may be taken in each of two sequential semesters totaling ten credits (requiring 880 total hours).

* Only for Chemical Dependency Specialist Program students who are seeking Minnesota Department of Public Health Licensure prior to February 27, 2003. Until February 27, 2003, the two-year degree and 880 hour internship is only needed for licensure. After February 27, 2003 the internship hours will be split between the community college and the four-year transfer institutions.

Prerequisites: Advanced standing in Human Services/Chemical Dependency Specialist Program or consent of instructor specifically HLTH 1465, Psychology of Addiction (CDEP 1255) and Chemical Dependency Theories (CDEP 1261) or co-enrolled in CDEP 2262 or CDEP 2263 and college level reading and writing.

CDEP 2262
Chemical Dependency Assessment
(3 Lec; 3 Cr)

This course is a study of Chemical Dependency Assessment. Emphasis will be placed on practical application and practice in the use of Chemical Dependency Assessment skills.

Prerequisites: CDEP 1255, CDEP 1261, HLTH 1465, college level reading and writing

CDEP 2263
Treatment Procedures
(3 Lec; 3 Cr)

This course is designed to give students an operational understanding of treatment procedures in the different fields of addiction. Students will be given an opportunity to incorporate practical procedures within the theoretical framework of service delivery throughout the continuum of care. This course is to be taken as the final course in Chemical Dependency Option Program.

Prerequisites: CDEP 1255, CDEP 1261, CDEP 2262, HLTH 1465 - College level reading and writing

CHEMISTRY

CHEM 1511
Fundamentals of Chemistry
(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course is a presentation of the principles of inorganic chemistry, amplified with relevant applications. Atomic structure, periodic classification of the elements, chemical bonding, matter and energy changes, solutions, electronic structure, equilibrium, and acid-base theory are among the topics covered. This course is designed for students who are not science majors. This course is recommended for elementary education majors, various allied health field majors, and as a preparation for CHEM 1522.

Prerequisite: MATH 0093

CHEM 1512
Fundamentals of Organic Chemistry
(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course is designed as a survey of organic chemistry for students in science-related fields who need only one semester of organic chemistry. Emphasis is on functional groups, nomenclature, reactions, and applications.

Prerequisite: CHEM 1511 or CHEM 1522

CHEM 1522
General Chemistry I
(4 Lec, 1 Lab; 5 Cr)

Goal 3

This course is an in-depth study of the principles of chemistry with emphasis on atomic and molecular structure, periodic relationships, stoichiometry, structural concepts, bonding, the geometry of molecules, and gaseous, liquid, and solid states.

Prerequisites: High School Chemistry or CHEM 1511, and MATH 0093

CHEM 1523
General Chemistry II
(4 Lec, 1 Lab; 5 Cr)

Goal 3

This course is an in-depth study of the principles of chemistry with emphasis on energetics, theory of solutions, kinetics, equilibrium, acids and bases, aqueous equilibria, chemistry of selected cations and anions, environmental concerns, electrochemistry, nuclear chemistry, and coordination compounds.

Prerequisite: CHEM 1522

CHEM 2315
Science Internship
(1-4 Cr)

This course offers the student an opportunity to apply the principles and skills learned in the classroom to gain practical experience in an on-the-job training opportunity. Students will need to apply for positions through the instructor and most job opportunities will be during the summer.

Prerequisites: BIOL 1551, CHEM 1522, college level reading, college algebra or higher.

CHEM 2435
Special Topics in Chemistry
(1-3 Cr)

This course is a study of special topics pertaining to student interest in chemistry and its relationship to allied health, anthropology, biochemistry, biology, biotechnology, criminology, and environmental science fields. Topics of interest may include one or more issues on healthcare, environment, biotechnology, criminology, pharmacology or industrial manufacturing.

Prerequisites: CHEM 1511, BIOL 1551, or instructor's consent, ENGL 1511, MATH 0093

CHEM 2512
Organic Chemistry I
(4 Lec, 1 Lab; 5 Cr)

This course in chemistry is a study of aliphatic and aromatic hydrocarbons with emphasis on reaction mechanisms and the characteristics of numerous functional groups.

Prerequisite: CHEM 1522

CHEM 2513
Organic Chemistry II
(4 Lec, 1 Lab; 5 Cr)

This course is a continuation in the study of aliphatic and aromatic hydrocarbons with emphasis on reaction mechanisms and the characteristics of numerous functional groups.

Prerequisite: CHEM 2512

COMPUTER SCIENCE

CSCI 1400
Computer Essentials

(2 Lec; 2 Cr)

This is a beginning level course in computer essentials which teaches skills necessary to function in a work environment. Computer hardware, Windows Operating System, Internet access and electronic mail, Word Processing, Spreadsheets, Database, File Management and Presentation Graphics software will be included.

CSCI 1455
Introduction to Computers

(3 Lec; 3 Cr)

This is an introductory course designed to give students a general knowledge of personal computers. It includes fundamental concepts on the design and uses of computers and opportunities for hands-on experience. No previous computer experience is necessary or assumed.

Prerequisite: Assumed keyboarding skills

CSCI 1466
Introduction to Programming – FORTAN

(2 Lec, 1 Lab; 3 Cr)

This course introduces program structure and statements, logical and arithmetic operators, elements of structured programming, transfer of control, formatted and unformatted input/output, DO loops, multi-dimensional arrays, function and subroutine sub-programs, and input/output to external files.

CSCI 1468
COBOL Programming

(3 Lec, 1Lab; 4 Cr)

This course introduces COBOL program structure and statements, logical and arithmetic operators, elements of structured programming, transfer of control, arrays, sub-program structures, and input/output of external files.

Prerequisite: At least one programming class and consent of instructor

CSCI 1469
Introduction to Assembly Language Programming

(3 Lec; 3 Cr)

This course is an introduction to computer organization and structure, machine language, addressing techniques, internal representation of data, and low-level operating system interfacing.

Prerequisite: Two programming courses or consent of instructor

CSCI 1484
Introduction to Computer Operating Systems

(1 Lec, 1 Lab; 2 Cr)

This course introduces the student to the fundamentals of Windows software, working on and modifying Windows desktop; file-document-folder management in Explorer, customizing a computer, advanced document management and communication with other computers.

CSCI 1491
Visual BASIC I

(2 Lec, 1 Lab; 3 Cr)

This course provides an Introduction to MS-Windows; event driven and object-oriented programming, toolboxes, help; visual BASIC (VB) environment; forms and properties; form procedures, printing, etc.; communication and control; managing controls, input/output and messages; components of BASIC language: debug window, variables, data types, declarations, operators, writing VB code, decision-making and loops, formatting, functions and procedures, files; application development; graphics and animation, file and data access including business applications.

Prerequisite: CSCI 1466 or consent of instructor

CSCI 1496
Internet Programming Languages

(3 Lec; 3 Cr)

This course is a survey of web programming languages including JavaScript, Java, HTML, CGI, and PERL. Basic programming techniques and design issues will be covered. Students will learn features and best applications for various languages.

Prerequisites: CSCI 1486 & CSCI 1487 or consent of instructor

CSCI 2455
Systems Analysis & Design

(3 Lec; 3 Cr)

This course is a survey of methods for investigating and designing computer information systems. Students will develop application programs from scenarios presented by the instructor or gathered by the student. Topics include the discussion, analysis, and actual design of a system using a five phase approach consisting of initiation, detailed investigation, system design, system development and implementation, and evaluation.

Prerequisite: Two programming courses or consent of instructor

CSCI 2461
Java Programming
(4 Lec; 4 Cr)

This course provides an introductory overview of the Java programming language including its main features and advanced constructs. The course covers programming fundamentals, compilation, and execution of Java programs and Java applets.

Prerequisite: Two programming courses or consent of instructor

CSCI 2471
C Language
(2 Lec, 1 Lab; 3 Cr)

This course is a study of the fundamentals of "C" language programming, data types and declarations, assignments, addresses, and pointers. This course includes conditional execution, flow control, functions and modularity, and complex data types: arrays, strings and structures, and data files.

Prerequisite: CSCI 1466 or consent of the instructor

CSCI 2481
Computer Science I
(4 Lec; 4 Cr)

This course introduces the advances of object-oriented programming (OOP) using C++. It compares procedural programming concepts with OOP. Students learn to use an integrated editor/compiler. Students also learn about control structure, data structures, and advanced topics such as class templates and recursion.

Prerequisite: CSCI 2471

CSCI 2482
Computer Science II
(4 Lec; 4 Cr)

This course is a continuation of C++, object oriented design, object oriented programming overloading, template classes, inheritance, recursion, exception handling and software reuse. A final project using the concepts that have been covered will be a course requirement.

Prerequisite: CSCI 2481

CSCI 2492
Visual BASIC II
(3 Lec; 3 Cr)

This is the second course in Visual BASIC. The primary emphasis in this course is teaching students to create client applications that access and maintain data from a database. The students will look at Visual BASIC user defined classes, data files, grids, validation, sorting, drag and drop, and graphics.

Prerequisite: CSCI 1491

DRAFTING

DRFT 1355
Technical Drafting
(1 Lec, 2 Lab; 3 Cr)

This course introduces the fundamentals of drafting; careers in drafting, instrument drafting, technical sketching and lettering, basic and advanced geometry, orthographic projection, dimensioning rules, sectional views and pictorial drawing. Techniques used include sketching, hand/machine drafting and computer aided drafting.

DRFT 1356
Introduction to Computer-aided Drafting
(1 Lec, 1 Lab; 2 Cr)

Students enrolled in this course need no previous drafting experience. The course is designed for those seeking an introduction to the diverse and complex field of computer-aided drafting (CAD), but limited to affordable hardware and software.

Prerequisites: College-level reading, composition and mathematics.

DRFT 2246
Three Dimensional CAD for the Trades
(3 Lec; 3 Cr)

This course covers the basic areas of Computer Aided Design using Solid Works three-dimensional design software. Students will design and draw components and assemblies of mechanical and industrial products in animation. Students will also use this program to create detailed blueprints of the components and assemblies designed in this class. Three dimensional CAD design is becoming widely used in the industrial trades.

Prerequisite: Concurrent enrollment in WELD 2242 or consent of instructor.

ECONOMICS

ECON 1555
Survey of Economics
(3 Lec; 3 Cr)

Goals 5 & 8

This course is an introduction to economics including information on supply and demand, the consumer's role, the producer's role, impact of government, money and banking, and global trade.

Prerequisite: CPT score in reading of 78 or higher

ECON 1556
Principles of Economics: Micro

(3 Lec; 3 Cr)

Goals 5 & 8

This course is an introduction to economics, including information on supply and demand, the consumer's role, the producer's role, impact of government, money and banking, and global trade.

Prerequisites: Good command of elementary Algebra, CPT score in reading of 78 or higher

ECON 1557
Principles of Economics: Macro

(3 Lec; 3 Cr)

Goals 5 & 8

This course is a study of the economy as a whole, including national income analysis, fiscal policy, money and banking, monetary policy, and international trade.

Prerequisites: Good command of elementary Algebra, CPT score in reading of 78 or higher

ECON 1565
Introduction to the World Economy

(3 Lec; 3 CR)

This course introduces the demographic, historical, economic, legal, and other social factors that continue to contribute to the World's increasingly connected economy. Trade in goods and services as well as trade in knowledge and capital are examined. International differences and the global money system are highlighted in international investment decision making. Case studies that describe best management practices for successful trade in the world economy are reviewed.

Prerequisite: College level reading

EDUCATION

EDUC 1415
Education in Modern Society

(3 Lec; 3 Cr)

This course is a comprehensive introduction to education. Students will gain an overview of the past, present, and the future of education, the teaching profession, the diverse learner, educational philosophies, educational policy, and curriculum design.

Prerequisites: College level reading in reading and composition.

EDUC 1416
Computers & Technology in Education

(2 Lec; 2 Cr)

This course provides a hands-on introduction to utilizing computers and technology to enhance teaching and learning in an educational setting. In addition, it addresses ways in which technology may be used as an effective tool to differentiate learning in order to meet the needs of all learners. A brief exposure to assistive and adaptive technologies will also be introduced.

EDUC 1425
Introduction to Elementary Education

(3 Lec; 3 Cr)

This course provides students the opportunity to learn about elementary teaching theory and practice through observations, lectures, cooperative learning, peer reviews, and elementary classroom experiences.

Prerequisites: College level in reading and composition.

EDUC 1435
Methods of Teaching Early Childhood Literature

(4 Lec; 4 Cr)

This course provides education students with the skills necessary to select developmentally appropriate books and non-books for young children. Additionally, a whole language approach will be used as a progressive means of integrating children's literature into the existing curriculum.

Prerequisites: College level reading and composition.

EDUC 1515
Foundational Issues in Early Childhood

(3 Lec; 3 Cr)

This course will explore historical and cultural foundations of early childhood programs while examining theoretical models and strategies that will enable students to develop positive interactions with young children.

Prerequisites: College level reading and composition.

EDUC 1516
Human Diversity with Practicum

(3 Lec; 3 Cr)

This course will provide students with a basic understanding of cultural diversity and its implications for educators. Topics include culture, race, ethnicity, class, gender, language, and disability. Students will be required to complete a practicum of 30 hours in an appropriate setting.

Prerequisites: College level reading and composition, EDUC 1515

EDUC 2415
Cognitive Development and Children's Mental Health

(3 Lec; 3 Cr)

This course will explore the complexities of early brain development and address how early experiences are paramount in helping to shape optimal emotional development. In addition, this course will provide an overview of infant mental health and discuss the negative effects of trauma and stress during early development.

EDUC 2516
Early Childhood Creative Expressions

(3 Lec; 3 Cr)

This course provides students with hand-on opportunities to explore the creative processes involved in working with young children. Students will learn how to adapt activities in the areas of art, music, creative drama, and movement to enhance learning and foster creativity.

Prerequisites: College level reading and composition, EDUC 1515

EMERGENCY MEDICAL SERVICES

EMSV 1488
Heartsaver First Aid with CPR and AED

(1 Lec; 1 Cr)

This course is designed to meet the needs of those with limited or no medical training seeking the knowledge, or need a credential for First Aid and CPR (cardiopulmonary resuscitation) with AED (automatic external defibrillator). This course is for laypeople or those who have the duty to respond in the workplace (non-healthcare professionals or those not seeking employment in the healthcare profession), who would like to have a well-rounded education and certification in First Aid, CPR and AED.

EMSV 1656
Emergency Medical Technician (EMT Basic)

(6 Lec; 6 Cr)

The Emergency Medical Technician's course trains participants to be a part of the nation's Emergency Medical System. Emphasis includes scene control, patient assessment, triage, use of standard equipment, transport concerns, legalities, and physiological theory related to medical and trauma situations. EMT Certification requires hospital and ambulance time, skill test competencies, 70% passing on all sections of the National Registry Exam, and fee payments.

Prerequisites: Age 18 when testing; ability to lift and carry (with a partner) up to 225 lb. people; communication skills; ability to apply equipment used in the field; current CPR card (Healthcare Provider or Professional Rescuer). Anyone with a felony record needs to have clearance to test and be re-certified. READ 0092 (or previous course READ 0095); ENGL 0092 (or previous course ENGL 095).

EMSV 1658
First Responder

(2 Lec; 2 Cr)

The First Responder course is designed to train volunteers and professionals to deal with trauma and medical emergencies. Emphasis includes assessing the scene and preventing further harm, assessing patients, following protocols for equipment use, and working within the established EMS system to access medical care, and to report and provide medical support until a higher level of care can be obtained. This course includes CPR certification at the Healthcare provider level. First Responder Certification requires a skill test, 80% correct on a national written exam, and fee payment.

EMSV 1926
EMT Basic Refresher

(2 Lec; 2 Cr)

The Emergency Medical Technician Refresher course provides updated course materials for participants to be re-certified as part of the nation's bi-yearly Emergency Medical System re-certification process. Emphasis includes a review of scene control, patient assessment, triage, use of standard equipment, transport concerns, legalities, and physiological theory related to medical and trauma situations. EMT re-certification requires successful completion of the National Registry Practical Exam.

Prerequisites: Current EMT Certification (within 4 years) and current CPR card (Healthcare Provider or Professional Rescuer). Anyone with a felony record needs to have clearance to test and be re-certified.

EMSV 1954
First Responder Refresher

(1 Lec; 1 Cr)

First Responder Refresher courses are designed to update and refresh volunteers and professionals to deal with trauma and medical emergencies. Emphasis includes assessing the scene and preventing further harm, assessing patients, following protocols for equipment use, and working within the established EMS system to access medical care. First Responder Re-Certification and/or American Red Cross Emergency Response requires a skill test, 80 % correct on a national written exam, and fee payment.

Prerequisites: READ 0092 and current First Responder Certification

ENGINEERING

ENGR 1010
Introduction to Engineering

(2 Lec; 2 Cr)

This course is an introduction to problem solving methods, engineering curriculum, and computer applications in engineering. In addition, students will explore educational and professional career opportunities.

ENGR 1355
Engineering Drafting

(1 Lec, 2 Lab; 3 Cr)

This course reviews the fundamentals of drafting with a review of technical sketching and lettering, orthographic projection, dimensioning rules, and sectional views. The course includes descriptive geometry including auxiliary views, revolution, intersection, developments, and technical drafting. Techniques used include hand/machine drafting and computer aided drafting.

Prerequisites: College level reading, writing, and math

ENGR 1410
Introduction to Digital Logic and Logic Design

(2 Lec, 1 Lab; 3 Cr)

This course is a basic study of the theory and applications of digital electronics. The course includes the study of and-or-not gates, flip-flops, counters, registers, combinational and sequential circuits, and their applications to the computer. This course includes an integral laboratory.

Prerequisite: MATH 1521 or instructors consent

ENGR 2410
Statics

(3 Lec; 3 Cr)

This course applies vector algebra to equilibrium analysis of structures, frames, and machines. It studies resultants of force systems, equilibrium of rigid bodies, analysis of structures, centroids, moments of inertia, friction, and methods of virtual work.

Prerequisites: PHYS 1571 and MATH 1561

ENGR 2420
Dynamics

(3 Lec; 3 Cr)

This course applies vector algebra and vector calculus in the solutions of kinematic and dynamic problems. It uses conservation principles in dealing with the dynamics of particle and rigid body systems.

Prerequisites: PHYS 1571 or instructor's consent, and concurrent enrollment in MATH 1562 or instructor's consent

ENGR 2430
Mechanics of Materials

(3 Lec; 3 Cr)

This course includes the study and analysis of simple stress and strain, shear and bending moment, flexural and shearing stresses in beams, combined stresses, deflection of beams, statically indeterminate members, and columns.

Prerequisite: ENGR 2410

ENGR 2440
Fluid Mechanics

(3 Lec; 3 Cr)

This course covers fluid properties, fluid dynamics, transport theory and analogies, conservation of mass, energy, and momentum, dimensional analysis, boundary layer concepts, pipe flows, and compressible and open-channel flow. This course is intended for engineering majors and includes open-ended design.

Prerequisite: ENGR 2410

ENGR 2450
Thermodynamics

(3 Lec; 3 Cr)

This course covers basic thermal energy relationships, processes, and cycles, First and Second Laws of Thermodynamics, entropy, and availability. This course is intended for engineering majors and includes open-ended design.

Prerequisite: PHYS 1571

ENGR 2461
Circuit Analysis and Lab

(3 Lec, 1 Lab; 4 Cr)

This is the first course in electrical circuits for all engineering majors. Electrical engineering fundamentals are introduced and applied to basic circuit analysis, resistive circuits, independent and dependent current and voltage sources, operational amplifiers, phasors, network theorems, RL, RC, & RLC circuits, and natural and forced responses.

Prerequisites: PHYS 1572, PHYS 1582, and MATH 2564

ENGR 2462
Linear Electric Circuits with Laboratory

(3 Lec, 1 Lab; 4 Cr)

This course examines linear electric circuits in steady-state and transient conditions, single and polyphase systems, transformers, filter design wave analysis, and semiconductor circuits. This course is intended for electrical and some mechanical engineering majors. The lab component provides hands-on learning of the lecture concepts and introduces proper use of the lab equipment.

Prerequisite: ENGR 2461

ENGLISH

ENGL 0091
Basic English

(3 Lec; 3 Cr)

This course is an in-depth study of basic written language skills. Topics covered include the core elements of sentence construction - the parts of speech, types of sentences, fragments, comma splices, run-on sentences, subject-verb agreement, pronoun reference, capitalization and punctuation. In addition to sentence basics, the course will also cover beginning paragraph writing.

Prerequisite: Placement by CPT Score

ENGL 0092
Refresher English

(3 Lec; 3 Cr)

This is a refresher course in the study and practice of all stages of the paragraph writing process leading to the development of the multi-paragraph essay. Although prewriting, writing, revising, and editing are the focus of this course, students will review conventions of Standard English usage and punctuation. Students will also study and practice various sentence-combining techniques as a means of increasing sentence variety.

Prerequisite: Placement by CPT Score

ENGL 1511
College Writing I

(4 Lec; 4 Cr)

Goal 1

This course is a study of basic principles of writing. The course will cover the development of a thesis and supporting paragraphs, organization of ideas according to traditional writing patterns, examination of usage and grammatical problems most troublesome to students, and a study of prose models to develop writing techniques. Students will be required to use a simple word processing program.

Prerequisite: CPT score or a grade of "C" or better in ENGL 0092 (or previous course ENGL 096)

ENGL 1512
College Writing II

(4 Lec; 4 Cr)

Goal 1

Students in this advanced freshman-level composition course will focus on the basic principles of argumentation and the ability to apply those principles in written argument. Basic concepts of reasoning, critical thinking, and problem solving are introduced and included in a variety of argument papers. In addition, students will learn to conduct thorough and meaningful research and to present the results of such research in a formal research paper that employs a standard documentation style in the presentation of sources.

Prerequisites: College level Reading, ENGL 1511 (or previous course ENGL 111)

ENGL 1532
Technical Writing

(3 Lec; 3 Cr)

Goal 1

This course is a study of the principles of clear writing. Analysis of audience and purpose, research methods, oral presentation, and visual aids are addressed. This course includes the study of business documents, types of reports, instructions and manuals, proposals, and brochures.

Prerequisite: ENGL 1511 (or previous course ENGL 111), CPT score of 72+, or "C" or better in READ 0082 (or previous course READ 098)

ENGL 1559
Art of the Film

(3 Lec; 3 Cr)

Goal 6

The nature and possibilities of film as a story-telling art medium are examined. Emphasis is on improving critical analysis and evaluation skills so students may better understand and appreciate serious films. The relationship of film to print narrative is explored.

ENGL 1575
Introduction to Literature

(3 Lec; 3 Cr)

Goal 6

Introduction to Literature introduces students to three major genres of literature: fiction, poetry, and drama. A wide range of literary periods and authors will be examined as students develop their skills in critical reading and literary analysis. Students will also learn the literary terms and concepts that will aid their understanding and analysis of these various genres.

Prerequisite: CPT score of 72 or higher, or grade of "C" or better in Read 0082 (or previous course READ 098), Completion of ENGL 1511 (or previous course ENGL 111) is helpful

ENGL 1576
The Literature of Science Fiction

(3 Lec; 3 Cr)

Goal 6

This course explores the origins, elements, and genres of science fiction. This course is designed to offer the student an understanding of the key concerns of science fiction, examining the relationship between man and his technology, the possibilities involved in alternate futures, and the ramifications of alternate value systems as reflected in literature.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098)

ENGL 1577
Mythology

(3 Lec; 3 Cr)

Goal 6 & 8

This course studies the major characters and events in the major mythologies of the world. The course also examines the symbolic, cultural and psychological aspects and functions of mythology. Emphasis is placed on classical mythology (Greek and Roman) as well as Norse, Celtic, Native American and other world mythologies.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098)

ENGL 1579
World Literature

(3 Lec; 3 Cr)

Goal 6 & 8

This course provides a survey of literature from such continents as Africa and the Middle East, Asia, North America, Latin America and the Caribbean, Oceania and Europe. Readings will introduce students to the rich diversity of cultures reflected in national literatures. The focus will be on reading and discussion, the elements of literature, and analysis, interpretation, and evaluation.

Prerequisite: College-level reading, completion of ENGL 1511 is helpful.

ENGL 2446
Critical Thinking

(2 Lec; 2 Cr)

This course teaches both critical thinking and problem solving by emphasizing awareness of the personal thinking process. From the training of personal awareness, it moves to the more advanced stages of analyzing the thinking of others. The course also encourages students to explore their basic attitudes toward life and education and fosters the development of qualities like initiative, maturity, and responsibility.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098)

ENGL 2515
Native American Literature

(3 Lec; 3 Cr)

Goal 6 & 10

This course uses creation stories, historic speeches and documents, poetry, fiction, and non-fiction by American Indian writers to enable students to better understand Native American culture and history. In addition to early speeches and stories which began as part of an oral tradition, works by various contemporary authors, including several from Minnesota and the upper Midwest, will be included in the reading. Focus will be on contextualizing each work studied in order to better appreciate and interpret in a still-emerging Native American literary tradition.

Prerequisite: College Writing I recommended, college-level reading

ENGL 2535
British Literature to the 18th Century

(4 Lec; 4 Cr)

Goal 6

This course is a chronological study of British language and literature in its historical and cultural setting from medieval times to the 18th century. This course traces the literature from the Old English period through the 18th century. Writers studied include Chaucer, Shakespeare, Donne, Jonson, Milton, Dryden, Swift, Pope, and Johnson. Students are introduced to relevant literary genre.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098)

ENGL 2536
British Literature 18th – 20th Century

(4 Lec; 4 Cr)

Goals 6

This course is a chronological study of British language and literature in its historical and cultural setting from the 18th century to the 20th century. This course traces the literature from the romantic period to the present. Writers studied include Blake, Wordsworth, Coleridge, Byron, Shelley, Keats, Tennyson, Browning, Arnold, Hardy, Hopkins, Conrad, Woolf, Joyce, Eliot, Yeats, and Auden. Students are introduced to relevant literary genre.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098), Note: ENGL 2535 is NOT a prerequisite for this course.

ENGL 2537
Survey of American Literature I

(3 Lec; 3 Cr)

Goals 6 & 7

This course is a study of American literature, from historical and genre perspectives, from its beginnings through the Civil War period. Writers include Bradstreet, Cooper, Thoreau, Poe, Dickinson, Hawthorne and Melville.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098), completion of ENGL 1511 (or previous course ENGL 111) is helpful

ENGL 2538
Survey of American Literature II

(3 Lec; 3 Cr)

Goals 6 & 7

This course is a continued study of American literature, from historical and genre perspectives, from the Civil War period to the late-twentieth century. Writers include Twain, DuBois, Chopin, Hemingway, Steinbeck, Hurston, Williams, Faulkner, Frost, Cather, Erdrich, and Cisneros.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098), completion of ENGL 1511 (or previous course ENGL 111) is helpful

ENGL 2545
Creative Writing

(3 Lec; 3 Cr)

Goal 6

This course focuses on the development of skills for writing short fiction and poetry, with emphasis on methods and techniques appropriate to each genre. This course includes writing description, narration, short fiction, and types of poetry. Drama and/or creative non-fiction may also be explored. Attention is given to developing critical judgments and to individual interest.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098)

ENGL 2546
North American Nature Writers

(3 Lec; 3 Cr)

Goals 6 & 10

This course reviews the major texts and figures in the literature of nature. The course also examines the ethical, scientific, and philosophical underpinnings of the relationship between humans and the natural world. Among the authors to be studied are Thoreau, Emerson, Dickinson, Lewis and Clark, Muir, Leopold, Abbey, Dillard, Williams, Oliver, and McKibbon. Various local writers – Olson, Cook, Kerfoot, and Bly will also be covered.

Prerequisite: CPT score of 72 or higher, or "C" in READ 0082(or previous course READ 098), completion of ENGL 1511 (or previous course ENGL 111) is helpful

ENGL 2547
The Bible as Literature

(3 Lec; 3 Cr)

Goals 6 & 8

The Bible as Literature is designed to introduce the student to the literary qualities of the Bible. Students will examine the Bible's use of language through a study of its various narratives, lyric poetry, imagery, allegory and metaphor. The course will also examine the historical and cultural background of selected books of the Bible.

ENGL 2577
World Mythology

(3 Lec; 3 Cr)

Goals 6 & 8

This course studies the major characters and events in the major mythologies of the world. The course also examines the symbolic, cultural, and psychological aspects and functions of mythology. Emphasis is placed on classical mythology (Greek and Roman), as well as Norse, Celtic, Native American, and other world mythologies.

Prerequisite: CPT score of 75.5 or higher, or "C" in READ 0082

ENGL 2578
Literature by Women

(3 Lec; 3 Cr)

Goal 6 & 7

The course examines literature by and about women, and more importantly, explores how and why women write. Woman in the process of writing is studied - her problems, her aspirations, and her search for self-identification and self-determination as a writer. Writers studied may include Kate Chopin, Edith Wharton, Virginia Woolf, Marianne Moore, Katherine Mansfield, Eudora Welty, Doris Lessing, Flannery O'Connor, Maya Angelou, Toni Morrison, Sylvia Plath, Joan Didion, Joyce Carol Oates, Nikki Giovanni, and Alice Walker.

Prerequisite: CPT score of 72 or higher, or "C" or better in READ 0082 (or previous course READ 098)

EXECUTIVE OFFICE MANAGEMENT

EOM 1241

Project Management 1: Microsoft Word

(2 Lec, 1 Lab; 3 Cr)

This course will introduce the intermediate features of Microsoft Word. Students will build on the foundation of basic skills learned in earlier courses to develop strategies for determining best application use. This course will teach students steps to use Microsoft Word effectively and efficiently for a variety of business needs. Students will continue to develop keyboarding skills for speed and accuracy.

EOM 1242

Project Management II: Microsoft Excel

(2 Lec, 1 Lab; 3 Cr)

This is a comprehensive course exploring the functions and practical applications in using Microsoft Excel which includes creating worksheets and charts, using a financial database, and problem-solving functions.

EOM 1243

Project Management III: Records/Data Management

(3 Lec; 3 Cr)

The Records/Data Management course is designed to provide a comprehensive introduction to the complex field of records management. Alphabetic filing rules are included, along with methods of storing and retrieving alphabetic, subject, numeric, and geographic records. Thorough coverage is provided for students in filing and maintenance of paper, automated, micro image, and electronic imaging records.

EOM 1244

Project Management IV: Microsoft PowerPoint & Publisher

(2 Lec, 1 Lab; 3 Cr)

This course covers the Microsoft PowerPoint presentation and Publisher software package. This course is designed to provide the student the skills in creating computerized presentations. A variety of desktop publications are created including brochures, flyers, newsletters, business cards, calendars, and letters. Word processing and graphics files are integrated to produce professional publications.

EOM 1245

Project Management V: Microsoft Access

(2 Lec, 1 Lab; 3 Cr)

This is a comprehensive course exploring the functions and practical applications in using Microsoft Access. Students will learn how to create a database; add, change, and delete data in the database; sort and retrieve the data; and create forms and reports using the data.

EOM 1251

Operations Management I: The Professional Office

(3 Lec; 3 Cr)

This course prepares students for the realistic situations, tasks and problems they will encounter in a state-of-the-art office environment. Increased emphasis is given to help students understand employers' expectations, build confidence, and develop into strong, competent employees and leaders.

EOM 1252

Operations Management II: Business Accounting with QuickBooks

(2 Lec, 1 Lab; 3 Cr)

This course is an introduction to fundamental accounting concepts and includes analyzing, interpreting, and recording transactions. The course includes the preparation of financial statements, bank reconciliations, and payroll transactions. The use of QuickBooks Pro 2010 will be integrated into this course emphasizing the use of personal computers to process accounting data.

EOM 2253

Operations Management III: Customer Relations in a Global Environment

(3 Lec: 3 Cr)

The course presents a practical approach to understanding, implementing, and practicing the principles of customer service within different types of organizations. Students will examine service strategies in different organizations and businesses, learn about different supporting tools and techniques to provide quality service, and analyze customer information to identify opportunities for service improvement.

EOM 2246

Project Management VI: Emerging Technologies

(1Lec; 1 Cr)

This course will explore new technologies that are emerging in the workplace today.

EOM 2254

Operations Management IV: Administrative Project Management

(3 Lec; 3 Cr)

Project management is a powerful set of tools and practices that provide a systematic approach to planning, organizing, controlling, and leading a project to successful completion. This course guides students through a step-by-step process for managing projects from the initial planning stage to final completion and evaluation. It combines hands-on training in Microsoft Project with in-depth discussions of the underlying principles and practices of project management.

EOM 2261

Capstone Project

If students have successfully completed the first three semesters of the course work, they will have the option of choosing either the Capstone Project (3 credits) or a Field Placement (3 credits) internship. Either option will prepare students for entry-level support positions in a business, government, or professional office.

GENERAL STUDIES

GECL 1155

College Seminar

(1 Lec; 1 Cr)

This course is an introduction to higher education and is designed for career programs in college, both academically and personally. Topics include college policies and procedure, resources available for managing academic and personal issues, and strategies for success in college.

GEDM 1165

Technical Math

(2 Lec; 2 Cr)

This course includes a problem solving approach to technical applications of fractions, decimals, ratios and proportions, metrics, measurement of linear, area, and volume dimensions and solving formulas using basic algebraic skills.

Prerequisite: Passing score on CPT test as per program majors

GECL 2175

Job Search Strategies

(1 Lab; 1 Cr)

This course introduces the student to a process for developing self-awareness, considering career opportunities, constraints, choices, and consequences; identifying career-related goals; and planning of work, education, and related experiences to attain specific career expectations. Students will also learn how to create job application correspondence and prepare for and participate in job interview questions.

GEDC 2176

Technical Communications

(2 Lec; 2 Cr)

This course provides the student with practical knowledge and experience in communication processes. It is also an opportunity to participate in various written and speaking situations he or she will find in business, industry, or trade. It is a study of the principles of clear speaking, listening and writing as they apply to job situations. The work will include the following: analysis of purpose and audience, effective organization and methods, the writing process, and the elements of formatting.

Prerequisite: Passing score on CPT test as per program requirements

GECL 2185

Human Dynamics

(1 Lec; 1 Cr)

This course covers the study of our own personal dynamics and how it influences our interaction with others. Students will gain knowledge about themselves and how we relate to others at home, with our co-workers, supervisors and customers. Students will evaluate, demonstrate, and practice skills to improve and strengthen their interaction with others.

GEOGRAPHY

GEOG 1555

Physical Geography

(3 Lec; 3 Cr)

Goals 3 & 5

This course offers an introduction to the dominant spatial patterns of the physical earth with emphasis on weather and climate, oceanic currents, soil, weathering, and landforms.

Prerequisite: CPT score in reading of 78 or higher

GEOG 1556
Human Geography
(3 Lec; 3 Cr)

Goals 5 & 8

This course is a systematic study of global spatial patterns concerning the cultural elements of geography including cultural diversity, economic activities, transportation, and rural and urban settlement patterns.

Prerequisite: CPT score in reading of 78 or higher

GEOG 1557
Conservation of Natural Resources
(3 Lec; 3 Cr)

Goals 5 & 10

This course is a study of the interaction between man and nature with emphasis upon usage and planning of natural resources including soils, forests, grasslands, water, wildlife, mineral resources, and human population issues.

Prerequisite: CPT score in reading of 78 or higher

GEOG 1558
World Regional Geography
(3 Lec; 3 Cr)

Goals 5 & 7

This course offers a geographical study of global regions with emphasis on internal spatial patterns and interrelations between regions.

Prerequisite: Reading intensive

GEOG 2455
Fundamentals of Geographic Information Systems
(3 Lec; 3 Cr)

This course provides a broad introduction to cartography and Geographic Information Systems with emphases on both theory and practice. In addition it explores fundamental principles of numerical data entry, digitizing, data manipulation and analysis, and interpretation of spatially referenced data. The course includes cartographic basics such as mapping, coordinate systems, projections and remote sensing. Students are introduced to the skills necessary to run a vector-based GIS.

Prerequisite: Introduction to computers and one of Physical Geography, Human Geography, Conservation of Natural Resources, or Environmental Science, High School algebra or CPT placement in higher algebra or above

GEOLOGY

GEOL 1557
Physical Geology
(3 Lec, 1 Lab; 4 Cr)

Goals 3 & 10

This course offers a study of the structural evolution of the earth and its land forms: study of minerals and rocks, volcanic activity, earthquakes, continental drift, and the theory of plate tectonics with an emphasis on the geology of Minnesota.

Prerequisite: Reading intensive

GRAPHIC DESIGN MEDIA

GRAP 1225
Digital Plate Technology
(1 Lec, 1 Lab; 2 Cr)

This course will cover the latest digital plate technology. The student will have hands on experience with digital plate making equipment. Students will also see the latest digital equipment on industry tours. By the end of the course, students will understand a good digital workflow, and various systems of the digital media industry.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 1226
Introduction to Media
(1 Lec, 1 Lab; 2 Cr)

This course provides students an overview of the Graphic/Design/Media industry. Through this course, students will discover and explore the job opportunities in the graphic communications industry. In addition, students will be introduced to all types of media and will gain a greater understanding of the role of graphic/media plays in society.

Prerequisites:CPT Scores in Reading and Mathematics

GRAP 1227
Layout and Imposition
(1 Lec, 2 Lab; 3 Cr)

This course will allow students to work on projects that meet their needs and special interests in developing basic layouts. Students will become familiar with basic layout techniques and learn the importance of pagination and imposition in the print and design industry.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 1235

Digital and Offset Systems

(1 Lec, 3 Lab; 4 Cr)

Students in this course will be introduced to imaging paper, and other substrates, offset, and digital printing methods, from an output-ready file. As students develop an understanding of these processes, they will also master concepts of press systems, process control, densitometry, ink, toners, and substrates. Finally, students will be creating reproductions using both the two-color and four-color process.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 1238

Introduction to Video

(2 Lec, 1 Lab; 3 Cr)

Students in this course will develop skills in the production of digital video, from pre-production through production, including storyboards and production set–up. Through lecture lessons, and hands on experiences, students will be initiated into the world of video hardware and software.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 1245

Estimating for Media

(2 Lec, 1 Lab; 3 Cr)

Students in this course will explore the fundamentals of estimating a job in the printing industry. Students will learn the importance of understanding the cost of any design or media project, including graphic design, video and production process.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 1247

Finishing Operations

(1 Lec, 1 Lab; 2 Cr)

Students in this course will develop skills in basic binding and finishing techniques such as folding, padding, drilling, and stitching. This course will also emphasize the importance of a good printed product resulting in a quality finished product. Students will also be introduced to careers in finishing.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 1248

Video Production

(1 Lec, 2 Lab; 3 Cr)

The focus of this course is video production. Throughout the course, students will use video production hardware and software to explore how a production comes together. Working independently and with others, students will produce their own videos as they master skills in identifying and resolving quality issues before a video can go live.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 1255

Digital and Offset Systems II

(1 Lec, 3 Lab; 4 Cr)

This course is an advanced offering of all types of digital and press operations. The course is for a student who has had one semester of digital and press operations or has industry experience. Advanced concepts of an offset/digital production environment will be covered.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 1256

Quality Control in Media

(1 Lec, 1 Lab; 2 Cr)

Students in this course will explore the importance of team building and working together in groups to solve quality control issues in media. In addition, students will be introduced to quality control procedures in a small/medium or large company and important concepts such as Deming, Lean Manufacturing, and ISO 9000 principles.

Prerequisites: CPT Scores in Reading and Mathematics

GRAP 2251

Mac OS

(1 Lec; 1 Cr)

This course will take an in-depth study of the Mac OS X system, menu functions, networking, peripherals, printing output and multitasking for all future applications in course work. The use of extensions, control panels and personal user setup operations will be studied. This course will provide individual workstation software and technical manuals to perform all functions of the OS operating system.

GRAP 2252

Design & Layout with InDesign

(1 Lec, 2 Lab; 3 Cr)

This course covers design and layout principles using Adobe InDesign: all palettes; how to flow and format text; import and manipulate text and graphics; illustrate objects; apply and set color, and how to print multiple page signatures and documents used in electronic publishing and variable data.

Prerequisites: GRAP 2251, 2252, 2253, 2254, 2261, 2262, 2263, 2264, 2271 and 2272

GRAP 2253
Elements of Design & Typography

(1 Lec, 1 Lab; 2 Cr)

This course covers how elements of design and principles work together to create effective communication which is at the core of what every graphic designer needs to know. This course is intended to teach visual fundamentals and examine the physiological and visual processes that are the basics for visual communications. This course covers additional content on color in design, typography, unity, balance and professional profiles.

Prerequisites: GRAP 2251, 2252

GRAP 2254
Adobe InDesign

(1 Lec, 2 Lab; 3 Cr)

This course allows the student to work on package design using Adobe InDesign. All software menus will be covered. The student will learn the essential layout and design procedures for packaging. Original idea of a new product will be researched for logo design, corporation identity, color, and all measurement parameters for folding, die-cutting and printing size per cut sheet stock.

Prerequisites: GRAP 2251, 2252, 2253

GRAP 2261
Illustration with Adobe Illustrator

(1 Lec, 2 Lab; 3 Cr)

This course covers Adobe Illustrator and all of the menu and sub-menu functions used in the Graphic Arts Industry for the purpose of desktop illustration, layout, design, advertising and printing preparations. This program will allow students to draw precise lines and shapes in any weight and style, to fill them with color or patterns and to use type as illustration elements. Illustrator will be used as an art production and illustration tool. Students will be creating original and composite artwork as a production artist designing and producing layouts & logos for print and web documents. Illustrator will also be used to create and preview fine artwork & logos for service bureaus, and to create color separations.

Prerequisites: GRAP 2251, 2252, 2253, 2254

GRAP 2262
Portfolio Building Print Ed Accreditation

(1 Lec, 1 Lab; 2 Cr)

Portfolio Building Print Ed Accreditation is a compiling and gathering of all first-semester, second-year work. The portfolio will include electronic, video-animated and full-color print outs of each project. The student will follow all of the printed accreditation guidelines to prepare for Print Ed Certification by the Graphic Art Education and Research Foundation.

Prerequisites: GRAP 2251, 2252, 2253, 2254, 2261

GRAP 2263
Preflight/Pagination

(1 Lec, 1 Lab; 2 Cr)

This course covers the proper procedures of pre-flighting files for print and web media. This course also covers the multiple page layouts for sheet fed printing and the organization of web content as it relates to print media. All program application documents from QuarkXPress, Adobe InDesign, and Adobe Illustrator will be flight checked and files paginated.

Prerequisites: GRAP 2251, 2252, 2253, 2254, 2261, 2262

GRAP 2264
Advanced Design and Layout

(1 Lec, 2 Lab; 3 Cr)

This course covers the advanced layout and design applications through the powerful application of Adobe InDesign. This course will cover the multiple page documents and the layout of newsletters, magazines, and books using color separations and direct to plate technology.

Prerequisites: GRAP 2251, 2252, 2253, 2254, 2261, 2262 and 2263

GRAP 2271
Adobe Photoshop & Digital Photography

(1 Lec, 1 Lab; 2 Cr)

This course covers an extremely powerful software package that fulfills the needs of two separate and distinct worlds: that of the graphic designer and that of the professional printer/publisher and photographer. The graphic designer utilizes Photoshop's tools to create and manipulate images, retouch photographs, and prepare them for reproduction in print and web using various color and filter processes. Photo backdrops, cropping and display will be emphasized.

Prerequisites: GRAP 2251, 2252, 2253, 2254, 2261, 2262, 2263, and 2264

GRAP 2272
Dreamweaver & Web Page Design

(1 Lec, 2 Lab; 3 Cr)

This course covers the use of multimedia software used to create a web site and web pages complete with graphics, photos, videos and animations. Student will utilize the powerful tools of Dreamweaver & Image Ready software.

Prerequisites: GRAP 2251, 2252, 2253, 2254, 2261, 2262, 2263, 2264, and 2271

GRAP 2274

Industry Portfolio Capstone Project

(1 Lec, 1 Lab; 2 Cr)

This course concentrates on one of two student-selected areas (with instructor recommendation).

Track A: Students who select this track will complete portfolio building, preparing finished projects, and perfecting skills for the job market.

Track B. Students who select this track will perform on the job tasks in a (SOE) Supervised Occupational Experience at the site selected in conjunction with the student, the employer, and the College.

Prerequisites: GRAP 2251, 2252, 2253, 2254, 2261, 2262, 2263, 2264, 2271, 2272

GRAP 2285

Adobe Flash & Animation

(1 Lec, 1 Lab; 2 Cr)

This course will use Adobe Flash to create projects, concise instructions, and complete coverage of basic advanced Adobe Flash skills to create and publish Adobe Flash animations. Students will learn the many skills to create interesting graphics-rich movies that include sound, animation, and interactivity. In addition, students will learn how to publish their own Flash movies.

Prerequisites: GRAP 2251, 2252, 2253, 2254, 2261, 2262, 2263, 2264, 2271 and 2272

HEALTH

HLTH 1415

Treatment of Sports Injuries

(3 Lec; 3 Cr)

This course provides students with the basic principles of treating sports injuries and first aid. Students will learn about the prevention, recognition, treatment and rehabilitation of athletic injuries and wounds. This will include the organization and administration of athletic training. Students will also learn and perform basic taping techniques.

HLTH 1455

Personal & Community Health

(3 Lec; 3 Cr)

This course presents factors and conditions, both current and future, that affect the health and efficiency of the individual and the environment. In addition, the course will examine critical issues in our society and indicate possible directions students can go to confront the issues. (Meets Health Requirement of MTC)

HLTH 1458

Community CPR

(1 Lec; 1 Cr)

This course will review the "ABC's" of emergency resuscitation with an emphasis on the development of the skills necessary to perform CPR, rescue breathing, and assist with airway obstructions on adults, children, and infants.

HLTH 1459

Introduction to Wellness

(3 Lec; 3 Cr)

This course presents an examination of the theories and practical skills associated with wellness and nutrition. Wellness and nutrition topics include fitness, cardio-respiratory endurance, cardio-vascular disease, weight control, flexibility, muscular strength, muscular endurance, diet, stress management, and relaxation. Students will be able to incorporate these principles into their lives.

HLTH 1465

Drug Use and Abuse

(2 Lec; 2 Cr)

This course is a study of the problems associated with the current use of drugs and alcohol. In addition to discussing the basic informational aspects of drugs and alcohol, this course will also examine some of the social, psychological, legal, medical, and rehabilitative aspects of drug and alcohol abuse. (Meets Health Requirement of MRCTC)

HLTH 1655

Emergency Response

(3 Lec; 3 Cr)

This course teaches the skills a First Responder needs to act as a crucial link in the emergency medical services system. Upon successful completion, the student shall receive American Red Cross certification in Emergency Response and certification in Community CPR.

HLTH 1657

Responding to Emergencies

(2 Lec; 2 Cr)

This course prepares the student to assess and make appropriate decisions regarding first aid care in accidents and sudden emergencies. Upon successful completion, the student will receive American Red Cross certification in Responding to Emergencies and in Adult CPR.

HLTH 1975
HAZMAT Technician

(3 Lec; 3 Cr)

Participants of this course will learn to respond to and manage aggressively a release of hazardous materials, as well as a review of the basics of HAZMAT. The course includes classroom and hands-on experience in the aspects of controlling a HAZMAT emergency. Upon successful completion of this course, the participant will be issued a certificate recognized by OSHA for "HAZMAT Technician" that can be utilized in industry, as well as in emergency services.

Prerequisite: SCBA qualifications preferred

HLTH 2459
Introduction to Nutrition

(3 Lec; 3 Cr)

This introductory course covers basic principles of nutrition and their relationship to human health. Students will discuss current trends in nutrition and develop positive nutritional behavior. Topics include introduction to the basic nutrients, nutrition and physical activity, dietary standards, weight management, and proper diet planning.

HISTORY

HIST 1555
History of Western Civilization – Paleolithic to 1500

(4 Lec; 4 Cr)

Goals 5 & 8

This course is designed to give an overview of events, societies, happenings, etc., that have had a significant impact on what is broadly referred to as the Western World. The semester will cover the Paleolithic era until the 1500's AD.

Prerequisite: Reading - CPT score of at least 72 or letter grade of "C" or better in READ 0082 (or previous course REAS 098)

HIST 1556
History of Western Civilization - 1500 to Present

(4 Lec; 4 Cr)

Goals 5 & 8

This course is designed to give an overview of significant world events from the 1500's AD until contemporary times in the Western world. This is designed as a continuation of History 1555, but is a separate course.

Prerequisite: Reading - CPT score of at least 72, recommended sore of 87 or letter grade of "C" or better in READ 0082 (or previous course READ 098)

HIST 1565
American History – to 1877

(4 Lec; 4 Cr)

Goals 5

This course is a study of the major political, economic, social and cultural developments in the United States from aboriginal settlement and colonization through the Civil War. Special emphasis is placed on the interaction among people of Native American, African, and European origin and on issues related to race, ethnicity, class and gender.

Prerequisites: CPT score of 72; 87 recommended, or "C" or better in READ 0082 (or previous course READ 098), writing intensive

HIST 1566
American History – 1877 to Present

(4 Lec; 4 Cr)

Goals 5 & 7

This course covers major political, economic, social and cultural developments in the United States from Reconstruction to the present. Special emphasis is placed on issues related to race/ethnicity, class, and gender.

Prerequisites: CPT score of 72; 87 recommended, or "C" or better in READ 0082 (or previous course READ 098), writing intensive

HIST 1567
Native American History

(3 Lec; 3 Cr)

Goals 5 & 7

This course will cover the pre-history of North America; European contact with Native Americans and its effects; and the history and effects of various United States relations with and policies toward Native Americans which have led to present day problems and conflicts.

Prerequisites: Reading - Minimum CPT score of 72 or a grade of C or better in READ 0092 (or previous course READ 095), Composition - Minimum CPT score of 49 or a grade of C or better in ENGL 0091 (or previous course ENGL 090)

HIST 1568
Minnesota History

(3 Lec; 3 Cr)

Goals 5 & 10

This course presents a survey of Minnesota's historical development. The course focuses on the historic importance of Minnesota's geography and environment, American Indian-white relations, the development of Minnesota's rich political tradition, and the rise of Minnesota's diverse society and economy.

Prerequisite: College-level reading

HUMAN SERVICES

HSER 1231
Introduction to Human Services

(4 Lec; 4 Cr)

This is a course designed to investigate the nature and scope of public service careers in a contemporary society. The course also examines the organizational structure of public service agencies and the effect that agency organization has on policy making, planning, funding and relationships with other agencies. Specific rubrics are implemented to measure the student's compatibility to the human services field. This course includes a 20-hour mini-internship, outside of class. A student must obtain a "B" or better to be officially admitted into the Human Services or Chemical Dependency Program.

Prerequisites: College level reading and writing

HSER 1232
Helping Process

(3 Lec; 3 Cr)

This course is presented as a general concept which is useful in all professions and occupations whose task is to help people deal with their relationships to other people, solve problems which inhibit capacity for healthy growth and development, and cope with the many social and environmental concerns which affect and control daily life. The primary focus is on interpersonal and planning skills which help people to be more effective as practitioners within the human services.

Prerequisites: HSER 1231, College-level reading and writing

HSER 1233
Interviewing

(2 Lec; 2 Cr)

This course provides an analysis of the principles of interviewing; how to observe and communicate effectively, obtain information, give and interpret information, sense the impact of the situation on both the interviewer and the person being interviewed. This course is intended to develop a skill in establishing an interpersonal relationship.

Prerequisites: College level reading and writing

HSER 2234
Crisis Intervention

(3 Lec; 3 Cr)

This course is designed for the Human Services or Chemical Dependency career-oriented student. Students will learn to differentiate between crisis intervention strategies and normative intervention techniques. Theoretical perspectives of crisis intervention will be examined with the student encouraged to design his or her own hypothesis. Students will gain required knowledge and skills through lecture-discussion, structured experiential learning exercises and videotaping of "Pseudo" intervention situations.

Prerequisites: HSER 1232, HSER 1233 (or previous courses HSER 106 and HSER 102), PSYC 2655 (or previous course PSYC 224), college-level reading and writing

HSER 2240
Human Services Internship

(2 or 4 Lab; 2 or 4 Cr)

This course encompasses fieldwork experience in a Human Service agency. The emphasis is an ongoing practical experience in using the techniques and knowledge gained in the classroom. The level of work progresses from the simple to the more complex and is under the direct supervision of agency professionals and the field coordinator. A weekly seminar to discuss the field experience is also required. A total of four credits is required. Four credits may be taken in one semester or two credits may be taken in each of two semesters.

Prerequisites: Advanced standing in Human Services or Human/Service Chemical Dependency option program with instructor's consent, college-level reading and writing

INDUSTRIAL MECHANICAL TECHNOLOGY

IMT 1215
Introduction to Industrial Maintenance

(2 Lec; 2 Cr)

The purpose of this course is to introduce the student to the field of industrial maintenance. The course will provide a foundation upon which courses in year two of the industrial Technology Program will be built. Students will learn the fundamentals of bearings, lubrication, machine safety, and rigging. Students will be exposed to mechanical devices such as measuring tools, common hand tools, common power tools and the fundamentals of pumps and valves. Students will demonstrate predictive maintenance principles prior to the specialized training received after graduations.

IMT 1225

Mobile Equipment Safety

(1 Lec, 1 Lab; 2 Cr)

This course will help the student understand how mobile equipment is to be operated safely, inspected, and maintained. It will explain servicing programs, preventative maintenance and equipment pre-trip inspections. Fundamental operating characteristics will be presented. Students will gain an understanding of safe operation, safety checks, and safety principles related to mobile equipment. Students will have an opportunity to gain an introductory level of operating experience in a small piece of mobile equipment.

IMT 1231

Industrial Accident Prevention I

(1 Lec, 1 Lab; 2 Cr)

The main purpose of this course is to introduce the student to industrial accident prevention. The students will learn how to make safety a part of their daily life.

IMT 1232

Industrial Accident Prevention II

(1 Lec, 1 Lab; 2 Cr)

The main purpose of this course is to introduce the student to the practice of writing and implementing a safe working environment for all personnel. It will develop a student's awareness to potential accident situations and help the student learn to avoid them.

Prerequisite: IMT 1231

IMT 1235

Basic Hydraulic Symbols & Components

(1 Lec; 1 Cr)

This course covers the basic hydraulic and pneumatic symbols used in industry. The student will learn how these symbols are used and why they are depicted as they are. The student will also learn the math needed in hydraulics.

IMT 1237

Elements of Mechanics – Equipment Operation

(1 Lec, 2 Lab; 3 Cr)

The main purpose of this course is to introduce the student to simple machines, how they operate, and how they are used in combination to become compound machines that are used in industry. The student will also learn the math and measuring skills required when dealing with the elements of mechanics and learn some of the equipment repair procedures as are found in industry. (This portion of the course is dependent upon equipment availability).

IMT 1238

Rigging

(1 Lec, 1 Lab; 2 Cr)

The main purpose of this course is to introduce the student to simple machines, how they operate, and how they are used in combination to become compound machines that are used in industry. The student will also learn the math and measuring skills required when dealing with the elements of the mechanics and learn some of the equipment repair procedures as is found in industry. (This portion of the course is dependent upon equipment availability).

IMT 1241

Basic Blueprint Reading and Sketching I

(1 Lec, 2 Lab; 3 Cr)

The main purpose of this course is to introduce the student to blueprints and sketches. The student will learn how and why blueprints are developed as well as their use in industry. The student will also learn math and measuring required to do blueprint reading.

IMT 1242

Basic Blueprint Reading and Sketching II

(1 Lec, 1 Lab; 2 Cr)

The main purpose of this course is to introduce the student to blueprints and sketches. The student will learn how and why blueprints are developed as well as their use in industry. The student will also learn math and measuring required to do blueprint reading.

Prerequisites: IMT1241

IMT 1245

Lubrication and Bearings

(1 Lec, 2 Lab; 3 Cr)

The main purpose of this course is to introduce the student to both lubrication and bearings. The lubrication portion will take the student from the beginning source of a lubricant right up to the selection and design of an automatic lubrication system set-up and operation. The bearing portion will allow the student to identify types of bearings and seals, and to know what functions he or she can expect from them, as well as proper mounting, operation, and inspection as is found in a variety of industries.

IMT 1247

Hydraulic Basics

(1 Lab; 1 Cr)

This course covers the basic use of hydraulic components used in industry. The student will learn how these components are used in a variety of applications. The student will also learn the math which is needed in this type of application.

Prerequisite: IMT 1235

IMT 1251

Basic Maintenance Welding and Cutting I

(1 Lec, 1 Lab; 2 Cr)

The main purpose of this course is to introduce the student to welding and flame cutting. The student will learn how to weld and flame cut as is used in industry. The student will also learn the math required to do welding and cutting, and to allow the student the opportunity to learn and practice arc and oxyacetylene welding techniques often found in industry and required of a maintenance mechanic.

IMT 1252

Basic Maintenance Welding and Cutting II

(1 Lec, 1 Lab; 2 Cr)

The main purpose of this course is to allow the student to become acquainted with some of the different types and requirements of welding as used in industry. The student will also learn the math and nomenclature used with arc welding and the math and blueprint reading needed to do arc welding and oxyacetylene welding.

IMT 1256

Drive Components and Troubleshooting

(1 Lec, 2 Lab; 3 Cr)

The main purpose is to introduce the student to drive components and equipment operation, and learn the how and why of checking equipment before, during and after operating. The student will also learn about the set-up and maintenance of many of the drive components which are used in industry. The student will learn the math and blueprint reading and sketching to perform basic troubleshooting.

IMT 1257

Measuring Tools and Layout

(1 Lab; 1 Cr)

The main purpose of this course is to introduce the student to measuring with a variety of instruments used in industry and to familiarize the student with layout tools and practices used in industry. The student will also learn the math used with layout and precision measuring.

IMT 2215

Introduction to Materials, Processes, and Production

(3 Lec; 3 Cr)

This course provides an introduction to materials, processing, and manufacturing methods used to produce various products. The course introduces basic fundamentals of materials, and manufacturing processes used to produce, shape, form, and join them. Methods used to select, analyze, and evaluate materials will be introduced and applied in a laboratory setting. Finally, principles related to large-scale manufacturing and automation will be investigated. This includes analysis and selection of manufacturing strategies, production planning and scheduling, plant layout, automation equipment, and cost constraints.

Prerequisites: IMRT 1215 or equivalent or consent of instructor, MATH 094

IMT 2225

Pumps

(1 Lec, 1 Lab; 2 Cr)

This course describes the types of pumps and explains their operation and maintenance. It also tells about the packing, sealing, and lubrication, all of which are essential to good pump operation.

Prerequisite: IMT I courses or approved equivalent experience

IMT 2231

Safety and Equipment Maintenance I

(3 Lab; 3 Cr)

The main purpose of this course will be to identify and operate safely different types of lab equipment in a safe and proper manner.

Prerequisites: IMT 1231, IMT 1232

IMT 2232

Safety and Equipment Maintenance II

(4 Lab; 4 Cr)

The main purpose of this course will be to explain proper safety procedures in the lab and on the equipment, and to operate different types of lab equipment in a safe and proper manner.

Prerequisites: IMT 1231, IMT 1232, IMT 2231

IMT 2242

Advanced Blueprint Reading

(1 Lec, 2 Lab; 3 Cr)

This course will acquaint the student with advanced drawing of equipment and machinery from and as used in industry.

Prerequisites: IMT 1241, IMT 1242

IMT 2251

Advanced Maintenance Welding and Cutting

(1 Lec, 2 Lab; 3 Cr)

This course applies advanced skills in oxyfuel burning, welding, arc welding, and arc welding as used by maintenance person.

Prerequisites: IMT 1251, IMT 1252

IMT 2261

Hydraulics and Schematics

(1 Lec, 2 Lab; 3 Cr)

This course covers the fundamentals of schematic diagrams. It is designed to provide the student with a strong foundation for advanced work. The student will learn piping diagrams and fluid power diagrams. The student will study fundamental hydraulic principles.

Prerequisites: IMT 1235, IMT 1247

IMT 2262

Pneumatic and Hydraulics Troubleshooting

(1 Lec, 2 Lab; 3 Cr)

This course is intended to provide the basis for the study course using models that are designed for "Hands On" learning with an actual working hydraulic system. The main purpose of this course will be to learn how to recognize the elements of a hydraulic system and how to blend your knowledge of the individual components into a comprehensive knowledge of the entire system and to be able to troubleshoot the systems.

IMT 2265

Alignment and Introduction to Conveyor Systems

(1 Lec, 1 Lab; 2 Cr)

This course is intended to provide the basis for the study course using models that are designed for "Hands On" learning, alignment and uses of conveyor systems.

Prerequisites: IMT 1256, IMT 1257

IMT 2266

Introduction to HVAC

(1 Lec; 1 Cr)

This course covers an introduction to basic heating and refrigeration for the maintenance person.

IMT 2267

Mining, Manufacturing, and Energy Technology

*(3 Lec; 3 Cr) *Field trips off-site may be required*

This course will provide an intensive study and analysis of three key industries that employ industrial manufacturing technicians: mining, manufacturing, and energy (power generation, conversion, and usage). The approach taken will be to understand the processes and physical phenomena that govern the processes in these industries. Key chemical, physical, and empirical relationships will be learned, analyzed and applied to each. Both ferrous and non-ferrous mining will be analyzed from a process, environmental, financial, and technical perspective. Modern manufacturing processes will be examined with a focus on the basic principles and equipment used. Examples include forming, molding, shaping, treating, chemical, process, assembly, and fermentation processes. Methods and thermodynamic principles used in power generation and usage will be analyzed and applied. Energy usage and conversion principles, methods, and governing equations will developed and applied in order to objectively understand issues related performance, environmental impact, and financial requirements.

Prerequisites: IMRT 1215 and EIAT 1256 or equivalent, or consent of instructor, MATH 094

IMT 2268

Applications of Industrial Mechanical Technology Capstone

(2 Lab; 2 Cr)

This course requires students to utilize their knowledge and skills developed throughout the industrial technology curriculum to solve a unique manufacturing or process problem. Students will be required to develop and apply additional skills and knowledge in a resource constrained, work-like atmosphere. Specifically, this course will require students, working in manufacturing or process teams, to develop and implement a process, tool, fixture, or method required in the completion of a task. Students will be required to perform all steps in the process, from concept, analysis, developing specification and prints, to the building, fabricating, installation, pilot production, and full production. Lean manufacturing principles and modern manufacturing concepts will be required, along with industry standard requirements on productivity, cost, quality, and stability. This course will draw from knowledge obtained in courses from the industrial technology curriculum taken previously and concurrently.

Prerequisites: 2nd year IT student or EIAT student, or consent of instructor; college writing or technical writing or consent of instructor; Math 0094

INDUSTRIAL TECHNOLOGY SAFETY

ITSF 1485

OSHA

(1 Lec; 1 Cr)

This course is an asset for the construction and general industry careers. The content of this course is designed to familiarize the participants with safety and health aspects of construction and general industry occupations. Completion card is issued by OSHA through its Outreach Training Program and is valid permanently in Minnesota.

ITSF 1486

MSHA New Miner

(1 Lec; 1 Cr)

This course is a requirement for all newly hired mining company employees, contractors and vendors prior to entering mining and aggregate company properties. Participants will learn about the Miner's Rights under the Federal Mine Act of 1977. This course follows requirements set forth by the Mining Safety and Health Administration. Students will have the opportunity to receive information about the most current MSHA regulations and standards. Students will receive a certificate, which will allow access to mining industry employment, which will be valid for one year.

ITSF 1487

MSHA Annual Refresher Training

(1 Lec; 1 Cr)

This course is designed to update and refresh the students Mine Safety and Health Administration (MSHA) certificate, which is needed annually. Students will have the opportunity to receive information about the most current MSHA regulations and standards as well as an emphasis on Fire Extinguishing and certification in Basic First Aid. Students will receive a certificate, which will allow access to mining industry employment, and the certificate will be valid for one year.

JOURNALISM

JOUR 1555

Introduction to Mass Communications

(3 Lec; 3 Cr)

Goals 5 & 9

This course provides a survey of the theories and concepts important to understanding mass communications. A strong emphasis will be placed on the effects of newspapers, magazines, radio, and television on a global society. The role and responsibility of the mass media in a free society will be debated.

Prerequisite: College-level reading desired

LEARNING SKILLS

LSK 1455

College Learning Strategies

(3 Lec; 3 Cr)

This course offers strategies for successful learning and problem solving in college and beyond. Students consider how knowledge is constructed (how the brain works) and become aware of different levels of thinking and learning from recall evaluation. The course stresses how to determine one's own optimal learning styles and to use them to learn more effectively. Topics such as test taking, note taking, time management, problem solving and decision making will be studied in depth. The course emphasizes taking control of one's own education and educational directions.

LSK 1456

Success in the Social Sciences

(3 Lec; 3 Cr)

This course is an introductory level bridge course with the intent of applying basic study skill strategies, such as SQ3R, to content area within the disciplines of social science. Basic vocabulary, concepts and theories will be discussed in each area.

LSK 2455

Tutor Training

(1 Lec; 1 Cr)

This course is designed to prepare students to tutor as part of the MRCTC tutoring program.

Prerequisite: Successful completion of course(s) for which she/he will tutor.

MASONRY

MASN 1221

Blueprint Reading and Estimating

(2 Lab; 2 Cr)

The purpose of this course is to introduce the student to reading blueprints and estimating masonry jobs. Students will learn to design and read basic residential construction blueprints, identify symbols, interpret elevations, interpret scale dimensions, understand floor systems and taper for in-floor drain systems. Students will learn the use of masonry opening schedules as compared to above grade construction with wood materials. Students will learn proper anchor placement. Students will also make a blueprint and a complete material list for two jobs to include cost, labor, and time frame.

MASN 1222

Planning and Estimating

(1 Lec; 1 Cr)

This course will teach the student application of basic math and to use rule of thumb to estimate materials. Students will plan profitable ways to do jobs. They will be able to estimate a residential building plan and estimate the amount of masonry units and materials as well as the cost of labor for the project.

MASN 1223

Principles for Block Laying

(1 Lec; 4 Lab; 5 Cr)

The purpose of this course is to introduce the student to pre-cast block laying. Students will learn block layout, block types, mortar recipes, window and door placement in masonry construction, reinforcement, anchor systems, core filling, header systems and linear measure. Students will learn the use of tools in the block laying trade.

MASN 1224

Mortar and Concrete

(2 Lab; 2 Cr)

The development of mortars and cement will be discussed as well as the importance of mortar in head and bed joints. Students will learn to mix mortar for masonry and will also learn the importance of clean material (lime, sand, and water) in mortar and concrete. Students will learn the basics of how to place and finish concrete.

MASN 1225

Hand and Power Tools

(1 Lec; 1 Lab; 2 Cr)

This course focuses on the proper use of tools used in the masonry trade. The student will be able to identify and use basic masonry tools and gain knowledge necessary to purchase a set of tools for the trade.

MASN 1226

Math for Masons

(1 Lec; 1 Lab; 2 Cr)

This course covers math applications used in the masonry trade including fractions, percentages, area, volume, linear measure, square root and Pythagorean Theorem.

MASN 1227

Introduction to Building Codes

(1 Lec; 1 Cr)

This course is an introduction to building codes used in the masonry trade. The use and availability of the UBC codebook will be discussed and students will gain an understanding of how to access code books and learn how to use them.

MASN 1233

Principles of Brick Laying

(1 Lec; 5 Lab; 6 Cr)

Students will be introduced to the principles of brick laying. They will learn brick layout, brick types, mortar recipes, window and door placement in masonry construction, reinforcement, anchor systems and header systems. Students will learn the types and uses of tools in the bricklaying trade.

MASN 1243

Principles for Blocklaying

(1 Lec; 5 Lab; 6 Cr)

This course will focus on the different types of stone. Selection of stone, types of joints of stone and discussion of different ways stone can be laid are included in the course. The student will be able to select, split, and trim stone. The student will learn to lay and tool natural split, field, and manufactured stone. The student will also learn to estimate square feet of stone and tonnage.

MASN 2257

Scaffolding

(1 Lab; 1 Cr)

The purpose of this course is to introduce the student to residential and commercial scaffolding.

MATHEMATICS

MATH 0090

Basic College Mathematics

(3 Lec; 3 Cr)

This course is designed for students whose background in mathematics showed marked deficiencies. Topics include fundamental operations and applications with real numbers, percents, power and root expressions, order of operations, algebraic expressions, linear equations, ratios and proportions, percents, area and perimeter, descriptive statistics, statistical graphs, units of measure.

Prerequisites: Placement by CPT score in Mathematics

MATH 0091

Arithmetic with Applications

(2 Lec; 2 Cr)

This course is designed for students whose background in mathematics shows marked deficiencies. Emphasis is on operational rules of arithmetic and their applications to solving problems.

MATH 0093

Beginning Algebra

(3 Lec; 3 Cr)

This course is a review of operations with real numbers, polynomials, and exponents. Solutions of linear equations and applications; factoring; operations with rational expressions and solution of rational equations are also included in this course.

Prerequisite(s): Math 0090, placement by CPT score or a grade of "C" or higher in Math 0090

MATH 0094

Higher Algebra

(4 Lec; 4 Cr)

This course is the study of exponents and radicals, rational expressions and equations, quadratic equations and inequalities, graphing techniques, and functions.

Prerequisite: Placement by CPT score or a grade of "C" or higher in MATH 0093

MATH 0095

Intermediate Algebra

(3 Lec; 3 Cr)

This course is a review of exponents and radicals, rational expressions and equations. It is the study of quadratic equations and inequalities, graphing techniques, and functions.

Prerequisites: Math 0093, placement by CPT score or a grade of "C" or higher in MATH 0093

MATH 0096

Advanced Intermediate Algebra

(3 Lec; 3 Cr)

This course is a review of exponents and radicals, rational expressions and equations. It is the study of quadratic equations and inequalities, graphing techniques and functions, exponential and logarithmic functions, and geometry including lines and conic sections.

Prerequisites: Math 0093, placement by CPT score or a grade of "C" or higher in MATH 0093

MATH 1415

Mathematics for Elementary School Teachers

(4 Lec; 4 Cr)

This is a course designed to give pre-service elementary teachers the opportunity to develop a clear understanding of the mathematical concepts, procedures, and processes they will be called on to teach. The course will have a balance between what to teach (content and concepts), and how to teach (processes and communication). Each student will be required to present a math lesson to the class. The use of manipulatives will be demonstrated

Prerequisite: Math 0093 (Beginning Algebra) or appropriate placement test score

MATH 1511

Foundations of Mathematics

(3 Lec; 3 Cr)

Goal 4

This course is designed to introduce fundamental math concepts such as sets and logic, develop geometric and quantitative skills and cover applications to probability and statistics.

Prerequisite: Placement by CPT score or a grade of "C" or higher in MATH 0094

MATH 1512

Foundations of Mathematics II

(3 Lec; 3 Cr)

Goal 4

This is a continuation course of Foundations of Math I. This course includes the study of operations with integers and applications to solving equations, simple geometric figures and calculations of area, perimeter, and volume, consumer application problems, and statistics.

Prerequisite: MATH 1511 or consent of instructor

MATH 1521

College Algebra

(4 Lec; 4 Cr)

Goal 4

This study of Algebra includes: real numbers, first degree equations and inequalities with word problem applications and linear graphs, second degree equations and inequalities in one and two variables with the quadratic formula and graphs, relations, functions, absolute value, variation problems, exponential and logarithmic functions with applications, polynomial functions, the theory of polynomial equations and complex numbers, systems of equations and inequalities, conic sections, and partial fractions.

Prerequisite: Placement by CPT score or a grade of "C" or higher in MATH 0096, or instructor's consent

MATH 1545

Finite Math

(3 Lec; 3 Cr)

Goal 4

This course is primarily for students in the social sciences, behavioral sciences, and various business curricula. It provides an excellent background for statistics. Topics include set theory with operations and Venn diagrams; permutations, combinations and Binomial Theorem, probability; Baye's Theorem, frequency functions, binomial probability; matrices operations, transposes, inverses, solutions of systems of equations, and Linear programming with Simplex Method.

Prerequisite: Placement by CPT score or a grade of "C" or higher in MATH 0094, or instructor's consent; MATH 1521 recommended

MATH 1547
Trigonometry
(2 Lec; 2 Cr)

This course is the study of angles in degree and radian measure, trigonometric functions of angles in a coordinate system and in triangles, and solutions of triangles and applications. Students will examine solutions of trigonometric identities and equations, and graphs of the trigonometric functions and inverses. Students will be introduced to vector notation and analysis and polar coordinates.

Prerequisite: MATH 0096

MATH 1556
Survey of Calculus
(4 Lec; 4 Cr)

Goal 4

This course is offered for those wishing a brief survey of calculus including some integration. This course will include a review of real numbers, graphing, functions, and inequalities. There will be an introduction of limits, continuity, differentiation, and integration, applications of differentiation and integration from physics, business, social and behavioral sciences, logarithmic and exponential functions with applications of growth, decay, interest, and populations. Students planning to enroll in more than one semester of calculus should begin with Calculus I (MATH 1561).

Prerequisite: MATH 1521 or appropriate test score

MATH 1561
Calculus I
(5 Lec; 5 Cr)

Goal 4

This course examines limits, continuity, fundamentals of differentiation and integration of functions of one variable, and applications of differentiation and integration.

Prerequisites: MATH 1521 and MATH 1547 or equivalent, or satisfactory math placement scores

MATH 1562
Calculus II
(5 Lec; 5 Cr)

Goal 4

This course is a continuation of the study of Calculus including differentiation and integration of the Transcendental functions (inverse, logarithmic, exponential, inverse trigonometric and hyperbolic). This course covers techniques of integration, infinite series, conic sections, parametrized curves, and polar coordinates.

Prerequisite: MATH 1561

MATH 2563
Calculus III
(5 Lec; 5 Cr)

Goal 4

This course covers vectors and analytic geometry in space, vector-valued functions and motion in space, calculus of functions of several variables, multiple integration and applications, and vector analysis including line integrals, surface integrals, Green's Theorem, Stokes' Theorem, and Divergence Theorem. In addition the student will study matrices and determinants and their use in solving systems of linear equations.

Prerequisite: MATH 1562

MATH 2564
Differential Equations and Linear Algebra
(5 Lec; 5 Cr)

Goal 4

This course covers ordinary differential equations with emphasis on solution techniques and applications. It includes first-order equations, linear equations of higher-order, Laplace Transforms, infinite series methods, and systems of differential equations. In the linear algebra component, it includes matrices and systems of linear algebraic equations, determinants, vector spaces, linear transformations, and Eigen value problems.

Prerequisite: MATH 1562

MOBILE EQUIPMENT SERVICE TECHNICIAN

MEST 1245
Mobile Equipment Fundamentals
(1 Lec, 2 Lab; 3 Cr)

This course covers mobile equipment servicing and related operations. Students will learn proper hand and power tool usage, fastener types, shop safety, general shop tasks, fluid and lubrication principles, and preventive maintenance of mobile equipment.

MEST 1246
Mobile Equipment Safety and Rigging
(1Lec, 1 Lab; 2 Cr)

The purpose of this course is to introduce the student to the rigging, lifting, and industrial safety practices required of a Mobile Equipment Service Technician. The main course content will incorporate industrial safety with proper rigging and lifting techniques. Students will learn to make safety a part of their daily lives.

MEST 1250

Basic Electrical Systems

(2 Lec, 2 Lab; 4 Cr)

The purpose of this course is to introduce the student to the basic electrical theory pertaining to and electrical systems found on mobile equipment. The main course content will include starting systems, charging systems, lighting systems, and batteries. The student will learn to safely and properly test, diagnose, and repair these systems.

MEST 1251

Steering Systems

(1 Lec, 1 Lab; 2 Cr)

The purpose of this course is to introduce the student to the basic steering theory pertaining to the steering systems found on mobile equipment. The main course content will include power steering systems, manual steering systems, alignment angles, and tire wear patterns. The student will learn to safely and properly test, diagnose, and repair these systems.

Prerequisites: MEST 1246 and MEST 1245

MEST 1255

Mobile Equipment Hydraulics I

(1 Lec, 2 Lab; 3 Cr)

This course covers basic hydraulic systems and print reading as they relate to mobile equipment repair. The student will learn how basic hydraulic components are used on mobile equipment as well as how to read basic hydraulic schematics and symbols. The student will also learn the math functions required for hydraulic system repair and maintenance.

MEST 1258

Mobile Equipment Electronics I

(2 Lec, 2 Lab: 4 Cr)

The purpose of this course is to introduce the student to electronics and electronic controls found on various mobile equipment systems. The main course content will provide an understanding of inputs, outputs, and basic computer controls. The student will learn to test and repair these systems safely and properly.

Prerequisite: MEST 1250

MEST 1261

Braking Systems I

(1 Lec, 3 Lab; 4 Cr)

The purpose of this course is to introduce the student to the basic braking systems theory pertaining to the braking systems found on mobile equipment. The main course content will include hydraulic, air, and wet friction style of braking systems. The student will learn to safely and properly test, diagnose, and repair these systems.

Prerequisites: MEST 1246 and MEST 1245

MEST 2255

Mobile Equipment Hydraulics II

(1 Lec, 2 Lab; 3 Cr)

This course covers electronic and basic hydraulic systems and print reading as they relate to mobile equipment repair. The student will learn how advanced electronic hydraulic components are used on mobile equipment as well as how to read basic hydraulic and electronic schematics and symbols. The student will also learn the math functions required for hydraulic system repair and maintenance.

Prerequisite: MEST 1255

MEST 2256

Engine Repair

(1 Lec, 3 Lab; 4 Cr)

The focus of this course is to introduce the student to engine repairs related to mobile equipment. Students will learn internal combustion engine theory, variations among different engine designs, and proper engine maintenance, diagnostic, and repair procedures.

MEST 2257

Fuel Systems

(1 Lec; 1 Lab; 2 Cr)

This course introduces the students to vehicle and equipment fuels and fuel alternatives. Fuel delivery, storage systems, and basic emission controls are studied for gasoline, diesel, and propane fired internal combustion engines.

Prerequisite: MEST 1250 or equivalent

MEST 2262

Braking Systems II

(1 Lec; 2 Lab; 3 Cr)

The purpose of this course is to introduce the student to the basic braking systems theory pertaining to the braking systems found on mobile equipment. The main course content will include hydraulic, air, and wet friction styles of braking systems. The student will learn to safely and properly test, diagnose, and repair these systems.

Prerequisites: MEST 1246, MEST 1245, and MEST 2260

MEST 2270

Power Transmission I

(1 Lec, 2 Lab; 3 Cr)

The purpose of this course is to introduce the student to the study of mechanical power transmission. Areas of study will include gear types and their relation to torque, drive axles, final drives, manual clutches, manual transmissions (gear boxes), and drive lines. The student will learn to service and repair these systems safely and properly.

Prerequisite: MEST 1245

MEST 2272

Power Transmission II

(1 Lec, 2 Lab; 3 Cr)

The purpose of this course is to introduce the student to the study of mechanical power transmission. Areas of study will include gear types and their relation to torque, drive axles, final drives, manual clutches, manual transmissions (gear boxes), and drive lines. The student will learn to service and repair these systems safely and properly.

Prerequisites: MEST 1246, MEST 1245, and MEST 2270

MEST 2276

Mobile Equipment Air Conditioning

(1 Lec, 2 Lab; 3 Cr)

This course will provide students with the necessary skills to maintain, troubleshoot, and repair heating and air conditioning (climate control) systems used on mobile equipment and automobiles. The necessary related components, safety, and EPA regulations will be emphasized.

Prerequisite: MEST 1250

MEST 2285

Truck Systems

(1 Lec, 2 Lab; 3 Cr)

This course introduces the student to the advanced truck systems theory pertaining to all systems found on mobile truck equipment. The main course content will include hydraulic, air, and electrical systems with an emphasis on computer controlled engine and power train systems, electronic body, and HVACs systems. The student will learn to safely and properly test, diagnose, and repair these systems.

Prerequisites: MEST 1246, MEST 1245, and MEST 1258

MODERN LANGUAGES

FREN 1461

French I

(4 Lec; 4 Cr)

Basic vocabulary and grammatical structures are offered to prepare students for developing proficiency in the French language. Speaking, listening, reading, and writing will enable learners to begin conversing in French in relevant situations. Students will acquire vocabulary and grammar skills and an appreciation for the French culture and civilization.

Prerequisite: College level reading

FREN 1462

French II

(4 Lec; 4 Cr)

The basics of vocabulary and grammatical structures offered in French I will be expanded. Concentration will be on oral and written proficiency in the two past tenses, as well as the use of reflexive verbs. Students will be able to deepen their understanding of French culture.

Prerequisites: FREN 1461 (or 2 years of High School French), and College level reading

FREN 2563

French III

(4 Lec; 4 Cr)

Goal 8

Students continue the development and strengthening of the four communication skills (listening, speaking, reading, and writing). Cultural and literary materials will help develop an appreciation for the arts, history, culture, and the literature of French-speaking peoples. The major grammar focus includes future, conditional, and subjunctive verb forms.

Prerequisite: French II or consent of instructor

FREN 2564

French IV

(4 Lec; 4 Cr)

Goal 8

Students will continue to develop greater fluency in speaking, writing, reading, and listening. Students will read a variety of literary excerpts. Cultural readings will stimulate conversation and composition to develop skills of comprehension, cultural analysis and criticism. Through these readings students will develop an appreciation for the arts, history, culture and literature of French-speaking peoples. Students will be expected to develop the ability to present ideas and opinions as well as to support them.

Prerequisite: French III or consent of instructor

SPAN 1451

Conversational Spanish I

(2 Lec; 2 Cr)

This is a basic course in communicative Spanish. Areas of special interest such as law enforcement, social work, and travel are integrated into this course.

SPAN 1452

Conversational Spanish II

(2 Lec; 2 Cr)

This course is a continuation of the basic communicative Spanish course (SPAN 1451). Areas of special interest such as law enforcement, social work, and travel are integrated in this course.

Prerequisite: SPAN 1451

SPAN 1461

Spanish I

(5 Lec; 5 Cr)

Goal 8

This is a functional course in speaking, listening, reading, and writing the Spanish language. Learners will be given the opportunity to grasp the challenge of a foreign language. Pronunciation, practical vocabulary, grammar, reading and conversation are an integral part of this course.

Prerequisite: College level reading

SPAN 1462

Spanish II

(5 Lec; 5 Cr)

Goal 8

This is the second semester of a functional course in speaking, listening, reading, and writing Spanish. The learners will have the opportunity to grasp the challenge of a foreign language and culture. Pronunciation, practical vocabulary, grammar, reading and conversation are an integral part of this course.

Prerequisites: SPAN 1461 and college level reading

SPAN 1540

Culture and Civilization of Spain

(3 Lec; 3 Cr)

Goal 6 & 8

Explore the culture and civilization of Spain including its history, music, dance, art, literature, film, architecture, and cuisine. This course will give students an appreciation for the fascination and mystery of the Iberian Peninsula and its role in Western Civilization from Roman times to the present. In developing their understanding of Spanish culture students will gain a better understanding of their own culture. Taught in English.

Prerequisites: College-level reading and writing.

SPAN 1550

Culture and Civilization of Hispano-American

(3 Lec; 3 Cr)

Goal 6 & 8

Explore the culture and civilization of Hispano-American. Students will gain an appreciation for the mixture of indigenous, colonial, and modern cultures that has produced the countries of Latin America. Topics include music, dance art, literature, film, architecture, history, and cuisine. Examination of the similarities and differences between United States culture and that of Hispano-American will give students a better understanding of their own culture.

Prerequisites: College-level reading and writing.

SPAN 2463

Spanish III

(3 Lec; 3 Cr)

Goal 6 & 8

Students further develop their skills in listening, speaking, reading, and writing Spanish. Students will review various aspects of Spanish grammar and style as well as read and analyze selected texts of modern prose. An awareness and appreciation of Hispanic cultural values and patterns of behavior are an integral part of this course.

Prerequisites: SPAN 1416 (or previous SPAN 102 and 103), college level reading

SPAN 2464

Spanish IV

(3 Lec; 3 Cr)

Goal 6 & 8

A continuation of Spanish III. Students continue to develop their skills in listening, speaking, reading, and writing Spanish. Students will review various aspects of Spanish grammar and style as well as read and analyze selected texts of modern prose. An awareness and appreciation of Hispanic cultural values and patterns of behavior are an integral part of this course.

Prerequisites: SPAN 2463 (or previous course SPAN 203) and college level reading

MULTI-CULTURAL STUDIES

MCS 1555

Multicultural Studies

(1-3 Lec; 1-3 Cr)

Goal 6 & 8

A cultural studies course involving an extended national/international tour focusing on various disciplines of study; language, history, social and natural science, business, fine arts and humanities. Time frame depends upon project and instructor.

MCS 1556

Culture through Film

(3 Lec; 3 Cr)

Culture through Film will examine the impact of cultural experiences on individual identity development. Through the use of films and essays, the course will provide students the opportunity to examine their own values, experiences, and beliefs while learning to consider and respect the traditions, experiences, beliefs, and opinions of diverse cultural groups (both domestic and international).

MCS 2555
The Holocaust: Understanding the Ramifications of Prejudice, Racism, and Stereotyping

(3 Lec; 3 Cr)

Goals 6 & 9

The Holocaust: Understanding Prejudice, Racism and Stereotyping will examine the many historical, social, religious, political, and economic factors that cumulatively resulted in the Holocaust. Through individual reading assignments, video presentations, small-group discussions, and guest speakers the course provides a forum for students to understand the complexity of the subject and to gain a perspective on how a convergence of factors can contribute to the disintegration of democratic values.

MUSIC

MUSC 1515
Jazz/Swing Choir

(1 Lab; 1 Cr)

This course is a jazz/swing choir which will perform a wide variety of popular music from the early 1900's through today. Performances will be scheduled at the College and for area events as the need arises. This course is taken by permission of instructor and may be taken for credit, or as an activity (non-credit).

Prerequisite: Permission of instructor

MUSC 1525
World Music

(3 Lec; 3 Cr)

Goals 6 & 8

This course is an introduction and overview of music from around the world. Students will explore musical cultures, performance traditions, instruments and instructional methods from different ethnicities and cultural groups including Africa, North American/Native Americans, Central and Southeastern Europe, Latin America, and Indonesia. An understanding and appreciation for both our own "Western" musical roots, and the rich traditions other peoples from around the globe is the ultimate goal of this course.

MUSC 1555
American Popular Music

(3 Lec; 3 Cr)

Goals 6 & 7

This course deals with the blues, country, gospel, jazz, folk, rock, and other contemporary music styles. The roots of these styles in 19th and early 20th century folk and popular music are also examined. The emphasis is on the recognition of inherent musical characteristics of the styles and on relating them to their historical and cultural settings.

MUSC 1559
Introduction to Music

(3 Lec; 3 Cr)

Goals 6 & 8

This course provides a general overview of the field of classical music with emphasis on the historical setting, the philosophical setting, stylistic characteristics, and listening techniques. It is recommended as a humanities elective in general education or liberal arts. This course is useful for music majors and minors as a preparatory study for more in-depth courses.

MUSC 1565
History of Rock and Roll

(3 Lec; 3 Cr)

Goal 6

This course will provide an overview of the history of rock, beginning with its roots in the Blues and the African American influence on this popular musical style. The impact that rock music has had on many other styles of music will also be discussed.

MUSC 1566
Fundamentals of Music Theory

(3 Lec; 3 Cr)

Goal 6

This course is specifically designed for students interested in music and its inner workings, including the needs and requirements of music majors or minors and for elementary education majors. The basic concepts of rhythm, melody, harmony, and music reading are studied. Students are introduced to fundamental musical structures such as key signatures, intervals, scale and chord construction, elementary harmonic analysis, basic time signatures, form, terminology, elementary keyboard, and transposition. Students are introduced to basic rhythm instruments, keyboard, autoharp, and recorder.

MUSC 1567
Music Theory II

(3 Lec; 3 Cr)

Goal 6

This course is a continuation of MUSC 1566. Course work includes harmonization and transposition of melodies using I, IV, V chord progressions; compound meters; syncopation; melodic repetition and sequence; chord symbols and their application in Jazz, Blues, and Popular Music; introduction to musical forms; and further harmonization using I, ii, ii7, IV, v, and V7 chords.

Prerequisite: MUSC 1566

PARAMEDIC

EMTP 1120
Paramedicine I

(3 Lec; 3 Cr)

At the completion of this course, the paramedicine student will understand the roles and responsibilities of a paramedic within an EMS system, apply the basic concepts of development, pathophysiology and pharmacology to assessment and management of emergency patients, and communicate effectively with patients. Additionally the paramedicine student will be able to take proper history and perform comprehensive physical exam on any patient, communicate the findings to others, integrate pathophysiological principles and assessment findings to formulate a field impression and understand how to implement the treatment plan for the trauma patient and safely manage the scene of an emergency.

Prerequisites: Current EMT-B license or certification and instructor approval

EMTP 1220
Paramedicine Skills I

(3 Lab; 3 Cr)

After completing this course the paramedic student will be able to apply the basic concepts of development, pathophysiology and pharmacology to assessment and management of emergency patients, be able to properly administer medications, and communicate effectively with patients, will be able to establish and/or maintain a patient airway, oxygenate, and ventilate a patient, will be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the trauma patient, and communicate the findings to others, will be able to safely manage the scene of an emergency.

Prerequisite: EMTP 1120

EMTP 1225
Pharmacology

(2 Lec; 2 Cr)

This course is an introduction to pharmacological interventions commonly used in the prehospital environment. It covers pharmacokinetics and pharmacodynamics of medications, administration routes, techniques and dosage calculations. Major categories of medications such as antiarrhythmic, analgesics, catecholamines, etc. will be introduced along with specific medications in each group.

Prerequisite: Paramedicine 1

EMTP 1235
Drug Dosage Calculations for the Paramedic

(2 Lec; 2 Cr)

This course addresses the need for emergency care providers to be able to learn the areas that pose consistent challenges to both students and practicing emergency healthcare providers. The following three areas are discussed and practiced throughout the course in order to meet the needs in the field of emergency medicine administration. Mathematics and fractions review, systems of measurement and drug dosage calculations.

EMTP 1420
Paramedicine II

(3 Lec; 3 Cr)

At the completion of this course, the paramedic student will be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with respiratory problems and/or cardiovascular disease.

Prerequisites: EMTP 1120, EMTP 1220; Corequisite: EMTP 1520

EMTP 1520
Paramedicine Skills II

(3 Lab; 3 Cr)

Skills covered include the basic and advanced skills required to manage properly respiratory and cardiac patients in the prehospital environment. These skills include, but are not limited to, respiratory assessment, cardiac assessment, defibrillation, cardioversion, vedication administration, cardiac rhythm interpretation and 12 lead monitoring.

Prerequisites: EMTP 1120, EMTP 1220; Corequisite: EMTP 1420

EMTP 1600
Critical Care Clinical

(2 Lab; 2 Cr)

This course covers clinical areas to include, but not limited to, medical, cardiac, and surgical intensive care units, emergency department, and telemetry.

Prerequisites: EMTP 1120, 1220, 1225, 1420, 1520

EMTP 1700
Support Services Clinical

(2 Lab; 2 Cr)

This course covers clinical areas that may include, but are not limited to, intubation, IV therapy, first response, dispatch, and respiratory therapy.

Prerequisites: EMTP 1120, 1220, 1225, 1420, 1520

EMTP 1800

ALS (Advanced Life Support) Ambulance Clinical

(4 Lab; 4 Cr)

This course is designed to introduce the paramedic student to an Advanced Life Support ambulance service. The student will become familiar with the operations, procedures and care provided by the paramedic in the field. The student will be involved with BLS and ALS patient care and treatment provided under the supervision of a staff paramedic.

Prerequisites: EMTP 1120, 1220, 1225, 1420, 1520

EMTP 2020

Paramedicine III

(4 Lec; 4 Cr)

At the completion of this course, the paramedic student will be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with a neurological problem, endocrine problem, an allergic or anaphylactic reaction, a gastroenterologic problem, a renal or urologic problem, a toxic exposure, an environmentally induced or exacerbated medical or traumatic condition, with infectious and communicable diseases, with behavioral emergencies, experiencing a gynecological emergency, experiencing normal or abnormal labor.

Prerequisites: EMTP 1600, EMTP 1700 and EMTP 1800

EMTP 2120

Hazardous Materials

(1 Lec; 1 Cr)

This course covers hazardous materials scene management for EMS personnel. Topics include identifying hazardous materials, scene safety, scene management, decontamination and scene access among others.

Prerequisites: Current EMT-B licensure/certification

EMTP 2220

Paramedicine IV

(3 Lec; 3 Cr)

This course will introduce the paramedic student into the operations and management of an Advanced Life Support Ambulance service. It will additionally discuss certain types of Rescue Operations which will be necessary for successful patient outcomes in the prehospital

environment.

Prerequisites: EMTP 2020

EMTP 2300

ACLS (Advanced Cardiac Life Support) Provider

(1 Lec; 1 Cr)

This course will result in the certification of Advanced Cardiac Life Support Provider from the American Heart Association. It covers all of the aspects of treating cardiac patients at the advanced level to include basic and advanced airway control, cardiac rhythm interpretation, medication administration, and post resuscitation management.

Prerequisites: Current CPR-Experienced Health Care Provider certification, current RN, Paramedic, or Paramedicine, Cardiovascular Tech, or Respiratory Care student, and have the approval of the instructor

EMTP 2320

ITLS International Trauma Life

(1 Lec; 1 Cr)

This course will provide certification as an Advanced Trauma Life Support Provider. It will cover areas such as Kinematics, various injury pathologies and mechanisms, and trauma patient management priorities.

Prerequisites: Current EMT-Intermediate, or EMTP 1420 and EMTP 1520, and instructor approval

EMTP 2340

PALS (Pediatric Advanced Life Support) Provider

(1 Lec; 1 Cr)

This course follows the course standards of the American Heart Association for PALS. The course leads to certification as a PALS provider upon successful completion.

Prerequisites: Current CPR-Experienced Health Care Provider certification, RN, Paramedic, Respiratory Care Therapist; or current second year Paramedic student, and approval of the instructor

EMTP 2360

NRP (Neonatal Resuscitation Program) Provider Course

(1 Lec; 1 Cr)

This course will result in the certification from the American Heart association for NRP. The course leads to awarding of a certification upon successful completion of the class.

Prerequisites: Current CPR-Experienced Health Care Provider certification, RN, Paramedic, Respiratory Care Therapist; or current second year Paramedic student, and approval of the instructor

EMTP 2380

AMLS (Advanced Medical Life Support) Provider Course

(1 Lec; 1 Cr)

This course follows the course standards of the American Heart Association for PALS and NRP. The course leads to the awarding of certificates of successful completion.

Prerequisites: Current CPR-Health Care Provider certification, equivalent experience/education as a current RN, Paramedic, Respiratory Care Therapist or current second year NTC health career student, and approval of the instructor

EMTP 2400

Emergency Room Clinical

(3 Lab; 3 Cr)

This course covers the operations of the Emergency Department of an acute care hospital. The paramedic student utilizes all of the knowledge and skills learned to this point to provide patient care in this setting under the supervision of a RN and/or physician.

Prerequisites: Instructor permission

EMTP 2500

Acute Care Clinical

(3 Lab; 3 Cr)

This course includes clinical rotation through labor and delivery, pediatrics, and psychiatry. The paramedic student utilizes all the knowledge and skills learned to this point to provide patient care in this setting under the supervision of appropriate staff.

Prerequisites: Instructor permission

EMTP 2600

Paramedic Internship

(8 Lab; 8 Cr)

This course covers the application of advanced level skills and knowledge in the evaluation and care of the prehospital patient. The paramedic student will be involved in providing patient care as a team member and as a team leader under the direct supervision of a staff paramedic along with all the typical "follow-up" procedures prior to and after a response.

Prerequisite: Instructor permission

PHILOSOPHY

PHIL 1551

Introduction to Ethics

(3 Lec; 3 Cr)

Goals 6 & 9

This course is designed to develop students' capacity to identify, discuss, and reflect upon the ethical dimensions of political, social, and personal life. The course will provide students with a survey approach to definitions, terminology, topics, and the basics of reasoning involved in this branch of philosophy. This course will help students understand the argumentation of historic ethical theories and apply those theories to current moral issues.

Prerequisite: ENGL 1511 is recommended prior to taking this course

PHIL 1556

World Religions

(3 Lec; 3 Cr)

Goals 6 & 8

This course is designed to introduce students to the major religions of the world—Hinduism, Buddhism, Jainism, Sikhism, Taoism, Confucianism, Shinto, Judaism, Christianity, and Islam. Students will have an increased awareness of the important elements of the major religions—their myths, symbols, rituals, doctrines, moral codes, and artistic expression. Students will better understand the religious issues and conflicts in the modern world.

PHIL 1565

American Indian Philosophy

(3 Lec; 3 Cr)

Goals 6 & 10

This course will offer an examination of Native American world view in its historical and contemporary context by exploring the beliefs, religion, and ceremonial practices of the American Indian. Emphasis will be placed on the Ojibwe people of the region by study of their legends, myths, sacred stories, and religious beliefs that provided the foundation for Ojibwe philosophy and world view. Philosophy terms and definitions will be studied and applied.

PHIL 1575

Introduction to Philosophy

(3 Lec; 3 Cr)

Goal 6 & 9

This course is an introduction to philosophic inquiry. The student is presented with the history of philosophy and the topics of reality, knowledge, religion, and freedom.

Prerequisite: ENGL 1511 is helpful, but not required

PHIL 1585

Ethics and Issues in Regional Development

(3 Lec; 3 Cr)

Goals 6 & 10

This course provides a broad overview of the ethical perspectives regarding our proper relationship with the natural world. Ethical considerations are applied to environmental issues pertinent to development in rural areas. Students will become familiar with the environmental/political climate and are encouraged to develop a heightened awareness of the natural environment and how the two interrelate.

PHIL 2552

Ethics

(3 Lec; 3 Cr)

Goals 6 & 9

This course expands student's knowledge of the human condition/culture in relation to choosing good and evil in human behavior, ideas and values. This process involves reading selected articles and engaging in critical analysis and interpretation of the articles. There will be guest speakers on specific ethical concerns (medical, legal, business, education). Students are required to articulate responses in verbal and written work.

Prerequisites: PHIL 1575, ENGL 1511 is strongly recommended

PHYSICAL EDUCATION

PHED 1410

Conditioning for Athletics

(1 Lab; 1 Cr)

This course allows for students to engage in physical fitness conditioning for interscholastic sports. Students are required to participate actively in an athletic conditioning program which is sport specific that will increase strength as well as aerobic capacity through a variety of activities. The student will build an understanding of sport specific training principles using various training methods. Overall, the course will help develop and prepare students to compete in interscholastic sports.

PHED 1415

Weight Training

(1 Lab; 1 Cr)

This course will present fundamental concepts and techniques of weight training. Safety, proper lifting techniques, and overall fitness are specifically emphasized topics in this exercise activity.

PHED 1416

Aerobic Fitness

(1 Lab; 1 Cr)

This course will follow the standards and guidelines of the American Council on Exercise (ACE). This will include a definition of aerobic exercise, medical considerations of the participant, body composition, nutrition needs, endurance development, flexibility, injury prevention and treatment, and in-class participation in aerobic exercise.

PHED 1418

Physical Fitness

(1 Lab; 1 Cr)

This course presents basic skill development for lifelong fitness. Physical Fitness will introduce the student to the basic components of fitness including cardiorespiratory endurance, muscular strength and endurance, flexibility, and body composition. Each student will develop personal skills for a lifetime fitness program.

PHED 1419

Introduction to Recreation

(2 Lec; 2 Cr)

This course provides an introduction to the field of organized recreation and leisure services. The course will examine the history of leisure and recreation as well as past and present trends.

PHED 1421

Beginning Snowboarding

(1 Lab; 1 Cr)

This course provides basic skills for lifelong participation in snowboarding. This class will begin at the non-snowboarding level and progress through parallel turns. The class will meet at Giants Ridge Ski Resort, one day a week for eight weeks (2 hour sessions).

PHED 1422

Intermediate Snowboarding

(1 Lab, 1 Cr)

This course will expand on basic snowboarding skills. This class will start at beginning parallel turns and will progress through advanced parallel turns. The class will meet at Giants Ridge Ski Resort, one day a week for eight weeks (2 hour sessions).

PHED 1425

Beginning Tennis

(1 Lab; 1 Cr)

This course is designed to develop skills from the beginning through the intermediate level. The student will develop a knowledge of playing rules, strategy in singles and doubles, and several scoring procedures.

PHED 1427

Bowling

(1 Lab; 1 Cr)

Skills start at the beginning level with much emphasis given to fundamental technique. The objective is to try to combine a well-rolled ball with consistent aiming. Knowledge of the sport as a whole should be acquired.

PHED 1428

Country Western Dance

(2 Lab; 1 Cr)

This course will introduce a variety of Country Western dances including Texas Schottische, San Antonio Stroll, Cotton-Eyed Joe, Texas Two-Step, Cowboy Polka, Cowboy Jitterbug, Country Waltz, and various line dances. The essential elements of dance and dance etiquette will be studied.

PHED 1429

Social Dance

(1 Lab; 1 Cr)

Starting at the beginning level, students will learn the basic steps to popular social dances such as east coast/west coast swing, waltz, traditional slow dance, polka, salsa, rumba, tango, fox trot, schottische, "Electric Slide" and "Saturday Night Fever." The definition and principles of social dancing will be explored through timing, posture, balance, experiencing different styles of music, technique, and ballroom etiquette. Social dance can also be a great form of exercise as well as a useful social tool.

PHED 1430

Disc Golf

(1 Lab; 1 Cr)

The course offers the student the opportunity to develop basic skills for lifelong participation in disc golf. The purpose of this class is to present the playing skills, rules, and knowledge of the game of disc golf to the beginner in such a manner that he/she can develop skills to advance to the intermediate level.

PHED 1435

Beginning Golf

(1 Lab; 1 Cr)

The purpose of this class is to present the playing skills, rules, and knowledge of the game of golf to the beginner in such a manner that he/she can develop skills to the intermediate level.

PHED 1436

Advanced Golf

(1 Lab; 1 Cr)

A course for those interested in developing golfing skills beyond the beginning level.

PHED 1449

Walking for Fitness

(1 Lab; 1 Cr)

This course will develop lifetime learning in the basic skills of walking with an emphasis on developing a healthy lifestyle, while gaining the benefits of physical fitness. Key components of the course include monitoring heart rate, walking techniques, and fitness walks.

PHED 1467

Beginning Downhill Skiing

(1 Lab; 1 Cr)

This course will present basic skills needed for lifelong participation in skiing. This class will begin at the non-skier level and progress through the basic skills of balance, rotary, edging, pressure skills, and wedge and parallel turns. The language of ski safety will also be discussed. The course will be divided into ability levels as needed. The class will meet at Giants Ridge Ski Resort.

PHED 1468

Intermediate Downhill Skiing

(1 Lab; 1 Cr)

This course presents basic skills for lifelong participation in skiing. This course focuses on the advanced skills and techniques of downhill skiing. Technique and skill development in traversing, turning, speed control and stopping will be included. This course is geared to those with skiing experience, with students having mastered beginning skiing skills. The class will meet at Giants Ridge Ski Resort.

PHED 1477

Archery

(1 Lab; 1 Cr)

This is a beginning class of indoor archery target shooting, using recurve bows of light to medium weight.

PHED 1479

Curling

(1 Lab; 1 Cr)

This course provides personal development of the basic fundamental skills for the lifelong participation in the sport of curling. Additional emphasis will be placed on the rules, scoring, strategy, and etiquette of the game of curling. On-ice drills and games will be performed in the class.

PHED 1487

Danceline

(1 Lab; 1 Cr)

This course is designed for those interested in various forms of dance. The group will practice approximately three times per week and perform at various athletic events and/or school functions. Students will actively participate in choreographing dances with supervision of instructor. Practices and performances are required.

PHED 1489

Introduction to Physical Education

(3 Lec; 3 Cr)

This course will present an introduction to the history and philosophies of physical education. This class is a critical examination of the history, people, events, programs, and philosophical positions that have led to the current status of physical education, fitness, and sport in the United States.

PHED 1495

Varsity Football

(1 Lab; 1 Cr)

The student in this course must be able to meet NJCAA rules of eligibility for participation, and participate in all practices and games.

PHED 1496

Varsity Volleyball

(1 Lab; 1 Cr)

Students in this course must be able to meet NJCAA rules of eligibility for participation, participate in all scheduled practices, and be available for games during the entire season as required by the coach.

PHED 1497

Varsity Men's Basketball

(1 Lab; 1 Cr)

Students participating in this course must be able to meet NJCAA rules of eligibility for participation, participate in all scheduled practices, and be available for games during the entire season as required by the coach.

PHED 1497

Varsity Women's Basketball

(1 Lab; 1 Cr)

The student in this course must be able to meet NJCAA rules of eligibility for participation, participate in all scheduled practices, and be available for games during the entire season as required by the coach.

PHED 1498

Varsity Baseball

(1 Lab; 1 Cr)

Students in this course must be able to meet NJCAA rules of eligibility for participation, participate in all scheduled practices, and be available for games during the entire season as required by the coach.

PHED 1499

Varsity Softball

(1 Lab; 1 Cr)

Students in this course must be able to meet NJCAA rules of eligibility for participation and participate in all practices and games.

PHED 2415

Introduction to Exercise Science

(3 Lec; 3 Cr)

This introductory course provides an overview of the field of exercise science or sport science. The basics of human physiology and how the body works during exercise will be discussed. Career opportunities within sports medicine and related health fields will be investigated.

PHED 2416

Current Issues in Exercise Science

(3 Lec; 3 Cr)

This course examines significant and recent topics or developments in the field of exercise science, wellness, health and fitness. It is also designed to integrate topics from a variety of disciplines. Emphasis will be placed on current topics which have an immediate impact on the exercise science profession such as relaxation & stress management, weight management & nutrition, alternative medicine, new cardiovascular and strength exercise techniques, professional credentials, hypokinetic diseases, and fitness testing.

Prerequisite: PHED 1439 or PHED 2415

PHED 2417

Exercise and Fitness Assessments

(3 Lec; 3 Cr)

This course is designed to acquaint the student with the creation, evaluation, and interpretation of tests and measurements used in the fields of physical education and exercise science settings. Basic statistical analysis will be discussed.

Prerequisites: PHED 2415, Math 1521 or Math 1545

PHED 2418
Group and Individual Exercise Instruction
(3 Lec; 3 Cr)

The course covers the advanced theory and professional practice of exercise leadership, design of group and individual exercise sessions, supervision of participants, and modification of exercise prescriptions. It includes techniques of exercise adherence and practicum experience with cardiovascular and resistance programs.

Prerequisites: PHED 2415, PHED 2417

PHED 2425
Social and Ethical Aspects of Sport and Physical Activity
(3 Lec; 3 Cr)

This course will focus on the sociological and ethical aspects of sport and physical activity. This class will investigate the American value system of competition and sport. The social influences will be examined in the following areas: children, religion, interscholastic and intercollegiate sport, politics, race and gender issues.

PHED 2426
Psychology of Sport and Physical Activity
(3 Lec; 3 Cr)

This course will focus on the psychological issues of sport and physical activity. Research, principles and issues will be presented. Further study will involve the effects physical activity has on performance enhancement, communication, attitudes, and motivation.

PHED 2451
Advanced Weight Training
(1 Lab; 1 Cr)

Students are expected to be familiar with the fundamentals of weight training. Advanced Weight Training will provide a thorough education of the proper mechanics of weight lifting. The course will also demonstrate how to effectively plan training programs and assessments based on individual goals. The class will consist of 20% lectures and 80% weight training, where students will apply what they have learned. There will be skills tests, physical assessments, and goal setting papers. Students will be introduced to advanced forms of weight training, powerlifting, bodybuilding, and sport-specific training. Proper technique, exercise selection, programming, nutrition, and anatomy/physiology of weight training will be discussed.

Prerequisite: PHED 1415 or consent of instructor

PHYSICS

PHYS 1541
Physical Science
(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course will provide an introduction to three areas of physical science: physics, chemistry, and earth science. The physics portion will cover measurements, motion, forces, energy, heat, and electricity and magnetism. The chemistry portion will cover chemical bonding, chemical reactions, and gases. The earth science portion will cover the atmosphere and its dynamics with a potential section on geology.

Prerequisites: Math 0093, CPT placement, or instructor's consent

PHYS 1551
Introductory Physics
(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course covers the basic principles of physics from a conceptual and practical viewpoint with a minimal amount of math. Topics generally include mechanics, waves and sound, fluids, thermodynamics, electricity, magnetism, and light. It is designed for students in general education and those who are preparing to take the College Physics sequence or the Engineering Physics sequence.

Prerequisite: Higher Algebra

PHYS 1561
College Physics I
(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course will cover kinematics, Newton's Laws, circular motion, linear momentum, rotation motion and dynamics, elasticity, fluids, wave motion, and sound with a potential section on thermodynamics.

Prerequisite: College Algebra

PHYS 1562
College Physics II
(3 Lec, 1 Lab; 4 Cr)

Goal 3

This course will cover thermodynamics (if not already covered in the previous semester), electricity and magnetism, optics, and the wave nature of light.

Prerequisite: PHYS 1561 or consent of instructor

PHYS 1565

Astronomy: The Solar System

(2 Lec; 2 Cr)

Goal 3

This course is a non-mathematical study of the Solar System: the sun, the planets, the asteroids, and the comets. This is a study of their present structure and origin.

PHYS 1566

Astronomy: The Universe

(2 Lec; 2 Cr)

Goal 3

This course is a non-mathematical study of the Universe outside the Solar System. Properties of different stars, galaxies, neutron stars, black holes, evolution of the Universe are covered in this course.

PHYS 1567

Introductory Astronomy

(3 Lec; 3 Cr)

Goal 3

This course is an introductory study of the universe. It covers development of astronomy as a science, the scale structures and evolution of the solar system, stars, stellar evolution, galaxies, and cosmology.

Prerequisite: College level reading

PHYS 1571

Engineering Physics I

(4 Lec; 4 Cr)

Goal 3

This course will cover kinematics, Newton's Laws, circular motion, gravity, mechanical energy, linear momentum, rotation motion and dynamics, elasticity, fluids, waves, sound, and thermodynamics.

Prerequisite: Concurrent enrollment in MATH 1561 or instructor's consent

PHYS 1572

Engineering Physics II

(4 Lec; 4 Cr)

Goal 3

This course will cover electricity and magnetism, electromagnetic waves, optics, interference, and diffraction. In addition, the course will cover some modern physics, if time permits.

Prerequisites: PHYS 1571, and concurrent enrollment in MATH 1562, or instructor's consent

PHYS 1581

Engineering Physics Lab I

(1 Lab; 1 Cr)

Engineering Physics I Lab - required as part of Engineering Physics I.

PHYS 1582

Engineering Physics Lab II

(1 Lab; 1 Cr)

Engineering Physics II Lab - required as part of Engineering Physics II.

PHYS 2430

Modern Physics I

(3 Lec; 3 Cr)

Modern Physics is the third course in the physics sequence for students majoring in physics or engineering. This course focuses on physical discoveries made during the 20th century, including relativity, particle physics, quantum mechanics, and nuclear physics.

Prerequisite: PHYS 1572 Engineering Physics II

POLITICAL SCIENCE

POLS 1556

American Government

(3 Lec; 3 Cr)

Goals 5 & 9

This course is a study of the structure and function of the national government of the United States including political theory, political parties, elections, civil rights, and the three branches of government.

Prerequisite: College level reading

POLS 1557

State and Local Government

(3 Lec; 3 Cr)

Goals 5 & 9

This course is a study of the structure and functions of state and local governments with emphasis on Minnesota.

Prerequisite: College level reading

POLS 1559

International Relations

(3 Lec; 3 Cr)

Goals 5 & 8

This course is a study of contemporary and historical international relations, foreign policy and international organizations.

Prerequisite: College level reading

POLS 2459

Political Science Internship

(1-3 Cr)

The political science internship will provide the student with supervised work experience in any political setting. Examples (not exhaustive) include local government councils, local government agencies, state government including Minnesota House and Senate, and the federal government level. Consent of instructor is required.

Prerequisites: Past or current enrollment in POLS 1556 or POLS 1557. Consent of instructor.

PRACTICAL NURSING

NURS 1215

Introduction to Nursing

(2 Lec, 2 Lab; 4 Cr)

This course covers the introductory skills of nursing. The units of instruction include maintaining a safe and clean environment, communicating information, meeting basic human needs, providing personal care (including activity and exercise), assisting with nutrition and elimination needs, measuring vital signs, understanding mental health and social service needs, and caring for a client with special equipment or procedures. The course teaches the student to be able to perform these skills in a long-term care facility or in a home environment. Instruction is provided through lectures, video, and instructor demonstration. The students are given practice time in the lab and subsequently must give return demonstrations of the skills learned.

NURS 1222

Applied Nursing Skills

(4 Lab; 4 Cr)

This course covers the assimilation and application of nursing skills. It will include skills related to the prevention of infection, performance of a physical exam (including vital signs, neuro checks, auscultation of heart, lung, and bowel sounds), skills related to elimination (including Foley catheter insertion, enema administration, ostomy cares), skills related to surgical care, postmortem care, nursing documentation, oxygenation (including tracheostomy care, oxygen application) and others. Most MN Board of Nursing Abilities are evaluated in this class.

NURS 1225

Nutrition

(2 Lec; 2 Cr)

The purpose of this course is to provide nursing students with a foundational understanding of the relationship between diet and health. Areas of study will be fundamentals of nutrition including digestion, absorption, metabolism, and the six nutrient groups. The focus of the course is to provide knowledge of the changes in the nutritional requirements across the lifespan and the use of diet therapy to restore and maintain health.

NURS 1226

Gerontology & Clinical

(2 Lec; 2 Lab; 4 Cr)

The focus of this course is to present information about the aging process so the student may adapt nursing skills to our increasing elderly population. It will cover a diversity of topics including attitudes toward aging, normal physical changes, promoting wellness, common physiological and psychological conditions, restorative care, and legal/ethical considerations. The student will experience practical application of theory through resident care at a clinical site.

NURS 1227

Medical Terminology

(1 Lec; 1 Cr)

The course covers word analysis, spelling and usage of word roots, prefixes, suffixes, and abbreviations common to the medical profession. Emphasis is placed on information needed for nursing and on diagnostic terms and abbreviations.

NURS 1232

Applied Math & Medications

(1 Lec; 1 Lab; 2 Cr)

This course covers the legal/ethical responsibilities of medication administration and recording. It includes a review of basic math; fractions, decimals, ratios, proportions, and apothecary and metric systems of measurement. The student is taught drug classifications/purpose and how to use drug reference books. Instruction is given on dosage calculations, safe administration of medications (all routes including parenteral), and documentation.

NURS 1242
Maternal/Child Health and Clinical

(3 Lec; 2 Lab; 5 Cr)

This course covers a review of child growth and development from birth through adolescence and young adulthood. Common abnormal conditions and diseases of children, including the newborn, are studied. Reproduction, prenatal development, pregnancy, labor and delivery, as well as the postpartum period and newborn period, and related conditions and diseases are studied. The student will experience practical application of theory through client observation and care at the clinical site.

NURS 1255
Mental Health Concepts and Clinical

(2 Lec; 1 Lab; 3 Cr)

This course provides a basic foundation in understanding a client who is undergoing a crisis, experiencing anxiety, or coping with mental illness or condition. A variety of psychiatric disorders are addressed, including schizophrenia, depression, mania, personality disorders, and chemical abuse. Nursing interventions, current treatment modalities, and pharmacology will be discussed. The student will experience practical application of theory through client observation and care at the clinical site.

NURS 1257
Trends in Nursing

(1 Lec; 1 Cr)

The course covers the history of nursing and the role of the LPN. Practical nursing program components and the role of the nursing student is discussed. Time management, stress reduction, and study techniques are examined. Current healthcare issues and trends are reviewed. Health promotion, disease prevention, therapeutic communication, healthcare delivery systems/reimbursement agencies, legal/ethical concerns, and cultural considerations are also important components of this course. Leadership, professionalism, and customer service principles are also covered. The student is instructed on clinical expectations and requirements of future semesters of the program. Desirable qualities of the nursing student/practical nurse are identified.

NURS 1258
Role Transition

(1 Lec; 1 Cr)

The transition from practical nursing student to LPN is the primary focus of this class. The course begins with a review of the practical nursing role and the nursing process, as well as a review of the history of nursing and a review about the healthcare team. A focus on providing care to multiple patients and on clinical time management and prioritization is included. Historical, legal, ethical, and cultural perspectives of nursing are reviewed. Therapeutic communication and critical thinking concepts are again examined. The Board of Nursing, the Nurse Practice Act, nursing publications and organizations, and political activism are explored. Leadership and management skills including problem solving and effective communications skills are discussed. Community healthcare agencies and resources are introduced and explored. Workplace issues, continued education, and current/future healthcare systems and issues are examined. The nursing student is also directed in the licensure application process.

NURS 1261
Adult Nursing I & Clinical

(4 Lec; 4 Lab; 8 Cr)

This course covers selected body systems and associated disorders/conditions. The integumentary, urinary, male reproductive, and musculoskeletal systems are covered. Also, there is a special emphasis on the study of diabetes. The student will learn about the symptoms, treatments, and complications of diseases and conditions. Commonly used medications will be discussed as related to the specific systems covered. The student will utilize critical thinking skills and determine appropriate nursing care interventions. In addition, general oncology nursing is covered. Also, pain and sleep phenomena and the perioperative experience will be discussed. The student will experience practical application of theory through client observation and care at the clinical site.

NURS 1262
Adult Nursing II & Clinical

(3 Lec; 4 Lab; 7 Cr)

This course is a continuation of NURS 1261. It addresses additional selected body systems and associated disorders/conditions. The respiratory, cardiac, neurological, immune, hematological, endocrine, sensory, and gastrointestinal systems are covered. Also, care of the client with HIV/AIDS is studied. The student will learn about the symptoms, treatments, and complications as they relate to the disorders/conditions covered. Emphasis is also given to the medications most commonly used in the treatment of specific system disorders/conditions. Critical thinking skills are used by the student to determine appropriate nursing care observations and interventions. The student will experience practical application of theory through client care at the clinical site.

NURS 1263

IV Therapy and Phlebotomy Certification

(1 Lec, 1 Lab; 2 Cr)

This course was designed for licensed nurses and other healthcare professionals who would like to develop or enhance skills related to IV therapy and phlebotomy. The student is taught to initiate and maintain IV therapy and to draw blood for diagnostic test. Information is provided through lecture and lab demonstration. Simulation is used for demonstration, practice, and for evaluation. Students may also have the ability to perform and/or observe venipuncture and IV therapy in the clinical setting. At least three successful venipunctures must occur. Upon successful completion of the course, the student will receive the program's Certificate for IV Therapy and Phlebotomy.

Prerequisite: Licensure or verification of program completion of Practical Nursing Program, Registered Nursing Program or other approved medical career

NURS 1275

NCLEX Review

(2 Lec; 2 Cr) Elective

The purpose of this course is to prepare nursing students for the practical nursing licensure exam. Test taking tips related to multiple choice testing are covered. Multiple areas of nursing are reviewed including: pharmacology, nutrition, medical/surgical nursing, mental health nursing, maternal and child health nursing. The review method will be through practice exams and group and individual work.

PROCESS AUTOMATION SYSTEMS

EIAT 1225

Electrical & Industrial Automation Projects

(2 - 8 Cr)

This course is designed to cover learning related to special assignments, independent study, internships and industrial work experience directly related to the curriculum objectives of the Process Automation Systems. The course content will be determined on an individual basis dependent on student needs and departmental requirements. The PAS department, in coordination with the student, will design an individual plan that meets specified objectives.

Prerequisite: Industrial electrical experience, previous electrical related course work.

EIAT 1233

Introduction to Solid State Electronics

(1 Lec, 3 Lab; 4 Cr)

This offering is designed as a foundational course for those entering electrical maintenance/engineering related fields. Basic solid state theory is studied with a focus on semiconductor material, PN junction devices, discrete and integrated semiconductor applications, schematic symbols, device testing, and proper usage of tools and test equipment is emphasized.

Prerequisites: Minimum score on basic skills test for reading and mathematics.

EIAT 1235

Electrical for Industrial Mechanical Technology

(1 Lec, 1 Lab; 2 Cr)

This course provides a general knowledge of industrial electrical systems. The curriculum encompasses electrical safety, fundamentals of electricity, electrical distribution systems, and industrial motor control and protection systems for personnel and equipment. The course focus is on practical knowledge needed by multiple craft, mechanical, and operation personnel.

EIAT 1243

Introduction to Digital Electronics

(1 Lec, 2 Lab; 3 Cr)

This offering is designed as a foundational course for those entering electrical maintenance/engineering related fields. Basic digital concepts are studied with a focus on basic logic gates, numbering systems, combinational logic circuits, circuit simplifications, integrated logic circuits, schematic symbols, device testing, and the mathematical and practical analysis of circuits from a troubleshooting perspective. Lab safety and safe, proper use of tools and test equipment are emphasized.

Prerequisites: Minimum score on basic skills test for reading and mathematics.

EIAT 1244

Industrial Pneumatics

(2 Lab; 2 Cr)

This course covers the general fundamentals of machine control utilizing pneumatics and electro-pneumatics. The course concentrates on pneumatic systems, control devices and actuators related to machine control with practical applications involving robotic work cells, pick and place robots, parts handlers, motion control and interfacing of air and electrical circuits.

Prerequisite: Electrical Theory

EIAT 1251
Programmable Logic Controllers

(1 Lec, 2 Lab; 3 Cr)

This course is an introductory class covering the installation, operation, and programming of industrial programmable controllers (PLC's). Lecture reviews a variety of PLC types/manufacturers and the components of PLC systems. Lab exercises provide hands-on activities demonstrating the practical use of PLC's in industrial control.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 1253
Introduction to DC/AC Electronics

(1 Lec, 3 Lab; 4 Cr)

This offering is designed as a foundational course for those entering electrical maintenance/engineering related fields. Basic DC/AC theory is studied with a focus on electrical quantities, circuit components, schematic symbols, measurement, and the mathematical and practical analysis of series, parallel, and series/parallel circuits from a troubleshooting perspective. Lab safety and the safe and proper use of tools and test equipment are emphasized.

Prerequisites: Minimum score on basic skills test for reading and mathematics

EIAT 1255
Electrical for Operators

(2 Lec, 1 Lab; 3 Cr)

This course provides a general knowledge of industrial electrical systems. It encompasses topics starting with basic electrical theory and continues with electrical safety, electrical distribution systems, and motor control. The course focus is on practical knowledge needed by multiple craft and operation personnel.

EIAT 1256
Process Control for Operators

(3 Lec, 1 Lab; 4 Cr)

This course provides an overview of the system and process controls. The course outlines common system control configurations, equipment layouts, and quality control strategies. Included in the coursework is a general overview of control standards, flow meters and calibration, radioactive safety, instrumentation components, process parameters and terminology, operator interface and system troubleshooting. The course focus is on practical application from an operational viewpoint.

Prerequisite: EIAT 1255

EIAT 1257
Process Control for Industrial Mechanical Technologists

(2 Lec, 1 Lab; 3 Cr)

This course provides an overview of the system and process controls. The course outlines common system control configurations, equipment layouts, and quality control strategies. Included in the coursework is a general overview of control standards, flow meters and calibration, radioactive safety, instrumentation components, process parameters and terminology, operator interface and system troubleshooting. The course focus is on practical application from an operational viewpoint.

Prerequisites: EIAT 1255

EIAT 1260
Electrical Safety

(1 Lec; 1 Cr)

This course is designed to familiarize the student with the safety practices and procedures applied in the installation and maintenance of electrical systems and equipment. Instruction includes the identification of the hazards associated with working on electrical equipment and distribution systems, identification and use of Personal Protection Equipment (PPE) and safe and proper use of test equipment. In addition, the course presents information on general industrial safety practices such as lock-out-tag-out, material safety data sheets (MSDS) and confined space identification.

EIAT 1265
National Electrical Code

(1 Lec; 1 Cr)

This course is an introductory course to the National Electric Code. This course covers the layout of the code book, definitions of terminology used in the code, and a review of code sections related to industrial writing. This course provides practice in locating and applying articles from the code to solve specific electrical design problems and/or calculation parameters needed for the sizing and selection of equipment and material.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 1266
Industrial Motor Control

(1 Lec, 5 Lab; 6 Cr)

This course covers the design, wiring, and operation of AC motor circuits from the power distribution system or course to the final control circuit and motor. Students will be prepared to install, troubleshoot, and maintain equipment associated with motors and motor control. Elements include three-phase power, transformers, control devices, motor starters, motor speed control, and motors. Students should possess knowledge of basic electricity and electronic fundamentals.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 1275

Introduction to Process Control

(1 Lec, 1 Lab; 2 Cr)

This course is designed as an introduction to industrial process control. The course will cover basic definitions, types of control, symbols and prints, instruments used in control, and elementary control loop design. The course will identify the duties and tasks performed by instrumentation technicians. The course is a prerequisite to additional instrumentation courses offered by Mesabi Range College.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 1276

Electrical/Mechanical Tools, Equipment, and Systems

(2 Lab; 2 Cr)

This course is designed to familiarize the student with tools, materials, and procedures used in the installation and maintenance of electrical systems and equipment. Instruction includes the safe and proper application of specialized tools and test equipment used in electrical work. The student will gain a working knowledge of the specifications, applications, and standards related to material used in electrical distribution. The course examines the mechanical applications and procedures used in the installation of electrical equipment and systems.

EIAT 1295

Basic Soldering

(1 Lab; 1 Cr)

This offering is designed as a foundational course for those entering electrical maintenance/engineering related fields. Basic soldering concepts are studied with a focus on materials, equipment, and various soldering processes. Lab safety and the safe and proper use of tools and test equipment are emphasized.

Prerequisites: Minimum score on basic skills test for reading and mathematics

EIAT 2235

Industrial Data Communications

(1 Lec, 2 Lab; 3 Cr)

This offering is designed to provide the student with a fundamental knowledge of industrial data transmission. Basic standards and protocols will be studied with an emphasis on Ethernet, DH+, Modbus, and Fieldbus. Lab safety and the safe and proper use of tools and test equipment are emphasized.

Prerequisites: Minimum score on basic skills test for reading and mathematics

EIAT 2245

Industrial PC Applications

(1 Lec, 2 Lab; 3 Cr)

This offering is designed to provide the student with a fundamental knowledge of industrial personal computer based applications. PC based applications related to industrial controls will be studied with an emphasis on project/device documentation, data management, and SCADA. Lab safety and the safe and proper use of tools and test equipment are emphasized.

Prerequisites: CSCI 1455, ACT 2255, or instructor's consent, minimum score on basic skills test for reading and mathematics

EIAT 2252

Advanced Programmable Logic Controllers

(1 Lec, 3 Lab; 4 Cr)

This course is an advanced PLC course designed for students who have previous PLC programming experience or have completed the EIAT1251 Programmable Logic Controls course. The course covers advanced programming instructions such as sequencers, analog I/O, and PID control. The course develops a student's understanding of the PLC's file structure and organization of user programs. In addition, the course introduces the student to programming languages, terminology, and standards set by the IEC (International Electrotechnical Commission) Standard IEC1131-3. In addition, the course covers communication protocol and methods designed to send and receive data between multiple PLCs. Lab exercises provide hands-on activities demonstrating the practical application of plant wide control systems.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 2264

Automation Components & Equipment

(1 Lec, l Lab; 2 Cr)

This course covers the discrete devices and integrated circuit components used in modern automated control systems. Topics include the components and design of systems for power distribution and control interfacing. The course details the operation, configuration, and installation of devices and equipment used for position, motion and speed control of motor drives. Course lab assignments provide hands on experience in designing, wiring, and configuring system components into an integrated control system. Additional topics covered will include print reading, hazardous location wiring, and power quality analysis.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 2265
Electrical Control of Machines

(1 Lec, 1 Lab; 2 Cr)

This course covers the discrete and integrated circuit elements used in modern control systems. The course includes the expanding use of solid-state and microprocessor control of systems, and the use of fluid and electrical-mechanical power. Topics covered will include machine control power courses, control system and machine environments, motion control of machines, and complex control situations.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 2266
Temperature, Strain, and Analytical Instruments

(1 Lec, 2 Lab; 3 Cr)

This course is designed to encompass three independent areas of instrumentation, utilizing measurement methods that are similar in design and theory. The course covers the terminology, methods, and application of temperature, strain, and analytical measurement. The course provides the knowledge and skills required for operational understanding, proper installation, and accurate calibration of the primary elements and transducers used in these measurement areas.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 2267
Pressure, Flow, and Level Instruments

(1 Lec, 2 Lab; 3 Cr)

This course is designed to encompass three related areas of industrial instrumentation measurement. The course covers the terminology, mathematical relationships, and physical properties involved with the measurement of pressure, level, and flow. The course provides the knowledge and skills required for operational understanding, proper installation, and accurate calibration of the primary elements and transducers used in these measurement areas.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 2268
Automation Lab

(2 Lab; 2 Cr)

This course builds the principles and knowledge acquired in previous EIAT course work and curriculum with an emphasis on actual application in the construction of an automated process or work cell. Students are asked to put forward a project idea and complete the tasks involved in designing, assembling, and installing electrical/mechanical components into a completely automated system. The projects require written descriptions and documentation including equipment lists, a "tag name" data base, control programs and electrical/mechanical prints. The design, assembly, and programming are required to simulate real world applications used in automated industrial manufacturing and process control. All projects are group assignments that require a teamwork approach.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 2275
Robotic Work Cells

(4 Lab; 4 Cr)

This course covers basic robot principles through applied theory and practical lab applications. The course will cover all of the individual components that it takes to make up a total robotic system. The construction, programming, and operation of the training robot used is identical to most industrial robots which are being used in industry. The training robot will be integrated into work cells with actual industrial sensors and equipment.

Prerequisites: EIAT 1253, 1233, 1243, 1295, and 1244

EIAT 2276
Automated Industrial Control

(4 Lab; 4 Cr)

This course covers advanced automated control for medium and large industrial manufacturing with an emphasis on concepts related to analog (process) control. Included in this project based course will be topics related to pre-engineering and design, mechanical installation/wiring, digital and analog control loops within the PLC, SCADA/HMI development and implementation, as well as the integration into the project of DeviceNet and Foundation Fieldbus advanced field level network devices.

Prerequisites: EIAT 1251, 1266, 1275, CSCI 1455 or instructor's consent, and minimum score on basic skills test for reading and mathematics

EIAT 2277

Controllers and Control Loops

(1 Lec, 1 Lab; 2 Cr)

This course covers the core of industrial process control, control loops, and controllers. The course defines the components, configuration, installation, and I/O calibration of control loops. Analysis of control modes and algorithms for PID control are studied and practiced in a lecture/lab environment. Control mode design and system architecture complete the study.

Prerequisites: EIAT 1275, CSCI 1455, and minimum score on basic skills test for reading and mathematics

EIAT 2295

Computer Aided Design

(2 Lab; 2 Cr)

This course covers the fundamentals of computer-aided drafting. Basic drawing commands are covered and understanding is reinforced through hands-on drawing exercises. The content will be focused on drawing electronic, electrical, loop sheets, and P&ID diagrams. The proper procedures for file management and printing/plotting of completed work are also covered.

PSYCHOLOGY

PSYC 0096

Goals Clarification

(1 Lec; 1 Cr)

This course is designed for those students who have been readmitted to school after academic suspension. The two main goals of the course are to: (a) monitor the academic progress of each student according to the terms his/her readmission contract; (b) focus on factors that lead to suspension, future academic goals and ways to achieve those goals. Topics will include: attitudes, behaviors, self-discipline, locus of control, procrastination, accountability, decision-making, and goal setting.

Prerequisite: Instructor permission to enroll in course

PSYC 1415

Freshman Year Experience

(1 Lec: 1 Cr)

This course is designed to assist first year students to identify educational goals, career paths, and transfer options. In addition, the course will address social concerns that affect the first year student with the goal of promoting student success.

This course is mandatory for all new entering degree seeking students who are not enrolled in a technical program. Students transferring from another institution will be evaluated on a case by case basis.

PSYC 1445

Leadership Development Strategies

(1 Lab; 1 Cr)

This course is designed to assist students in developing leadership skills to enhance their personal effectiveness. Students participate in a weekend learning community where they have an opportunity to learn by observation, role-playing and participating in leadership development activities. All students who desire to enhance their college experience should consider this option. Each student's strengths, interests and aspirations are recognized while providing instruction and experiences that will enable students to develop skills in goal setting, team building, communications, and values clarification.

This course provides numerous opportunities that will enable students to observe and practice leadership skills and competencies. Students will also have an opportunity to test out their leadership skills in various ways. This is accomplished through a combination of the successful completion of the weekend leadership training and active participation in student governed boards, such as the college Judicial Board, Student Life Committee, Student Senate, etc.

PSYC 1455

Personal Adjustment and Transition

(3 Lec; 3 Cr)

This is a course utilizing a psychological/educational approach to assist students in transition to college life. Discussion will focus on attitudes which foster a fear of success and feelings of helplessness, low self-esteem, stress, and anxiety. Students will learn techniques to achieve self-directedness, set and carry out goals, and manage time. This course is open only to Student Support Services (TRiO) students.

PSYC 1456

Introduction to Higher Education

(1 Lec; 1 Cr)

This course in an introduction to Higher Education is designed to promote success in college, both academically and personally. Topics include college policies and procedure, resources available for managing academic and personal issues, and strategies for success in college.

PSYC 1457

Career Explorations

(1 Lec; 1 Cr)

In this course, students will learn the skills needed for effective career decision-making and life planning. They will also explore their interests, values, and abilities, and how these relate to career choice. Techniques for researching occupations will be taught as well as skills for effective decision-making and goal-setting.

PSYC 1555
Psychology of Men

(3 Lec; 3 Cr)

Goals 5 & 7

This course is an introduction to the study of men's lives. Topics include boyhood, the privileges and perils of collegiate masculinities, fears about men's friendships, men and work, men and health, intimacy and poser issues with women, male sexualities, male violence, and men in families. This course is designed for both women and men about men's issues.

PSYC 2551
General Psychology

(4 Lec; 4 Cr)

Goal 5

This course is an introduction to the scientific study of human behavior: history, background and methods, development, perception, learning, thinking, motivation, emotion, intelligence, personality, adjustment, mental health and social psychology.

Prerequisite: Recommend CPT score of 72, or "C" or better in READ 0082, reading and writing intensive

PSYC 2555
Psychology of Aging

(3 Lec; 3 Cr)

Goals 5 & 7

This course provides an overview of the developmental period from early adulthood through death, with emphasis on the aging process with an in-depth examination of the theories of adult change or development. The following areas are included: personal maturity, psychological concerns of the aged, counseling the elderly, and how to deal with grieving and death.

Prerequisite: PSYC 2551

PSYC 2556
Industrial/Organizational Psychology

(4 Lec; 4Cr)

Goals 5 & 7

This course is an introduction to the study of human behavior in the work environment. Topics for discussion will include the nature of work in the modern world, organizational theory and culture, personnel selection, personnel training, work efficiency, human motivation, performance appraisal, leadership and supervision, teams, job satisfaction, employee safety and health, stress, human engineering, and consumer psychology.

Prerequisites: Reading and writing intensive

PSYC 2558
Abnormal Psychology

(3 Lec; 3 Cr)

Goals 5 & 7

This course examines mental disorders and behavioral deviations with primary emphasis on etiology, classification, symptomatology, and alternative therapeutic approaches.

Prerequisites: PSYC 2551; reading and writing intensive

PSYC 2565
Child and Adolescent Development

(3 Lec; 3 Cr)

Goal 5

This course provides an overview of human development from conception through adolescence. Major theories and research are used to examine physical, perpetual, emotional, cognitive, linguistic, social and moral development.

Prerequisites: PSYC 2551 (or previous course PSYC 220), reading and writing intensive

PSYC 2567
Lifespan Development

(4 Lec; 4 Cr)

Goals 5 & 7

This course is a scientific and theoretical examination of the physical, social, cognitive, and psychological dimensions of development throughout the lifespan.

Prerequisites: PSYC 2551; reading and writing intensive

PSYC 2655
Group Dynamics

(3 Lec; 3 Cr)

Goal 5

Through lectures and actual participation in facilitation of the small group process, students will become familiar with the skills and techniques common to working with groups. This includes group dynamics, determining group purpose, basic group roles, stages of group development, group members' roles, group leader roles, and functions.

Prerequisites: None for non-Human Service majors; HSER 1232 Helping Process for Human Service majors, college level reading and writing

READING

READ 0081
Efficient Reading I

(3 Lec; 3 Cr)

This course offers a step-by-step approach designed to help students improve their reading skills in the following nine areas: 1) building vocabulary, 2) defining the terms, general and specific, 3) finding the topic and the main idea, 4) the function of supporting sentences, 5) other sentence functions, 6) identifying different types of paragraphs, 7) reading longer selections, 8) reading a textbook chapter, and 9) note taking techniques. The classroom format incorporates both large and small group instruction, as well as individual assignments. Classroom activities will include the examination of various reading assignments taken from textbooks used at the Mesabi Range campus (CPT scores considered).

READ 0082
Efficient Reading II

(3 Lec; 3 Cr)

This course offers a systematic, research-based approach designed to help students improve their reading skills in the following seven areas: 1) SQ3R, 2) vocabulary development, 3) reading speed, 4) comprehension, 5) summary writing, 6) response writing, and 7) pattern recognition. This course also incorporates writing into the reading class by helping students appreciate why recognizing good writing enhances reading. The classroom format incorporates both large and small group instruction, as well as individual assignments.

Prerequisite: CPT score of 42 or higher, or "C" or better in READ 0081

READ 1455
Critical Reading Skills

(2 Lec; 2 Cr)

This is a course designed to help students master college-level reading materials. The assignments are taken from all academic levels. The reading skills emphasized are fundamental to intelligent reading of college-level material including literal and inferential comprehension, making connections, understanding figurative language, and evaluating ideas. Multicultural reading selections are assigned to provide class participants the opportunity to recognize and share the concerns and experiences of ethnically diverse Americans.

Prerequisite: CPT score of 72, or "C" or better in READ 0082

SOCIOLOGY

SOC 1452
Crime and Delinquency

(3 Lec; 3 Cr)

Goal 5

Students will study crime and delinquency from both the social and psychological view. Emphasis will be placed upon the definition, nature, causes, and degree of criminal and delinquent behavior and its effect upon society. An overview of the juvenile justice system will also be presented.

Prerequisites: College level reading and writing

SOC 1551
Introduction to Criminal Justice

(3 Lec; 3 Cr)

Goals 5 & 9

This course is an analysis of the criminal justice system in the United States. It deals with criminal law and the roles and relationships of the four institutions in the criminal justice system: law enforcement, criminal bar, courts, and corrections.

Prerequisites: College level reading and writing

SOC 1555
Introduction to Sociology

(3 Lec; 3 Cr)

Goals 5 & 7

This course is a survey of characteristics of human group life with emphasis on the structure of the social environment and its influence upon the individual.

Prerequisite: CPT score 72, or "C" or better in READ 0082

SOC 1556
Introduction to Community Organizing and Development

(3 Lec; 3 Cr)

Goals 5 & 9

This course will introduce students to community based organizing and the development and maintenance of community based development organizations. The class covers the history of organizing, the role of community organizing in a democratic society, solving social problems through community organizing, the concept of empowerment, and the structure of community based organizations.

SOC 1557
Courtship, Marriage and Family

(3 Lec; 3 Cr)

Goals 5 & 7

This course is a sociological study of dating, mate selection, and marital and non-marital relationships. Special emphasis is placed on gender and diversity in family arrangements: race, class, ethnicity, and sexual preference.

Prerequisite: CPT score of 72, or "C" or better in READ 0082

SOC 1558
Human Relations

(3 Lec; 3 Cr)

Goals 5 & 7

This course is a study of the contributions and lifestyles of the various racial, cultural, and economic groups in our society; recognizing and dealing with dehumanizing biases, discrimination and prejudices; learning to respect human diversity and personal rights; developing positive feelings toward all humanity.

Prerequisites: College level reading and writing (writing intensive)

SOC 1559
Human Sexuality: Sex, Romance and Relationships

(3 Lec; 3 Cr)

Goals 5 & 7

This course explores psycho-social sexual development with emphasis on developing and maintaining meaningful, enjoyable and responsible sexual relationships throughout life. Students will explore childhood, adolescent and adult sexual behavior; dating and mate selection; marital, extramarital sex; sexual variation; and cultural, religious and societal influences on sexual values and behavior.

Prerequisite: CPT score of 72, or "C" or better in READ 0082

SOC 1565
Social Problems

(3 Lec; 3 Cr)

Goals 5 & 7

This course is a sociological study of causes, consequences, and solutions of major social problems such as racism, crime, poverty, mental and physical illness, and environmental issues.

Prerequisite: CPT score of 72, or "C" or better in READ 0082, writing intensive

SPEECH

SPCH 1457
Introduction to Speech Communication

(3 Lec; 3 Cr)

This survey course will introduce the student to the basic process of human communication in today's diverse society by balancing scholarship and emphasizing skills. The primary topics covered will be interpersonal communication, small group communication, intercultural communication, interviewing, and public speaking.

SPCH 1550
Introduction to Communication

(3 Lec; 3 Cr)

Goal 1

This survey course will introduce the student to the basic process of human communication in today's diverse society by balancing scholarship and emphasizing skills. The primary topics covered will be interpersonal communication, public speaking, and small group communication.

SPCH 1555
Public Speaking

(3 Lec; 3 Cr)

Goal 1

This course provides practical experience for those who want to develop or improve their ability to speak in front of groups. The fundamentals of topic selection, organization, development, delivery, and audience analysis are studied and utilized. Students engage in a number of public speaking experiences with emphasis on extemporaneous, informative, and persuasive speeches.

Prerequisite: College level reading

SPCH 1565
Interpersonal Communication

(3 Lec; 3 Cr)

Goal 1

This course is designed to help students understand the process of interpersonal communication, to help them assess their strengths and weaknesses in interpersonal communication, and to assist them in acquiring and practicing skills that will make them better interpersonal communicators. The student will study pertinent research in the field of interpersonal communication and will make practical application of that research through individual and group situations.

Prerequisite: College level reading

SPCH 1585
Intercultural Communication

(3 Lec; 3 Cr)

Goals 7 & 8

This course is a study of the attitudes, beliefs, and values of people in intercultural/multicultural communication. This course is designed to cultivate, promote, and increase understanding and tolerance of people outside our immediate culture and to increase our skill in communicating with diverse populations. Emphasis will be placed on cultures within the U.S., as well as various international cultures.

Prerequisite: College level reading

SPCH 1586
Leadership and Group Communication

(3 Lec; 3 Cr)

Goals 7 & 9

This course is intended to provide the student with the skills and understanding necessary to communicate in any small group, whether it is a social club, a community organization, classroom, or an executive committee connected with a career. Team theory and skills will be emphasized with segments on leadership, reasoning, decision making, rules of order, conflict management, creative thinking, listening, and verbal and nonverbal communication.

SPCH 2565
Oral Interpretation

(3 Lec; 3 Cr)

Goal 6

This course is concerned with the study and practice of the principles involved in oral reading. Included is an analysis and presentation of literary selections representing a variety of genres and forms of interpretation.

Prerequisite: College level reading

STATISTICS

STAT 2551
Statistics I

(4 Lec; 4 Cr)

Goal 4

This course is an introduction to descriptive and inferential statistics for averages, probability, random variables, interval estimation, and population hypothesis tests. The course includes use of computer programs.

Prerequisites: MATH 0094 (MATH 1521 is recommended, but not required), reading intensive

STAT 2552
Statistics II

(3 Lec; 3 Cr)

This course is an introduction to design of experiments, two population hypothesis testing, regression and correlation, analysis of variance, time series analysis, and decision theory. The course includes use of computer programs.

Prerequisites: STAT 2551 (MATH 1521 is recommended, but not required.), reading intensive

STUDENT SUPPORT SERVICES

SSS 1425
Math and Science Anxiety

(1 Lec; 1 Cr)

The Math and Science Anxiety workshop will provide participants with an understanding of and techniques in reducing their math and science anxieties. The natural learning process will be explored. Stress and change will be addressed, as will time management and all factors in reducing anxieties in college-level classes, particularly math and science. This course is offered only to Student Support Services participants.

SSS 1435
Understanding Relationships

(1 Lec; 1 Cr)

This workshop will introduce students to the stages and nature of interpersonal relationships. Through a variety of formats, participants will explore relationship issues and develop the skills needed to build healthier interactions with friends, peers, and family members. Conflict management and the grieving process will be explored to improve healthy coping skills. This course is open only to Student Support Services students.

SSS 1445
Practical Parenting

(1 Lec; 1 Cr)

Students will learn and practice specific parenting techniques designed to teach responsibility and focus on self-esteem of the child, in conjunction with increasing the parents' understanding of their own needs and rights. This course is only open to Student Support Services students.

SSS 1455

College Survival Seminar

(2 Lec; 2 Cr)

This course offers an orientation to the College and its services designed to give new students a positive introduction to academic life. Topics will include college expectations, academic services, campus orientation, educational goals, financial aid, and barriers to college success. Students will develop a personal academic plan for themselves at Mesabi Range Community & Technical College. This course is offered only to Student Support Services participants.

SSS 1465

Resume Works

(1 Lec; 1 Cr)

This course is a resume preparation course that guides students to assess their job-related skills and abilities, define job objectives, and prepare a finished resume that will meet employers' expectations. The course will focus primarily on resume writing, with other aspects of the job search covered, briefly. This course is offered only to Student Support Services participants.

SSS 1475

Power Communication Skills

(1 Lec; 1 Cr)

This workshop provides students with an opportunity to assess their personal communication styles and learning skills to enhance their abilities to communicate effectively. Students will explore the dynamics of conflict resolution, anger management, assertive communication, and sex-role stereotypes as they apply to communication. This course is only open to Student Support Services participants.

SSS 1485

Prejudice Reduction

(1 Lec; 1 Cr)

This course addresses the emotional and institutional impact of discrimination, misinformation, and powerlessness which keeps prejudice in place. Participants will learn how to welcome diversity, unfreeze prejudicial attitudes, and interrupt oppressive remarks and actions. This course is open only to Student Support Services participants.

SSS 1495

Conflict Management

(1 Lec; 1 Cr)

This course is designed to explore various conflict resolution theories and techniques. Students will discover their own personal styles of conflict management and compare this style to other styles. Application of theory and techniques will be practiced throughout this course. This course is open only to Student Support Services students.

SSS 1496

Personal Management Techniques

(1 Lec; 1 Cr)

This course will look at the physical and emotional effects of stress on the human body, the consequences of repeated/long-term stress, and what one can do to minimize and combat stress. In addition, the class will explore the A/B personality types and self-management skills to control self-imposed stress. Finally, information will be provided to enhance self-management of time and physical activity to moderate stress. This course is offered only to Student Support Services participants.

TEACHER ASSISTANT/ INSTRUCTIONAL AIDE

TAIA 1202

Guiding Children's Development & Behavior I

(3 Lec; 3 Cr)

Students will develop a basic knowledge and understanding of child development with an intensive focus on children, birth to eight years of age. Redirection of children's behavior and additional guidance techniques will be presented. In addition, students will learn how to use indoor and outdoor space effectively in order to meet children's growing developmental needs.

TAIA 1204

Understanding and Communicating with Diverse Families

(2 Lec; 2 Cr)

Students will build a strong foundation of understanding families as a mutual support system and explore a myriad of communication strategies in order to foster an inclusive, relationship-based approach to build mutual trust when interacting with families.

TAIA 1208

Guiding Children's Development & Behavior II

(3 Lec; 3 Cr)

Students will develop a basic knowledge and understanding of child development with an intensive focus in the preschool through adolescence years. Social skill development and strategies for managing behavior will be addressed. Students will learn how to use space and materials to develop a positive learning environment inclusive of all children/youth.

TAIA 1210

Historical & Legal Foundations of Education

(2 Lec; 2 Cr)

This course is designed to provide knowledge about the legal and historical foundations of education. It defines the necessary roles and responsibilities of parents, children, youth, educators and educational systems. Students will develop a practical knowledge of relevant laws, rules, regulations, policies, and procedures that are necessary to perform their role as a teacher's assistant or instructional aide in the public school setting.

TAIA 1212

Environments for Learning

(3 Lec; 3 Cr)

Students will develop a basic understanding of a child's physical, social, emotional, and cognitive development. Students will apply their knowledge of child development to create a stimulating learning environment which incorporates the use of developmentally appropriate activities, materials, and equipment.

TAIA 1214

Supporting Learners

(3 Lec; 3 Cr)

This course will explore the physiological, emotional, and cultural background of learners. Differentiated Learning, Multiple Intelligences, Learning Modalities and Whole Brain learning theories will be explored.

A variety of teaching strategies will be introduced.

TAIA 1216

Professionalism on the Education Team

(3 Lec; 3 Cr)

This course provides a comprehensive overview regarding the roles and responsibilities of becoming a member of a professional education team.

TAIA 1218

Health, Safety & Nutrition

(3 Lec; 3 Cr)

This course provides focused training in recognizing and caring for child breathing and cardiac emergencies as well as basic first-aid. Environmental health and safety are addressed with an emphasis on prevention. A basic nutritional component is integrated which provides a basis for students to understand appropriate food handling and sanitation.

TAIA 2202

Foundations in Assessment & Special Education

(4 Lec; 4 Cr)

This course explores the purpose of designing student learning outcomes as well as introduces multiple modes of assessment in order to measure student learning. In addition, it provides an overview of Special Education laws in the United States as well as defines the role of the Paraprofessional on the education team.

TAIA 2206

Child Abuse & Neglect

(3 Lec; 3 Cr)

Students will acquire the necessary skills to become a mandated reporter which includes the ability to identify and report what constitutes child abuse and neglect in the state of Minnesota. Students will learn how to identify and make appropriate referrals when working with families. Students will plan and participate in a child abuse prevention campaign.

TAIA 2208

Assisting with Language & Literacy

(3 Lec; 3 Cr)

This course will explore the development of language and literacy for children birth through adolescence. Instructional strategies for developing an effective reading program will be addressed.

TAIA 2210

The Art of Home Visiting

(2 Lec; 2 Cr)

This course provides instruction to human service workers, educators, and individuals who provide services in a family's home in the philosophy of using a strength-based approach to interacting with families.

TAIA 2212

Assisting with Math & Science

(3 Lec; 3 Cr)

This course will provide students with a basic understanding of teaching methods used in the areas of math and science.

THEATRE

THTR 1555

Introduction to Theatre

(3 Lec; 3 Cr)

Goal 6

This course surveys theatre as an art form and a medium of communication. It examines theatre from primitive rites to contemporary forms and includes architecture, lighting, scenery, costuming, makeup, plays, directing, acting, and criticism.

Prerequisite: CPT score of 72 or "C" or better in READ 0082

THTR 1565

Beginning Acting

(3 Lec; 3 Cr)

Goal 6

The student will learn acting as a creative process. This course will include movement exercises, improvisation, voice work, and relaxation techniques. Students will gain an understanding of and involvement in the rehearsal process. Participation in selected scenes from plays will be required.

THTR 2315

Theatre Practicum

(1 Lab; 1 Cr)

The Theatre Practicum credit is available for students who participate in the theatre productions on campus at Mesabi. Students can experience backstage areas and front-of-house operations or rehearsal and performance of a role in Mesabi theatrical or musical productions. Credit can be received for work in one of the following areas: performance, box office/marketing, costumes, scenery, properties, lighting/sound, makeup and stage management before/during performance runs for Mesabi Theatre productions.

THTR 2555

Introduction to Play Directing

(3 Lec; 3 Cr)

Goal 6

This course is designed to familiarize the student with different concepts of play directing. Special emphasis will be placed on production procedures, central staging, and the fine fundamentals of play directing.

Prerequisite: CPT score of 72 or "C" or higher in READ 0082, THTR 1565

WELDING

WELD 1221

Intro to SMAW

(1 Lec; 1 Cr)

The purpose of this course is to introduce the student to the Shielded Metal Arc Welding Process and the related safety practices through National Skills Standards established by the federal government and the American Welding Society. These standards are referenced in AWS EG2.0, Guide for Training and Qualification of Welding Personnel – Entry Level Welder. The student will become familiar with SMAW principles and techniques, ANSI/AWS Z49.1 safety standards, metallurgy, electrical principles, and filler metals and how to apply them to all weld types in all welding positions. Welding terminology and typical job communications will be covered.

WELD 1222

Basic SMAW Skills

(2 Lab; 2 Cr)

The purpose of this course is to build skills in welding mild steel using E6010 and/or E6011 electrodes with the Shielded Metal Arc Welding Process. The student will become familiar with SMAW principles and techniques, practical safety standards, and filler metals and how to apply them according to AWS D1.1 Code in 1F, 2F, 3F, 4F, 1G, 2G, 3G & 4G positions. Students will be evaluated on their performance in a work-like environment.

Prerequisite: Concurrent enrollment in or previous completion (GPA 2.0) of WELD 1221

WELD 1223

SMAW Low Hydrogen Skills

(2 Lab; 2 Cr)

The purpose of this course is to build skills in welding mild steel using E7018 (Class F4) electrodes with the Shielded Metal Arc Welding Process. The student will become familiar with SMAW principles and techniques, practical safety standards, and filler metals and how to apply them according to AWS D1.1 Code in 1F, 2F, 3F, 4F, 1G, 2G, 3G & 4G positions. Students will be evaluated on their performance in a series of visual tests and bend tests conducted in a work-like environment.

Prerequisite: Concurrent enrollment in or completion (GPA 2.0) of WELD 1221

WELD 1224

SMAW Alloyed Metals Skills

(2 Lab; 2 Cr)

This course covers the AWS National Skills Standards related to welding alloyed materials and dissimilar metals with the Shielded Metal Arc Welding Process. The student will become familiar with SMAW principles and techniques, practical safety standards, and filler metals and how to apply them according to AWS D1.1 Code in 1F, 2F, 3F, 4F, 1G, 2G, 3G & 4G positions. Students will be evaluated on their performance in a series of visual and destructive tests conducted in a work-like environment.

Prerequisite: Concurrent enrollment in or completion (GPA 2.0) of WELD 1221

WELD 1231

Intro to Thermal Cutting Processes

(1 Lec; 1 Cr)

This course covers the AWS National Skills Standards related to Thermal Cutting Processes and the related safety practices. The student will become familiar with process components, limitations, advantages and disadvantages of the OFC, PAC, CAC-A, and other various types of thermal cutting processes.

WELD 1232

Flame Joining Processes

(1 Lab; 1 Cr)

This course covers the AWS National Skills Standards related to Oxy-fuel welding and brazing processes and the related safety practices. The student will practice the various processes on applicable materials in various positions. Students will be evaluated on their performances in a work-like environment.

Prerequisite: Concurrent enrollment in or previous successful (GPA 2.0) of WELD 1231

WELD 1233

Cutting and Gouging Processes

(4 Lab; 4 Cr)

This course covers the AWS National Skills Standards related to OFC, PAC-A and CAC-A Cutting and Gouging processes and the related safety practices. The student will practice the processes on carbon steel, stainless steel, and aluminum. Students will be evaluated on their performances in a work-like environment.

Prerequisite: Concurrent enrollment in or previous successful (GPA 2.0) of Weld 1231

WELD 1241

Blueprint Reading

(1 Lec; 1 Cr)

This course covers the AWS National Skills Standards for acquiring the basic knowledge and skills in practical blueprint reading and interpretation. Welding symbols and industrial welding and assembly prints are studied.

WELD 1251

Assigned Projects

(1 Lab; 1Cr)

This course covers the knowledge and skills to complete a typical job order as required by industry. The student will be assigned a project that expands upon the competencies learned in Weld 1221, Weld 1231, Weld 1261, Weld 1271, Weld 1281, depending on applicability.

Prerequisites: Concurrent enrollment in or previous successful completion (GPA 2.0) of courses pertinent to the welding process (Weld 1221, Weld 1231, Weld 1261, Weld 1271, Weld 1281) to be used to complete the project

WELD 1255

Welding Mathematics

(1 Lec; 1 Cr)

This course covers the AWS National Skills Standards related to the mathematics involved in typical everyday usage in the field of welding.

WELD 1261

Gas Metal Arc Welding I

(.5 Lec; .5 Lab; 1 Cr)

This course covers the AWS National Skills Standards related to the Gas Metal Arc Welding Process and the related safety practices. The student will become familiar with fundamentals, techniques, equipment, and shielding gases related to GMAW-S. Light to heavy ferrous materials will be welded in the 1F, 2F, 1G, & 2G positions in a work-like setting.

WELD 1262

Gas Metal Arc Welding II

(2 Lab; 2 Cr)

This course covers the AWS National Skills Standards related to the Gas Metal Arc Welding Process and the related safety practices. The student will become familiar with GMAW fundamentals, equipment, metal transfer processes and shielding gases related to GMAW. Light ferrous and non-ferrous materials will be welded in the 1F, 2F, 3F, 4F, 1G, 2G, 3G, & 4G positions utilizing various techniques.

Prerequisite: Concurrent enrollment in or previous successful (GPA 2.0) of Weld 1261

WELD 1271

Gas Tungsten Arc Welding I

(1 Lec; 2 Lab; 3 Cr)

This course introduces the student to the background information and theory related to the Gas Tungsten Arc Welding Process and the related safety practices. The student will become familiar with GTAW fundamentals, equipment, filler metals and shielding gases related to GTAW. Mild steel will be welded in multiple positions.

WELD 1272

Gas Tungsten Arc Welding II

(2 Lab; 2 Cr)

This course covers the AWS National Skills Standards related to the Gas Tungsten Arc Welding Process of non-ferrous materials and the related safety practices. The student will become familiar with GTAW fundamentals, equipment, filler metals and shielding gases related to GTAW. Stainless steel and aluminum will be welded in multiple positions.

Prerequisite: Concurrent enrollment in or previous successful completion (GPA 2.0) of Weld 1271

WELD 1281

Flux Core Arc Welding I

(2 Lab; 2 Cr)

This course covers the AWS National Skills Standards related to the Flux Core Arc Welding Process and the related safety practices. The student will become familiar with FCAW fundamentals, equipment, metal transfer processes and shielding gases related to FCAW. Mild steel will be welded in the 1F, 2F, 1G, & 2G, positions.

WELD 1282

Flux Core Arc Welding II

(2 Lab; 2 Cr)

This course covers the AWS National Skills Standards related to the Flux Core Arc Welding Process and the related safety practices. The student will become familiar with FCAW fundamentals, equipment, metal transfer processes and shielding gases related to FCAW. Mild steel will be welded in the 3F, 4F, 3G, & 4G positions.

Prerequisite: Concurrent enrollment in or previous successful (GPA 2.0) of Weld 1281

WELD 2240

Properties of Welding I

(1 Lec; 1 Cr)

The purpose of this course is to continue the students' understanding of the Shielded Metal Arc Welding processes as applied to pipe and stainless steel welding. It will also expand the students' knowledge in the metallurgy of carbon and stainless steels. In addition, this course will also cover the AWS Standards (AWS D1.1, D1.6, API 1104) pertaining to plate, pipe and stainless steel certification.

Prerequisite: A 2.0 average or better in Weld 1253, or consent of instructor

WELD 2241

Shielded Metal Arc Welding - Pipe

(5 Lab; 5 Cr)

The purpose of this course is to afford the student the opportunity to become proficient welding pipe to AWS D1.1 and API 1104 codes using the Shielded Metal Arc process.

Prerequisite: A 2.0 average or better in Weld 1222 and Weld 1223, or consent of instructor

WELD 2242

Advanced Blueprint Reading

(1 Lec; 1 Cr)

This course covers mechanical drafting and welding symbols, sketching and drawing of simple assemblies and subassemblies, and applied metrics dimensioning and testing. This course will also cover the principles and methods of layout fabrication by means of scaling and modeling.

Prerequisite: A 2.5 average or better in Weld 1241 or consent of instructor.

WELD 2243

Flux Core Arc Welding III

(4 Lab; 4 Cr)

The purpose of this course is to afford the student the opportunity to become proficient welding plate and structural steel in all positions using Flux Core Arc Welding (self and dual shield) processes. AWS D1.1 and D1.6 codes will be followed.

Prerequisite: A 2.5 average or better in Weld 1281a, 1281b, or consent of instructor.

WELD 2244

Shielded Metal Arc Welding-Structural

(2 Lab; 2 Cr)

The purpose of this course is to acquire the skills necessary to weld Low-Hydrogen electrodes in all positions to the profiles and acceptance criteria of AWS D1.1-Structural and AWS D1.5-Bridge.

Prerequisite: A 2.0 average or better in Weld 1223, or the consent of instructor.

WELD 2245

Gas Tungsten Arc Welding – Pipe & Tube

(3 Lab; 3 Cr)

The purpose of this course is to afford the student the opportunity to become proficient welding carbon steel pipe roots and tube using the Gas Tungsten Metal Arc (TIG) process to the standards prescribed in the appropriate AWS, API, and ASME codes.

Prerequisite: A 2.0 or better in Weld 1271, 1271b, or consent of instructor.

WELD 2250

Properties of Welding II

(1 Lec; 1 Cr)

The purpose of this course is to introduce the student to equipment setup, electrical principle, electrodes, gasses and methods used in the Gas Metal Arc Welding, Self-Shielding Metal Arc, and Gas Tungsten Arc Welding processes as it applies to sheet, plate, tube and pipe.

Prerequisite: A 2.0 average or better in Weld 2240, or consent of instructor

WELD 2251

Gas Metal Arc Welding III

(4 Lab; 4 Cr)

The purpose of this course is to afford the student the opportunity to become proficient welding plate, pipe, and sheet steel, stainless steel and aluminum in all positions using Gas Metal Arc Welding (spray, short circuit) processes. AWS D1.1 and AWS D1.7 codes will be followed.

Prerequisite: A 2.0 or better in Weld 1261, 1261b, or consent of instructor.

WELD 2252

Gas Tungsten Arc Welding III

(3 Lab; 3 Cr)

The purpose of this course is to afford the student the opportunity to become proficient with the welding tube and sheet steel, stainless steel, and aluminum in all positions using Gas Tungsten Arc Welding processes. AWS D1.1 and 1.7codes will be followed.

Prerequisite: A 2.0 or better in Weld 1271, 1271b, or consent of instructor.

WELD 2253

Template Development

(2 Lec; 2 Cr)

The purpose of this course is to acquire the skills necessary to develop templates used for pipe joint geometry layout and fabrication. Duct layout for welding will also be performed.

Prerequisite: A 2.0 in Weld 1255 or equivalent, or consent of instructor.

WELD 2275

Stainless Steel Welding

(2 Lab; 2 Cr)

This course covers the physical and mechanical properties of stainless steel as applicable to the welder. A variety of stainless steel weldments will be made in all positions. Destructive testing will be done on some weldments and the effects of technique, heat, and metallurgy will be examined.

Prerequisite: A 2.0 GP in Weld 1224 or consent of instructor.

WIND ENERGY TECHNOLOGY

WET 1220

Introduction to Wind Energy

(3 Lec; 3 Cr)

This course will introduce students to wind energy conversion systems. Topics will include the history and present status of the wind power generation industry, scale, and wind turbine terminology and components. The students will also be introduced to the different aspects of the wind power generation industry including manufacturing, modeling, project development, logistics, construction, operations, and maintenance.

WET 1230

Field Training and Project Operations

(3 Lec, 1 Lab: 4 Cr)

This course will introduce students to field construction and operation aspects of the wind power generation industry. Specific items to be addressed will include site safety, cranes and rigging, fasteners, torque and tension, electrical hazard awareness, and utility operations.

WET 1235

OSHA 10 and Wind Turbine Safety

(1 Lec; 1 Cr)

This course will familiarize students with the safety aspects of an active wind energy project. An emphasis will be placed on safe work practices, behaviors and techniques specific to wind turbine construction, maintenance and operation. Topics will include risk management techniques, critical thinking associated with safety planning, creating a site safety plan and the OSHA 10 course.

WET 1245

Tower Rescue

(1 Lab; 1 Cr)

This course will familiarize students with tower rescue gear and procedures. Topics will include working with various types of rescue gear, emergency response procedures, and working at heights.

WET 1255

Wind Cranes and Rigging

(2 Lec, 1 Lab; 3 Cr)

This course will familiarize students with the cranes and rigging associated with wind turbine installation and maintenance. Topics will include movement and setup of large and small cranes, planning crane use, crane safety, rigging components, and rigging inspection.

WET 1265

Wind Energy Technology Internship

(6 Cr)

The course is designed to provide students with the opportunity to gain hands-on experience with tasks related to wind turbine construction, operation and maintenance. Ideally, these internships with approved providers would be completed during the summer between the student's first and second years of school and would allow the student to apply skills acquired in their first year of the program as well as provide exposure to concepts that will be covered in their second year of study. Students will be taught valuable skills and techniques for working with others, organization, and time management skills that can be applied while on his or her internships and during his or her future career in the wind industry. Students will also gain skills associated with their future job search and interview process.

While students will be responsible for securing an internship, the progress of the student during the internship will be monitored cooperatively by the student, a qualified industry mentor, and the program instructor. The Wind Energy Technology

Prerequisites: First year Wind Program, college level reading, college level writing

WET 2221

Wind Turbine Instrumentation and Communication

(1 Lec, 2 Lab; 3 Cr)

The course is designed to provide students with the opportunity to gain hands-on experience with tasks related to wind turbine instrumentation, controls, and communication systems. In addition to hands-on experience, students will learn about the instrumentation and communication systems in the classroom. Students will specifically learn about supervisory systems, controls, and reporting systems associated with utility scale wind turbines. In addition to the basic systems, students will also be introduced to Condition Based Monitoring systems used for predictive maintenance of wind turbines.

Prerequisites: First year of Wind Program, college level reading, college level writing

WET 2222

Wind Turbine Mechanical Systems

(1 Lec, 2 Lab; 3 Cr)

The course is designed to provide students with the opportunity to gain hands-on experience with tasks related to wind turbine construction, operation and maintenance. In addition to hands-on experience, students will first formally learn about the mechanical systems in the classroom. Students will specifically learn about the mechanical functions of a turbine that are required to generate power from wind. Yaw systems, pitch systems, gearboxes, tower bolting, and miscellaneous ancillary systems will be discussed.

Prerequisites: First year of Wind Program, college level reading, college level writing

WET 2231

Composite Repair

(1 Lab; 1 Cr)

The course is designed to provide students with the opportunity to gain hands-on experience with tasks related to wind turbine blade inspection and repair. In addition to hands-on experience, students will first formally learn about composites used in wind turbine blades in the classroom. Students will specifically learn about the different blade materials, types of composite failures, preparation and repair techniques, and repair curing requirements.

Prerequisites: First year of Wind Program, college level reading, college level writing

WET 2255

Power Generation and Distribution

(2 Lec; 2 Cr)

The course is designed to provide students with the opportunity to gain experience with tasks related to power generation and distribution including utility operations, transmission and distribution level systems, and integration of wind power into the grid.

Prerequisites: First year of Wind Program, college level reading, college level writing

WET 2265

Wind Turbine Electrical Systems

(2 Lec, 1 Lab; 3 Cr)

The course is designed to provide students with the opportunity to gain hands-on experience with tasks related to wind turbine construction, operation and maintenance. In addition to hands-on experience, students will first formally learn about the wind turbine electrical systems in the classroom. Students will specifically learn about the electrical functions of a turbine that are required to generate power from wind. Generators, inverters, power electronics, grid matching, power monitoring, and miscellaneous ancillary systems will be discussed.

Prerequisites: First year of Wind Program, college level reading, college level writing

WET 2275

Wind Turbine Project Management

(1 Lec, l Lab; 2 Cr)

The course is designed to provide students with the opportunity to gain experience with tasks related to management and project management related to wind turbine construction and maintenance. Students will be exposed to scheduling and equipment loading, project costing, productivity, human resource management, pre-project planning, engineering and the review/RFI process, and other ancillary topics related to management activities associated with wind power.

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A

Ability to Benefit 14
Academic Advising 9
Academic Appeals 28
Academic Alert Reports 28
Academic Credit 28
Academic Forgiveness 28
Academic Grade Appeals 28
Academic Honors 29
Academic Integrity 28
Academic Policies, Procedures 28
Academic Progress 33
Accounting 73
Accreditation 6
ADA 5
Administration/Staff 136
Admission Procedures 16
  Enrollment Category 16
  Freshmen 16
  International Students 17
  LEP/ESL 16
  National Guard 18
  Part-time Students 16
  Post-Secondary Enrollment Options Act 18
  Transfer Students 17
  Veterans 19
Admissions 9, 14
Admissions Policy 14
Advanced Standing 17
Advanced Placement Program 17
Agriculture 52
American Indian Studies 52
Anthropology 52
Appeals Process 35
Application Fee 22
Armed Forces 24
Armed Services, Training, Credit, Waiver 30
Art 75
Assessment 7
Assessment Testing 12
Astrophysics 52
Athletics, Intercollegiate 39
Athletics, Intramural 39
Attendance 29

B

Biology 76
Biology A.S. 52
Bookstore 9
Business 77
Business A.S. 54
Business Office 9
Business–One Year Diploma 54

C

Campus Map, Eveleth 149
Campus Map, Virginia 150
Career Center 9
Career Placement Services 9
Carpentry 55, 78
Certificates 46
Chemical Dependency Specialist 80
Chemistry 81
Child Care ("Y" Wee Care) 10
Chiropractic 52
Clubs and Organizations 39
College Costs (estimated) 22
College Level Examination Program (CLEP) . . .29
College Readiness Exam 19
College Services 9
College Visit Program 14
Communications 52
Computer Labs and Services 10
Computer Science 82
Continuing Education/Custom Training 70
Confidentiality of Student Records Policy 42
Contents 3
Counseling Services 10
Course Descriptions 73
Credit, Academic 27
Credit, Award Alternatives 29
  Armed Services Training 29
  Advanced Placement Program (AP) 29
  Credit by Examination 29
  College Level Examination Program (CLEP) .29
  Course Test Out 29
  International Baccalaureate Program (IB) . .30
  Independent Study 29

Credit Load .30
Credit, Registered Earned Requirements .32
Curricular Offerings .52

D

Developmental Education .20
Diplomas .46
Directory of College Services .9
Disability Services .10
Diversity .5
Drafting .83
Drop/Add Policy .21
Drug and Alcohol Free Campus Policy .42

E

Early Childhood Personal Care Attendant Certificate .67
Economics .83
Education (Early Childhood, Elementary and Secondary) .53, 84
- Art Education .53
- Communication Arts/Literature .53
- Pre-Communication Disorders .53
- Early Childhood Studies/ Special Education .53
- Earth and Space Science Education .53
- Elementary Education .53
- Exercise Science Education .53
- Life Science Education .53
- Mathematics Education .53
- Music Education .53
- Physical Education – Chemistry Concentration .53
- Physical Education – Physics Concentration .53
- Physical Science Education .53
- Social Studies Education .53

Educational Assistant .57
Educational Planning .19
eFolio Project .11
Electrical & Industrial Automation Technology .87
Emergency Medical Services .85
Engineering .86
English .87
English as a Second Language .20
Enrollment Services .11
Environmental Science .53
Equal Opportunity College .5
Equity Services .11
Eveleth Campus Map .149
Executive Office Management .56

F

Faculty & Staff .130
Fees .21
- Application Fee .21
- Payment of Fees .22
- Schedule of Fees .21

Financial Aid .11, 24
- Application Process .25
- Conditions of Financial Aid .27
- Loan Programs .26
- Other Financial Aid Programs .26
- Scholarships/Grants .25
- Student Responsibilities .28
- Types of Financial Aid .25
- Work Study Programs .26

Fitness Center .39
Firefighter .70
Food Service .11
Freshmen .16

G

General Education Philosophy .7
General Studies .91
Geography .91
Geology .92
Goal Statements .6
Goals for Student Success .8
Grading System/Grade Point Average (GPA) .30
Graduation Requirements .45
Grants .25
Graphic Design and Print Communications .57, 92
Guiding Principles .6

H

Health 95
History 6, 96
Home Health Aide 66
Honor Students/List 29
Housing 11
Human Services 58
Human Services A.A.S. 62
Human Services/Chemical Dependency
Specialist 62

I

Independent Study 29
Index 145
Industrial Technology/Industrial Arts 60
International Baccalaureate Program 30
International Relations/Studies 53
International Students 17
Introduction to Nursing 66
Immunization 15
Industrial Mechanical Technology
(Millwright) 97
Industrial Technology Safety 101

J

Journalism 101

L

Learning Center 12
Liberal Arts/Humanities 53
Library 12

M

Map, Eveleth Campus 149
Map, Virginia Campus 150
Masonry 61, 101
Mathematics 102
Maximum Credit Allowance for
Credit Alternatives 33
Medical Technology 53
Midwest Student Exchange 16
Mission 6
Mobile Equipment Service Technician 62, 104
Modern Languages 106
Multicultural Services 12, 107
Music 39, 108

N

National Guard 18
Non-Discrimination Policy 42
Nursing 62
Nursing Assistant/Home Health Aide 62
Nutrition/Dietetics 53

P

Paramedic 64, 109
Partial Withdrawal 21
Part-time Students 16
Physics 115
Placement for Success 20
Policies, Student 41
Political Science 116
Post-Secondary Enrollment
Options Act (PSEO) 18
Practical Nursing 67, 117
Pre-Architecture 52
Pre-Dental Hygiene 53
Pre-Dentistry 53
Pre-Engineering 53
Pre-Law 53
Pre-Medicine 53
Pre-Mortuary Science 53
Pre-Occupational Therapy 53
Pre-Optometry 53
Pre-Pharmacy 53
Pre-Veterinary 53
Process Annimation Systems 65, 119
PSEO Admission Procedures 18
PSEO Eligibility Requirements 18
Psychology 123

R

Reciprocity 15
Records Office 12
Refunds 22
Registration 20
Registration, Late 21
Registration, Procedures 21
Reinstatement 35
Repeating, Course 32
Residency 15
Rights, Responsibility 41

S

School Age Personal Care
Attendant Certificate 67
Senior Citizen Fee 22
Sexual Harassment/Sexual Violence Policy 43
Social Work 53
Sociology 125
Spanish 106
Speech 126
Student Activities 39
Student Life Committee 39
Student Policies 41
Student Support Services 13, 127
Summer Session 21
Supervised Occupational Experience 33

T

Teacher's Assistant/Instructional Aid 66, 128
Theatre 130
Tours 13
Transfer Information 18, 36
Transfer Students 17
Tuition 22
Tuition and Fees Payment Policy 22
Tuition Waivers 24

V

Valuing Diversity 5
Veteran Affairs 13
Veterans 19
Veteran's Resource Center 13
Virginia Campus Map 150
Vision 6
Visit Program 14

W

Welcome 4
Welding 67, 130
Wind Energy 68, 133
Withdrawal Policy 21
Withholding, Diploma, Transcripts 24

Y

"Y" Wee Care Center 10

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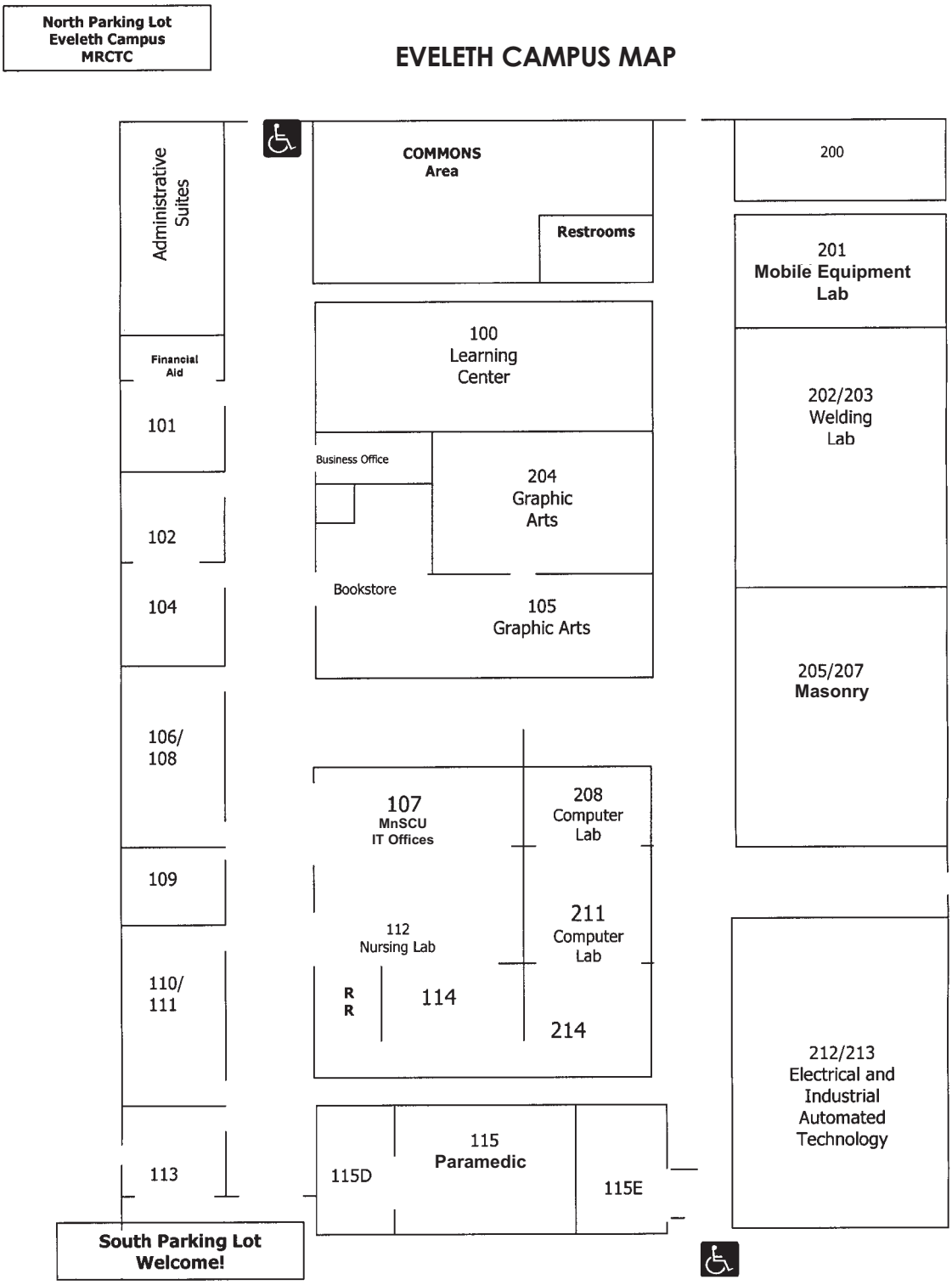

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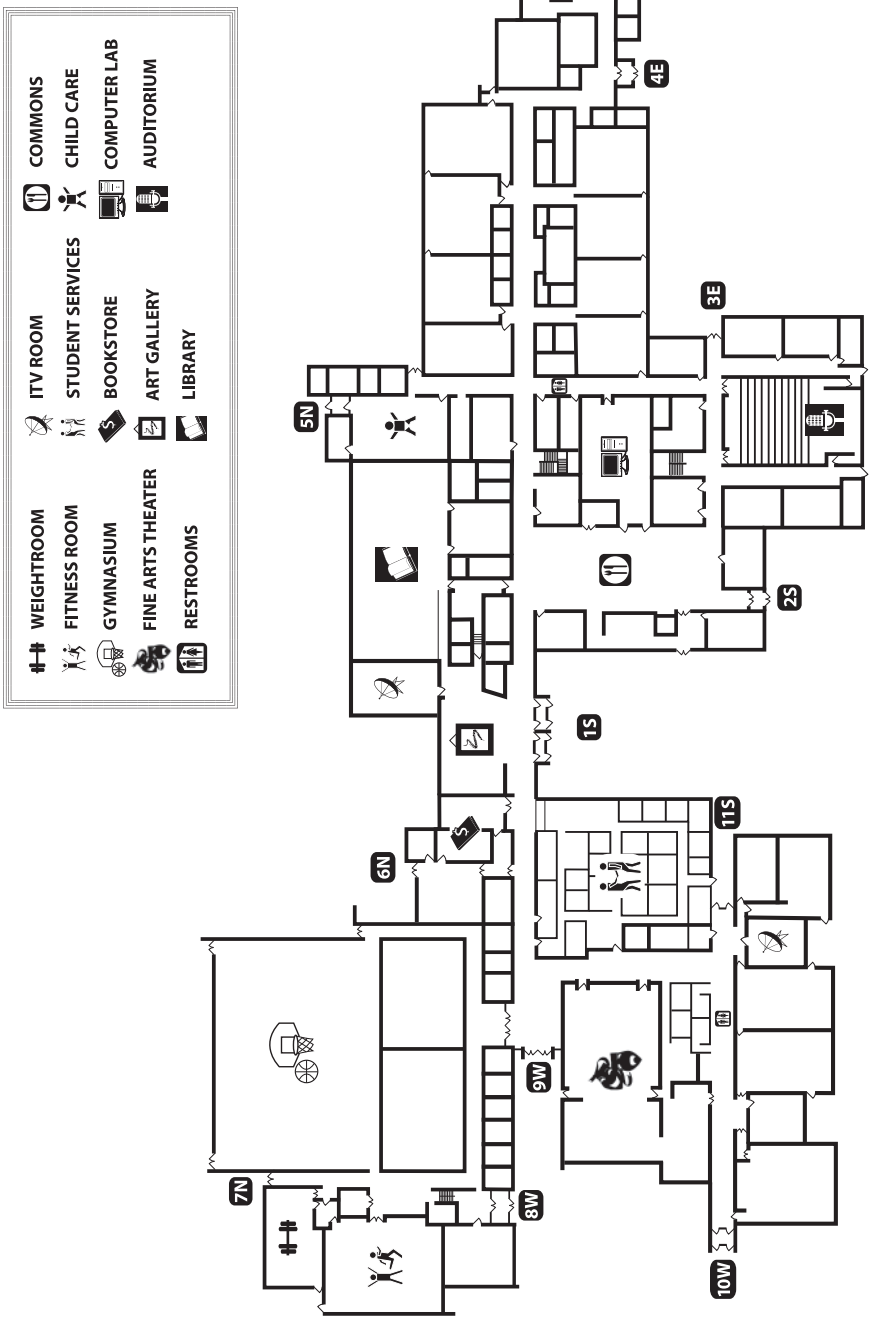

LEVEL 1

MESABI RANGE COMMUNITY & TECHNICAL COLLEGE - VIRGINIA CAMPUS