

# **Table of Contents**

Campus Directory .....	2
History and Mission .....	3
General Information .....	4
Academic Programs .....	6
General Education, Minnesota Transfer Curriculum, Transfer Information, Associate of Arts, Associate of Science, Associate of Applied Science, Diploma, Certificate	
Programs of Study .....	14
Management Programs .....	51
Computerized Small Business Management, Small Business Management, Farm Business Management, Lamb & Wool Management	
Career and Workplace Solutions .....	54
Course Descriptions .....	56
Admission Information .....	109
Applying, Admission to the College, Admission for Immigrants, Admission for Senior Citizens, Financial Aid, Veteran’s Benefits, Student Services, Intercollegiate Athletics.	
Directory of College Administration and Faculty .....	130

## **Disclaimer**

Minnesota West reserves the right to cancel, postpone and re-schedule course offerings as necessary. This catalog is produced from materials available at the time of publication. The College also reserves the right to make changes in catalog information when necessary to correct errors. This document can be made available in alternative formats such as large print, Braille, or audio tape. For the most recent information see [www.mnwest.edu](http://www.mnwest.edu)

**For student rights and conduct policies and appeals see  
[www.mnwest.edu/current-students](http://www.mnwest.edu/current-students)**



## 2020-2022 CATALOG

**Web Site: [www.mnwest.edu](http://www.mnwest.edu)**

**Toll Free: 800-658-2330**

### Campus Addresses and Phone Numbers

**Canby Campus**

1011 First Street West  
Canby, MN 56220  
FAX 507-223-5291

**Fairmont High School**

900 Johnson Street  
Fairmont, MN 56031

**Granite Falls Campus**

1593 11<sup>th</sup> Avenue  
Granite Falls, MN 56241  
FAX 320-564-4582

**Jackson Campus**

P.O. Box 269  
401 West Street  
Jackson, MN 56143  
FAX 507-847-5389

**Luverne Educational Center  
for Health Careers**

311 N. Spring Street  
Luverne, MN 56156  
FAX 507-449-0254

**Marshall Center**

1001 West Erie Road  
PO Box 359  
Marshall, MN 56258  
FAX 507-537-7081  
[www.mnwest.edu/training](http://www.mnwest.edu/training)

**Pipestone Campus**

P.O. Box 250  
1314 North Hiawatha Ave.  
Pipestone, MN 56164  
FAX 507-825-4656

**Worthington Campus**

1450 Collegeway  
Worthington, MN 56187  
FAX 507-372-5803

#### MINNESOTA STATE SYSTEM

Minnesota West Community & Technical College is a member institution of the Minnesota State colleges and universities. Minnesota State is the largest single provider of higher education in the state of Minnesota with 30 community and technical colleges and seven state universities located on 54 campuses.

*"Minnesota West Community & Technical College is an open enrollment institution committed to equal opportunity. Students with limited English proficiency will have equal opportunity in the admissions process."*

**Minnesota State**  
Wells Fargo Place  
30 7th St. E., Suite 350  
St. Paul, MN 55101-7804  
651-296-8012

# History

Minnesota West Community & Technical College is a comprehensive community and technical college with five southwestern Minnesota campuses, located in Canby, Granite Falls, Jackson, Pipestone, and Worthington and two learning centers located in Marshall and Luverne. Minnesota West provides students with the opportunity to earn an Associate Degree, Diploma, or Certificate.

Minnesota West has a long standing tradition of providing quality liberal arts/transfer and technical education. On January 1, 1997, Worthington Community College and Southwestern Technical College merged as Minnesota West Community & Technical College.

The four campuses that comprised Southwestern Technical College began as local area vocational schools. The individual campuses have a history dating back more than 50 years. The campuses were originally under the jurisdiction of the local high school board of education and offered programs that served the local and regional economy. On July 1, 1985, the four area technical institutes at Canby, Granite Falls, Jackson, and Pipestone were officially merged to form Southwestern Technical Institute. The Minnesota State Legislature renamed all technical institutes as technical colleges on July 1, 1989. Southwestern Technical College was a member institution of the former Minnesota Technical College System and on July 1, 1995, became a member institution of Minnesota State.

The former Worthington Community College was established in 1936 as an institution of higher education by and under the jurisdiction of the local school district to meet the post-secondary education needs of the community and surrounding area. The first campus was located in the Worthington High School, and in 1966 the College moved to its current 76 acre campus located to the north of Lake Okabena. In 1964 Worthington Junior College was transferred to the State Junior College Board and was named Worthington State Junior College. In 1973 the name was changed to Worthington Community College and the College was placed under the jurisdiction of the Minnesota Community College System. On July 1, 1995, Worthington Community College became a member institution of Minnesota State.

Two centers in Marshall and Luverne have been added to Minnesota West Community & Technical College to serve the students of those areas.

## **Mission Statement**

Minnesota West Community & Technical College prepares learners for a lifetime of success.

## **Our Vision**

Minnesota West is the regional college of choice.

## **Mission Goals**

1. Implement comprehensive program management
2. Improve curriculum delivery options
3. Develop college resources
4. Increase partnerships
5. Strengthen awareness of Minnesota West identity
6. Improve enrollment management

To view 2017-2023 Strategic Plan see <http://www.mnwest.edu/about/strategic-planning>

# General Information

## Affirmative Action/Nondiscrimination

It is the policy of Minnesota West Community & Technical College to undertake and maintain a program of equal opportunity and of non-discrimination as determined by Minnesota State policy 1B.1 in educational opportunities and employment. 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, gender identity, gender expression or membership or activity in a local commission as defined by law. Contact Karen Miller, Affirmative Action Officer; 1011 First Street West; Canby, MN 56220. Phone 507-223-1335 or email karen.miller@mnwest.edu.

## Individuals with Disabilities

It is the policy of the College to provide access to and encourage participation in programs, services, and activities to qualified individuals with known disabilities as required by Federal and State statutes.

Students with certain types of disabilities should be aware that some programs and courses require specific physical abilities. Please consult with the instructor and/or advisor for possible accommodations prior to enrollment.

College ADA Coordinator for employees is Karen Miller who can be reached at: karen.miller@mnwest.edu

College ADA Coordinator for students is Salome Chonko who can be reached at: salome.chonko@mnwest.edu

## Consumer Information/Student Right to Know

Minnesota West Community & Technical College, in compliance with the Title VI of the Educational Amendments of 1976 to the Higher Education Act and subsequent Federal Legislation, will provide and disseminate consumer information to all prospective and enrolled students. This information shall include, but not be limited to the following: admission requirements, financial aid programs, costs, job placement, probation policy, campus crime statistics, student retention, refund policy, and transfer. Students who do not have a high school diploma or GED can obtain one while attending Minnesota West. The College Deans, Registrar, or the

Student Services staff on each campus are designated as the persons available to all enrolled students and prospective students regarding consumer information. This information is made available upon request through publications and mailings.

## Data Privacy

All actions concerned with data collected and filed or stored at the College shall be administered in compliance with the provisions of Minnesota Statutes, Section 13.01 to 13.87. The President or designee shall be the responsible authority concerning Directory Information or Public Data, Private Data, and Confidential Data. Requests to obtain data should be made under the Minnesota Government Data Practices Act and the College may require a fee to retrieve Public Data.

Under Section 13.04 of the MGDPA, individuals who are the subjects of government data have the right to access private data about themselves or to release this information to other individuals. The subject must make a request in writing and sign the required Minnesota West form for release of this data. There is no fee charged to the individual for accessing or releasing this data.

## Accreditation and Approvals

Minnesota West Community & Technical College is a member of Minnesota State, which consists of 37 public colleges and universities on 54 campuses.

The College is accredited by the Higher Learning Commission, a Commission of the North Central Association of Colleges and Secondary Schools (NCA). View the institutional Self Study and the Request for Institutional Change for the Higher Learning Commission on our website in the "About Us" section.

NCA may be contacted at the following address:

**The Higher Learning Commission**  
30 North LaSalle Street, Suite 2400  
Chicago, IL 60602-2504  
800-621-7440

## **Additional Accrediting and Approval Organizations**

### **Accreditation Commission for Education in Nursing (ACEN), Inc.**

3343 Peachtree Road NE, # 850  
Atlanta, GA 30326  
404-975-5000  
FAX: 404-975-5020

### **American Dental Association**

Commission of Dental Accreditation  
211 East Chicago Avenue  
Chicago, Illinois 60601-2678  
312-440-2500

### **Automotive Service Excellence Education Foundation**

1503 Edwards Ferry Rd. NE  
Suite 401  
Leesburg, VA 20176  
703-669-6650

### **Commission on Accreditation of Allied Health Education Programs**

25400 U.S. Highway 19 North, Suite 158  
Clearwater, FL 33756  
Phone: 727-210-2350  
Fax: 727-210-2354  
The Minnesota West Community & Technical College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Medical Assisting Education Review Board (MAERB).

### **Commission on Accreditation of Allied Health Education Programs (CAAHEP)**

25400 U.S. Highway 19 North, Suite 158  
Clearwater, FL 33763  
Phone: 727-210-2350  
Fax: 727-210-2354  
The Minnesota West Community & Technical College Surgical Technology Program is accredited by the Commission on Accreditation of Allied Health Education ([www.caahep.org](http://www.caahep.org)) upon recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA)

### **Joint Review Committee on Education in Radiologic Technology (JRCERT)**

20 North Wacker Drive, Suite 2850  
Chicago, IL 60606-3182  
312-704-5300

### **Minnesota Board of Nursing**

1210 Northland Drive #120  
Mendota Heights, MN 55120  
612-317-3000

### **Minnesota Board of Peace Officer Standards and Training**

1600 University Avenue, Suite 200  
St. Paul, Minnesota 55104-3825  
651-643-3060

### **Minnesota Department of Agriculture**

90 West Plato Boulevard  
Saint Paul, Minnesota 55107  
651-297-2200

### **Minnesota Department of Commerce Board of Cosmetology**

2829 University Ave SE, Suite 710  
Minneapolis, MN 55414  
651-201-2742

### **Minnesota Department of Labor and Industry**

Board of Electricity  
443 Lafayette Road N  
St Paul, MN 55155  
651-284-5315

### **Minnesota Department of Rehabilitation Services**

390 North Robert Street, 1st Floor  
St. Paul, MN 55101  
651-296-5616

### **Minnesota State Approving Agency for Veterans Education**

MDVA-MN SAA  
206 Veteran's Service Bldg  
20 West 12th Street  
St. Paul, MN 55155-2079  
651-296-2562

### **National Accreditation Agency for Clinical Laboratory Sciences**

8410 West Bryn Mawr Avenue, Suite 670  
Chicago, Illinois 60631  
773-714-8880

### **National Alliance of Concurrent Enrollment Partnership (NACEP)**

PO Box 578  
Chapel Hill, NC 27514  
919-593-5205

### **United States Department of Education**

400 Maryland Avenue, SW  
Washington, DC 20202  
800-872-5327

## **Minnesota Transfer Curriculum and General Education**

Students who complete the Minnesota Transfer Curriculum (MnTC) and then transfer to any other Minnesota public baccalaureate degree-granting university will have fulfilled all lower division general education requirements. There are ten goals within the required credits. One course may fulfill a maximum of two goals; however, credits will only be counted once in total.

Minnesota West Community & Technical College adheres to the General Education definition embedded in the Minnesota General Education Transfer Curriculum guide. Its mission and goals resonate to those ideals.

The MnTC is a framework that integrates a body of knowledge and skills with a study of contemporary concerns – all essential to meeting an individual's social, personal and career challenges. Competencies needed are identified as common membership in the human community; personal responsibility for intellectual, lifelong learning; an awareness that we live in a diverse world; and the basic skills of discovery, integration, application, and communication.

### **Area 1. Communication**

Goal: To develop writers and speakers who use the English language effectively and who read, write, speak, and listen critically. As a base, all students should complete introductory communication requirements early in their collegiate studies. Writing competency is an ongoing process to be reinforced through writing-intensive courses and writing across the curriculum. Speaking and listening skills need reinforcement through multiple opportunities for interpersonal communication, public speaking, and discussion.

Student Competencies: Students will be able to:

1. understand/demonstrate the writing and speaking processes through invention, organization, drafting, revision, editing, and presentation.
2. participate effectively in groups with emphasis on listening, critical and reflective thinking, and responding.
3. locate, evaluate, and synthesize in a responsible manner material from diverse sources and points of view.
4. select appropriate communication choices for specific audiences.
5. construct logical and coherent arguments.
6. use authority, point-of-view, and individual voice and style in their writing and speaking.
7. employ syntax and usage appropriate to academic disciplines and the professional world.

Student Requirements: Students will fulfill this area by completing:

1. ENGL 1101 Composition I (3)  
CMST 1130 Small Group Communications
2. One of the following: ENGL 1102 Composition II (3), ENGL 2243 Creative Writing (3), or ENGL 2276 Technical Writing (3)
3. One of the following: CMST 1101 Public Speaking (3), CMST 1103 Interpersonal Communications (3)

### **Area 2. Critical Thinking**

Goal: To develop thinkers who are able to unify factual, creative, rational, and value-sensitive modes of thought. Critical thinking skills will be taught and used throughout the general education curriculum in order to develop students' awareness of their own thinking and problem-solving procedures. To integrate new skills into their customary ways of thinking, students must be actively engaged in practicing thinking skills and applying them to open-ended problems.

Student Competencies: Students will be able to:

1. gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected.
2. imagine and seek out a variety of possible goals, assumptions, interpretations, or perspectives which can give alternate meanings or solutions to given situations or problems.
3. analyze the logical connections among the facts, goals, and implicit assumptions relevant to a problem or claim; generate and evaluate implications that follow from them.
4. recognize and articulate the value assumptions which underlie and affect decisions, interpretations, analyses, and evaluations made by ourselves and others.

Student Requirements: Students will fulfill this area by completing:

40 or more credits of general education. Most courses teach one or more of the critical thinking student competency areas.

### **Area 3. Natural Sciences**

Goal: To improve students' understanding of natural science principles and of the methods of scientific inquiry, i.e., the ways in which scientists investigate natural science phenomena. As a basis for lifelong learning, students need to know the vocabulary of science and to realize that while a set of principles has been developed through the work of previous scientists,

ongoing scientific inquiry and new knowledge will bring changes in some of the ways scientists view the world. By studying the problems that engage today's scientists, students learn to appreciate the importance of science in their lives and to understand the value of a scientific perspective. Students should be encouraged to study both the biological and physical sciences.

Student Competencies: Students will be able to:

1. demonstrate understanding of scientific theories.
2. formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
3. communicate their experimental findings, analyses, and interpretations both orally and in writing.
4. evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

Student Requirements: Students will fulfill this area by completing a minimum of two science courses:

1. One course must be from Biology:  
BIOL 1100 Survey of Biology (3)  
BIOL 1110 Principles of Biology I (4)  
BIOL 1115 Human Biology (3)  
BIOL 2100 Ecology (3)  
BIOL 2201 Human Anatomy (4)  
BIOL 2202 Human Physiology (4)  
BIOL 2220 Animal Biology (4)  
BIOL 2230 Plant Biology (4)  
BIOL 2240 Genetics (3)  
BIOL 2270 Microbiology (4)
2. One course must be from Chemistry or Physics:  
CHEM 1100 Introduction to Chemistry (3)  
CHEM 1101 General Inorganic Chemistry I (4)  
CHEM 1150 Survey of Chemistry (4)  
CHEM 2201 Organic Chemistry I (5)  
CHEM 2202 Organic Chemistry II (5)  
PHYS 1150 Survey of Astronomy (3)  
PHYS 1100 Survey of Physics (3)  
PHYS 1201 Fundamentals of Physics I (4)  
PHYS 1202 Fundamentals of Physics II (4)  
PHYS 2121 General Physics I (5)

#### **Area 4. Mathematical/Logical Reasoning**

Goal: To increase students' knowledge about mathematical and logical modes of thinking. This will enable students to appreciate the breadth of applications of mathematics, evaluate arguments, and detect fallacious reasoning. Students will learn to apply mathematics, logic, and/or statistics to help them make decisions in their lives and careers. Minnesota's public

higher education systems have agreed that developmental mathematics includes the first three years of a high school mathematics sequence through intermediate algebra. (Recommendation from the intersystem Mathematics Articulation Council. Adopted by all systems in February 1992.)

Student Competencies: Students will be able to:

1. illustrate historical and contemporary applications of mathematical/logical systems.
2. clearly express mathematical/logical ideas in writing.
3. explain what constitutes a valid mathematical/logical argument (proof).
4. apply higher-order problem-solving and/or modeling strategies.

Student Requirements: Students will fulfill this area by completing any one of the listed courses:

1. Any 3-5 credit Math course numbered MATH 1105 or higher:  
MATH 1105 Intro to Probability and Statistics (4)  
MATH 1107 Concepts in Math (3)  
MATH 1111 College Algebra (3)  
MATH 1113 Pre-Calculus (4)  
MATH 1118 Applied Calculus (4)  
MATH 1121 Calculus (4)
2. PHIL 1200, Logic (3)

#### **Area 5. History and the Social and Behavioral Sciences:**

Goal: To increase students' knowledge of how historians and social and behavioral scientists discover, describe, and explain the behaviors and interactions among individuals, groups, institutions, events, and ideas. Such knowledge will better equip students to understand themselves and the roles they play in addressing the issues facing humanity.

Student Competencies: Students will be able to:

1. employ the methods and data that historians and social and behavioral scientists use to investigate the human condition.
2. examine social institutions and processes across a range of historical periods and cultures.
3. use and critique alternative explanatory systems or theories.
4. develop and communicate alternative explanations or solutions for contemporary social issues.

Student Requirements: Students will fulfill this area by completing a minimum of 9 credits from three of the following areas:

Criminal Justice

CJS 1101 Introduction to Criminal Justice (3)

Economics

ECON 1101 Introduction to Economics (3)

*No credit if ECON 2201 or 2202 has been previously completed*

ECON 2201 Principles of Macroeconomics (3)

ECON 2202 Principles of Microeconomics (3)

#### Education

EDUC 2900 Introduction to Education (3)

#### Geography

GEOG 1100 Introduction to Geography (3)

#### History

HIST 1101 American History I (4)

HIST 1102 American History II (4)

HIST 1105 Minnesota History (3)

HIST 2202 Modern American Wars (3)

#### Political Science

PSCI 1101 Introduction to Political Science (3)

PSCI 1201 American Government & Politics (3)

PSCI 2202 State and Local Government (3)

PSCI 2210 Environmental Politics (3)

#### Psychology

PSYC 1101 Introduction to Psychology (4)

PSYC 1150 Developmental Psychology (3)

#### Sociology

SOC 1101 Introduction to Sociology (3)

SOC 1102 Social Problems (3)

SOC 2210 Marriage and the Family (3)

## Area 6. The Humanities and Fine Arts

Goal: To expand students' knowledge of the human condition and human cultures, especially in relation to behavior, ideas, and values expressed in works of human imagination and thought. Through study in disciplines such as literature, philosophy, and the fine arts, students will engage in critical analysis, form aesthetic judgments, and develop an appreciation of the arts and humanities as fundamental to the health and survival of any society.

Student Competencies: Students will be able to:

1. demonstrate awareness of the scope and variety of works in the arts and humanities.
2. understand those works as expressions of individual and human values within an historical and social context.
3. respond critically to works in the arts and humanities.
4. engage in the creative process or interpretive performance.
5. articulate an informed personal reaction to works in the arts and humanities.

Student Requirements: Students will fulfill this area by completing a minimum of 9 credits from three of the following departments (note: a minimum of two credits must be taken from each of the three countable areas):

#### Art

ART 1101 Beginning Drawing (3)

ART 1103 Display and Exhibition (1)

ART 1114 Watercolor (3)

ART 1115 Beginning Painting (3)

ART 1118 Arts and Crafts (3)

ART 1120 Art Appreciation (3)

ART 1124 Introduction to Ceramics (3)

ART 1224 Investigations in Raku (3)

ART 2230 Computer Graphics (3)

\*ART 2235 Special Topics (1-3)

ART 2240 Art History (3)

ART 2245 Art History II (3)

#### English

ENGL 1105 Introduction to Literature (3)

ENGL 1120 Introduction to Women's Literature (3)

ENGL 1141 Writing and Reading Poetry (2)

ENGL 1143 Writing and Reading Fiction (2)

ENGL 2201 American Literature (3)

ENGL 2202 Modern American Literature II (3)

ENGL 2221 Early British Literature (3)

ENGL 2222 Modern British Literature (3)

ENGL 2203 Midwestern Literature (3)

ENGL 2231 Classical Mythology (2)

\*ENGL 2235 Special Topics in Literature (1-3)

#### History

HIST 1111 Western Civilization I (3)

HIST 1112 Western Civilization II (3)\*\*

#### Humanities

HUM 2121 The Turbulent '60s (4)

HUM 2201 The Many Faces of Mexico (2)

#### Music

MUSC 1101 Fundamentals of Music (3)

MUSC 1102 Introduction to Music Technology (3)

MUSC 1104 American Popular Music (3)

MUSC 1105 Enjoying Music (3)

MUSC 1110 Introduction to Rock Music (3)

MUSC 1111, 1112, 2111, 2112 Chorale (1)

MUSC 1131, 1132, 2131, 2132 Pop Singers (1)

MUSC 1140, 1141, 2140, 2141 Piano Lessons (1)

MUSC 1145, 1146, 2145, 2146 Vocal Lessons (1)

#### Philosophy

PHIL 1101 Introduction to Philosophy (3)

PHIL 1102 Philosophy of Religion (2)

PHIL 2101 Ethics Theory & Practices (3),

PHIL 2201 Introduction to Ethical Theory (1)

PHIL 2230 World Religions (3)

One of the following three: PHIL 2202 General

Applied Ethics (1) PHIL 2205 Business Ethics (2)

PHIL 2222 Medical Ethics (1)

#### Speech

CMST 2210 Oral Interpretation (3)

#### Spanish

SPAN 1101 Spanish I (4)

SPAN 1102 Spanish II (4)

SPAN 2201 Spanish III (4)

SPAN 2202 Spanish IV (4)

#### Theater

THTR 1101 Introduction to Theater (3)

THTR 1102 Acting Basics (2)

THTR 1104 Survey of Musical Theater (3)



THTR 1105, 1106, 2105, 2106 Theater Production (1-3)

THTR 2122 Introduction to Film (3)

\*THTR 2235 Special Topics (1-3)

\* Special topics classes are presented to the Curriculum Committee prior to being taught. They are accepted as credits in a transfer curriculum area only if it is satisfactorily documented to the Curriculum Committee that more than 50 percent of the student competencies listed for that area are accomplished.

## Area 7. Human Diversity

Goal: To increase students' understanding of individual and group differences (e.g., race, gender, class) and their knowledge of the traditions and values of various groups in the United States. Students should be able to evaluate the United States' historical and contemporary responses to group differences.

Student Competencies: Students will be able to:

1. understand the development of and the changing meanings of group identities in the United States' history and culture.
2. demonstrate an awareness of the individual and institutional dynamics of unequal power relations between groups in contemporary society.
3. analyze their own attitudes, behaviors, concepts and beliefs regarding diversity, racism, and bigotry.
4. describe and discuss the experience and contributions (political, social, economic, etc.) of the many groups that shape American society and culture, in particular those groups that have suffered discrimination and exclusion.
5. demonstrate communication skills necessary for living and working effectively in a society with great population diversity.

Student Requirements: Students will fulfill this area by completing any one of the listed courses (2 credit minimum):

CMST 1120 Intercultural Communications (3)

CMST 1140 Topics in Communication (3)

EDUC 1100 Introduction to Education (3)

ENGL 1105 Introduction to Literature (3)

ENGL 1120 Introduction to Women's Literature (3)

ENGL 2201 American Literature (3)

ENGL 2202 Modern American Literature II (3)

ENGL 2221 Early British Literature (3)

ENGL 2222 Modern British Literature (3)

\*ENGL 2235 Special Topics in Literature (2-3)

HIST 1101 American History I (4)

HIST 1102 American History II (4)

HIST 1121 World History I (3)

HIST 1122 World History II (3)

HUM 2201 The Many Faces of Mexico (2)

HUM 2121 The Turbulent 60's (4)

\*HUM 2235 Special Topics in Humanities (2-3)

PSYC 1101 Introduction to Psychology (4)

PSYC 1150 Developmental Psychology (3)

SOC 1102 Social Problems (3)

SOC 2100 Human Relations (3)

SOC 2210 Marriage and the Family (3)

SOC 2224 Racial & Ethnic Minorities (3)

\*SOC 2235 Special Topics in Sociology (2-3)

\* Special topics classes are presented to the Curriculum Committee prior to being taught. They are accepted as credits in a transfer curriculum area only if it is satisfactorily documented to the Curriculum Committee that more than 50 percent of the student competencies listed for that area are accomplished.

## Area 8. Global Perspective

Goal: To increase students' understanding of the growing interdependence of nations and peoples and develop their ability to apply a comparative perspective to cross-cultural social, economic and political experiences.

Student Competencies: Students will be able to:

1. describe and analyze political, economic, and cultural elements which influence relations of states and societies in their historical and contemporary dimensions.
2. demonstrate knowledge of cultural, social, religious and linguistic differences.
3. analyze specific international problems, illustrating the cultural, economic, and political differences that affect their solution.
4. understand the role of a world citizen and the responsibility world citizens share for their common global future.

Student Requirements: Students will fulfill this area by completing any one of the listed courses for a minimum of 2 credits:

ART 2240 Art History I (3)

ART 2245 Art History II (3)

CMST 1120 Intercultural Communications (3)

CMST 1140 Topics in Communication (3)

ENGL 2222 Modern British Literature (3)

GEOG 1100 Intro to Geography (3)

HIST 1111 Western Civilization I (3)

HIST 1112 Western Civilization II (3)

HIST 1121 World History I (3)

HIST 1122 World History II (3)

NSCI 1100 Issues in the Environment (3)

PHIL 2230 World Religions (3),

PSCI 1101 Intro to Political Science (3)

SOC 2100 Human Relations (3)

SOC 2224 Racial and Ethnic Minorities (30)

SPAN 1101 Spanish I (4)

SPAN 1102 Spanish II (4)

SPAN 2201 Spanish III (4)

SPAN 2202 Spanish IV (4)

## Area 9. Ethical and Civic Responsibility

Goal: To develop students' capacity to identify, discuss, and reflect upon the ethical dimensions of political, social, and personal life and to understand the ways in which they can exercise responsible and productive citizenship. While there are diverse views of social justice or the common good in a pluralistic society, students should learn that responsible citizenship requires them to develop skills to understand their own and others' positions, be part of the free exchange of ideas, and function as public-minded citizens.

Student Competencies: Students will be able to:

1. examine, articulate, and apply their own ethical views.
2. understand and apply core concepts (e.g., politics, rights and obligations, justice, liberty) to specific issues.
3. analyze and reflect on the ethical dimensions of legal, social, and scientific issues.
4. recognize the diversity of political motivations and interests of others.
5. identify ways to exercise the rights and responsibilities of citizenship.

Student Requirements: Students will fulfill this area by completing any one of the listed courses for a minimum of 2 credits:

HIST 2202 Modern American Wars (3),  
PHIL 2101 Ethics Theory & Practices (3),  
PHIL 2235 Environmental Ethics (2),  
PHIL 2201 Introduction to Ethical Theory (1)  
PHIL 2235 Environmental Ethics (2)

One of the following three: PHIL 2202 General Applied Ethics (1), PHIL 2205 Business Ethics (2), PHIL 2222 Medical Ethics (1),

PSCI 1201 American Government and Politics (3)  
PSCI 2202 State and Local Government (3)

## Area 10. People and the Environment

Goal: To improve students' understanding of today's complex environmental challenges. Students will examine the interrelatedness of human society and the natural environment. Knowledge of both biophysical principles and sociocultural systems is the foundation for integrative and critical thinking about environmental issues.

Student Competencies: Students will be able to:

1. explain the basic structure and function of various natural ecosystems and of human adaptive strategies within those systems.
2. discern patterns and interrelationships of biophysical and sociocultural systems.
3. describe the basic institutional arrangements (social, legal, political, economic, religious) that are evolving to deal with environmental and natural resource challenges.
4. evaluate critically environmental and natural resource issues in light of understandings about interrelationships, ecosystems, and institutions.
5. propose and assess alternative solutions to environmental problems.
6. articulate and defend the actions they would take on various environmental issues.

Student Requirements: Students will fulfill the area by completing any one of the listed courses (2 credit minimum):

NSCI 1100 Issues in the Environment (3)  
PHIL 2235 Environmental Ethics (2)  
PSCI 2210 Environmental Politics (3)  
GEOG 1101 Intro to Physical Geography (3)  
GEOG 2140 Intro to Meteorology (3)

## Transfer Information

### Preparing for Transfer

Students currently enrolled at Minnesota West Community & Technical College:

1. Discuss plans with the campus Student Services Advisor.
2. Review the information on the Minnesota Transfer Web site at <http://www.mntransfer.org/>
3. Call or visit intended transfer college.
4. Obtain the following materials and information: college catalog, transfer brochure, course syllabi, information on admissions criteria and on materials required for admission (e.g., portfolio, transcripts, test scores).
5. Review these materials and make an appointment to talk with an advisor. Bring a current college transcript for the Student Services Advisor, transfer specialist and department/faculty advisor to review. Transcripts from any college that is part of the Minnesota State system are available electronically for the advisors to view.

### Understanding How Transfer Works

1. The receiving college or university decides which credits transfer and whether those credits meet its degree requirements. The accreditation of both the sending and the receiving institution can affect the transfer of the credits earned.
2. Institutions accept credits from courses and programs like those they offer. They look for similarity in course goals, content, and level. "Like" transfers to "like."
3. Not everything that transfers counts toward graduation. Baccalaureate degree programs usually count credits in three categories: general education, major/minor courses and prerequisites, and electives.
4. If there are changes in career goals or major, student may be able to complete all degree requirements within the usual number of graduation credits.
5. Apply for transfer admission as early as possible and prior to the deadline. Be sure to enclose application fees and other required documents.
6. If student has not heard from the intended college of transfer after one month, they should call or check on the application's status.
7. The transfer college will send a written evaluation of which courses transfer and which do not. How courses specifically meet degree requirements may

not be decided until orientation or a major is chosen.

8. For questions about evaluation, call the college and speak with the transfer specialist. If not satisfied, student may appeal.

### Your Rights as a Transfer Student

1. A clear, understandable statement of an institution's transfer policy.
2. A fair credit review and an explanation of why credits were or were not accepted.
3. A copy of the formal appeals process.
4. A review, on request, of student eligibility for financial aid or scholarships.

### Transferology

Transferology is a free web-based transfer information system that can be accessed by any Internet user ([www.transferology.com](http://www.transferology.com)).

Users have direct access to information on courses, course equivalencies, and program requirements among participating institutions across Minnesota and the United States. Transferology enables students to immediately see how courses will transfer and apply towards a degree at a Transferology institution.

Using Transferology, students can

- **view course equivalency guides** to see how courses transfer from one institution to another.
- **view degree program requirements** to see what is expected to complete a particular degree program.
- **maintain a list of courses** and grades for use in running a planning guide.
- **run an unofficial planning guide** (degree audit) to see how courses may transfer and apply to a degree program.
- **view course descriptions** directly from Transferology or from a Transferology institution's Web site.

Note:

Information obtained through Transferology should be considered unofficial and must be verified through the Records Department of the degree granting school.

## **Degree & Award Requirements**

### **Degrees & Awards**

The following degrees and awards are available through Minnesota West:

Associate of Arts (A.A.)  
 Associate of Science (A.S.)  
 Associate of Applied Science (A.A.S.)  
 Diploma  
 Certificate

### **Minnesota State Transfer Pathway Degrees**

Through Transfer Pathways, students enrolled at Minnesota State's two-year colleges can select a course of study that will prepare them to complete related bachelor's degrees at any Minnesota State universities that offers a degree in that field. Students who complete the transfer degree will be guaranteed junior status upon admission to the university. The student will still need to meet any special admission requirement for the major. The bachelor's degree can be completed in 60 additional credits.

Transfer Pathway degrees are listed on the college web site under Programs and Courses.

### **Associate of Arts (A.A.) Degree Requirements**

Minnesota West offers the first two years of course work that is designed to transfer to a baccalaureate degree at four year colleges and universities. Some examples of transfer majors for which Minnesota West offers an emphasis in, for the first two years of preparation (A.A.) are listed below. Students pursuing this option will graduate with a Liberal Arts A.A. degree from Minnesota West

Art	Liberal Arts
Biology-Fish-Wildlife	Management Information Systems
Business Administration	Mathematics
Business Education	Music
Business – PreBusiness	Physical Education
Computer Information Science	Pre-Dental Hygiene
Economics	Pre-Law
Education – Elementary, Secondary and Special	Psychology
English	Recreational/Parks Administration
Environmental Sciences	Sociology
Health	Theater

The Associate of Arts Degree can be used to fulfill the freshman-sophomore general education requirements at all state universities in Minnesota, at all colleges within the University of Minnesota and at most other four-year

colleges and universities. The degree is the basic graduation award toward which most students will work if they intend to transfer. It emphasizes a broad general education.

**To earn an A.A. degree**, students must complete the following requirements:

1. A minimum of 60 credits, 15 of which must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.00 ("C") or better.
3. A minimum of 40 credits of general education that fulfills the [Minnesota Transfer Curriculum](#). Students must meet credit requirements in each of the ten listed areas of emphasis. Courses may count in no more than two of the areas of emphasis, but no individual course can count more than once in Areas 1-6. One-credit courses will apply to the MTC only if two or more one-credit courses are completed in the same discipline (i.e. two semesters of Chorale or two semesters of Theater Production).
4. STSK 1110 Freshman Seminar (1) Credit.
5. A minimum of four credits from two of the following areas, HLTH 1101, CSCI 1102, or any Physical Education course.
6. Electives sufficient to total 60 credits.

### **Associate of Science (A.S.) Degree Requirements**

Minnesota West Community & Technical College offers the first two years of various majors leading to the baccalaureate or professional degree in several technical areas. This list is not all-inclusive. Students may work toward the Associate of Science (A.S.) degree with one or more of the following as their major field:

Agriculture	Nursing
Agri. Business	Office Management
Ag Production Management	Pre-Chiropractic
Business Management	Pre-Engineering
Chemistry	Pre-Food Science
Child Development	Pre-Forestry/Natural Resources
Communication Studies	Pre-Human Services
Computer Applied Technology	Pe-Medicine
Computer Science	Plant Science
Computer Science 2+2 with SMSU	Web Development
Elementary Education	Management and Supervision in Healthcare
Individualized Studies	
Law Enforcement	
Network Specialist	

Students planning to continue their education in engineering, medicine, medical technology, pharmacy, veterinary medicine and other such fields are advised to carefully plan their programs with an advisor. In such cases, students are encouraged to follow the requirements of the institution to which they will be transferring.

**To earn an A.S. degree**, students must complete the following requirements:

1. 60 semester credits of which at least 15 must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.0 ("C") or better.
3. A minimum of 30 credits selected from at least 6 of the 10 goal areas in the Minnesota Transfer Curriculum.
4. Fulfill at least a 30 credit core of technical courses unique to the program being completed.

### **Associate of Applied Science (A.A.S.) Degree Requirements**

The Associate of Applied Science Degree is granted for successful completion of occupational programs. The A.A.S. career programs are designed to prepare students for entry into chosen occupations. An A.A.S. degree may be designed to transfer to a related baccalaureate major. Students planning to continue for a four-year degree should be aware that acceptance of degree/technical credits at the four-year institution is dependent upon the policies of the institution.

**To earn an A.A.S. degree**, students must complete the following requirements:

1. 60-72 semester credits, 15 of which must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.0 ("C") or better.
3. 30 semester credits shall be program related, occupational or technical credits.
4. Degrees and Awards must include a minimum of 15 credits in general education, selected from three of the ten goal areas of the Minnesota Transfer Curriculum.

### **Diploma Requirements**

A diploma may be awarded for successful completion of a program intended to provide students with employment skills. The diploma programs are identified in the Programs of Study section of the catalog and require:

1. Between 30-72 semester credits.
2. If diplomas are awarded for under 45 credits, general education courses may be required as part of the program and are established through consultation with the program advisory committee.

3. If diplomas are awarded for 45 credits or more, 15% of the credits must be in general education or seek advisory committee approval requesting a waiver to require a minimum of 6 general education credits.
4. At least 1/3 (33%) of the credits must be completed at Minnesota West.
5. A grade point average of 2.0 ("C") or better is required.

### **Certificate Requirements**

1. 9 - 30 semester credits.
2. 0 general education courses required
3. 100% of credits shall be completed at Minnesota West for certificates 9-15 credits in length and at least 12 credits for certificates 16-30 credits in length.
4. A grade point average of 2.0 ("C") or better is required.

### **Honorary Degree**

Honorary degrees may be awarded by Minnesota West Community & Technical College. The College may award an honorary degree based upon the intended recipient's field(s) of contributions, achievement, service, and distinction.

# Programs of Study

## **Accountant, A.A.S.**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington and Online**

Accountants examine, analyze and interpret accounting data for the purpose of giving advice and preparing financial statements. Accountants also post details of business transactions, such as receipts, disbursements and payroll.

General Education Requirements			
ENGL	1101	Composition I	3
ECON		Any ECON Course	3
NSCI	1101	Issues in the Environment	3
		or	
		Goal Area 3 (Science or Math)	3
		Goal Area 6 (Humanities & Fine Arts)	3
		General Education Electives	3
		<b>Total General Education</b>	<b>15</b>
ACCT	1105	Accounting Information Systems	1
ACCT	1110	Payroll Accounting	3
ACCT	1115	Computerized Acct Applications I	2
ACCT	1120	Spreadsheet Concepts & Applications	2
ACCT	1122	Database Concepts & Applications	2
ACCT	2100	Intermediate Accounting I	4
ACCT	2101	Intermediate Accounting II	2
ACCT	2110	Income Tax I	4
ACCT	2115	Cost Accounting I	4
ACCT	2120	Fund/Nonprofit Accounting	3
ACCT	2125	Computerized Acct Applications II	2
ACCT	2130	Intermediate Accounting III	2
		or	
ACCT	2135	Internship	2
BUS	1104	Business Math	3
BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4
BUS	2241	Business Law	3
		<b>Total Credits</b>	<b>60</b>

## **Accountant, Diploma**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington and Online**

Accountants examine, analyze and interpret accounting data for the purpose of giving advice and preparing financial statements. Accountants also post details of business transactions, such as receipts, disbursements and payroll.

ACCT	1105	Accounting Information Systems	1
ACCT	1110	Payroll Accounting	3
ACCT	1115	Computerized Acct Applications I	2
ACCT	1120	Spreadsheet Concepts & Applications	2
ACCT	2100	Intermediate Accounting I	4
ACCT	2101	Intermediate Accounting II	2
ACCT	2110	Income Tax I	4
ACCT	2115	Cost Accounting I	4
ACCT	2120	Fund/Nonprofit Accounting	3
ACCT	2125	Computerized Accounting Applications II	2
ACCT	2130	Intermediate Accounting III	2
		or	
ACCT	2135	Internship	2
BUS	1104	Business Math	3
BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4
BUS	2241	Business Law	3

## **General Education or Related Electives – 6 credits:**

ENGL	1101	Composition I	3
Choose from:			
ECON	1101	Introductions to Economics	3
ECON	2201	Principles of Macroeconomics	3
ECON	2202	Principles of Microeconomics	3
		<b>Total Credits</b>	<b>51</b>

## **Accounting Clerk, Diploma**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington and Online**

An accounting clerk performs any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. They also post details of business transactions, such as receipts, disbursements and payroll, reconcile bank statements, and type vouchers, invoices, and other records.

ACCT	1105	Accounting Information Systems	1
ACCT	1110	Payroll Accounting	3
ACCT	1115	Computerized Acct. Applications I	2
ACCT	1120	Spreadsheet Concepts & Applications	2
ACCT	1122	Database Concepts & Applications	2
ADSA	1122	Word Processing I	2
BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4
BUS	2241	Business Law	3
BUS	1104	Business Math	3
CSCI	1102	Introduction to Microcomputers	3
		Electives	1
		<b>Total Credits</b>	<b>30</b>

## **Accounting, Certificate**

**Location: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

Students in the program will receive basic accounting knowledge which can be used immediately in the workplace or as part of a two year Accounting or Business degree. Students will focus on fundamental accounting principles and practices.

BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4
ACCT	1120	Spreadsheet Concepts	2
		Two Business or Accounting Courses	6
		<b>Total Credits</b>	<b>16</b>

## **Administrative Assistant, A.A.S.**

**Location: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

An Administrative Assistant's duties may include business communications, word processing and data entry, office machines operations and maintenance, office management, public relations, office accounting, filing systems, records management, and report preparation.

ACCT	1120	Spreadsheet Concepts & Applications	2
ACCT	1122	Database Concepts & Applications	2
ADSA	1100	College Keyboarding I	3
ADSA	1105	College Keyboarding II	3
ADSA	1111	Office Management	3
ADSA	1122	Word Processing I	2

ADSA	1123	Word Processing II	2
ADSA	1126	Advanced Office Applications	2
ADSA	1130	Office Accounting Concepts	3
ADSA	1131	Office Accounting Concepts II	2
ADSA	1136	Desktop Publishing	2
ADSA	1141	Customer Service for Office Profession	2
ADSA	1145	Supervisory Management	3
or			
BUS	2221	Principles of Management	3
ADSA	1190	Presentation Graphics	2
BUS	1104	Business Math	3
BUS	2242	Business Communications	3
CMST	1101	Public Speaking	3
CSCI	1102	Introduction to Microcomputers	3
CST	2326	Web Page Concepts	2
GSCL	1105	Job Seeking Skills	1
ENGL	1101	Composition I	3
NSCI	1101	Issues in the Environment	3
or			
		Area 3 or 4 (Science or Math)	3
		Area 5 History and Social Science	3
		Humanities Electives	3
		<b>Total Credits</b>	<b>60</b>

**Administrative Assistant, Diploma**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

An Administrative Assistant's duties may include business communications, word processing and data entry, office machines operations and maintenance, office management, public relations, secretarial accounting, filing systems and records management, and report preparation.

ACCT	1120	Spreadsheet Concepts and Applications	2
ACCT	1122	Database Concepts and Applications	2
ADSA	1100	College Keyboarding I	3
ADSA	1105	College Keyboarding II	3
ADSA	1111	Office Management	3
ADSA	1122	Word Processing I	2
ADSA	1123	Word Processing II	2
ADSA	1126	Advanced Office Applications	2
ADSA	1130	Office Accounting Concepts	3
ADSA	1141	Customer Service for Office Professionals	2
ADSA	1190	Presentation Graphics	2
BUS	2242	Business Communications	3
CSCI	1102	Introduction to Microcomputers	3
GSCL	1105	Job Seeking Skills	1
		Electives	2
		<b>Total Credits</b>	<b>35</b>

**Receptionist, Certificate**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

Receptionists perform a wide variety of office tasks such as: keyboarding or typing business correspondences, reports, business forms, and other documents using word processing equipment. They also greet customers and other visitors, determine their needs and refer callers to the person who can help them. When not busy with callers, they may type, file, operate a switchboard, open and sort mail, schedule appointments, prepare travel vouchers and do simple bookkeeping.

ACCT	1120	Spreadsheet Concepts	2
ADSA	1100	College Keyboarding I	3

ADSA	1111	Office Management	3
ADSA	1122	Word Processing I	2
ADSA	1141	Customer Service for Office Profession	2
BUS	2242	Business Communications	3
Choose one of the following electives:			
ADSA	1190	Presentation Graphics	2
ADSA	1136	Desktop Publishing	2
ACCT	1122	Database Concepts	2
		<b>Total Credits</b>	<b>17</b>

**Agriculture, A.S.**

**Location: Worthington**

Students selecting this option can transfer to upper division institutions with majors in several broad agriculture areas. Students are encouraged to review the requirements of the College to which they intend to transfer and discuss their plans with an advisor or the instructors in that area. The following specific requirements are designed to help students attain the basic transfer requirements for most four-year institutions offering agriculture.

**Agriculture Business, A.S.**

**Location: Worthington**

This two-year program is designed to prepare students for employment in agri-business or for continuing their education at a four-year institution. Graduates of this program may find job opportunities in sales, services, and management positions in agriculture related firms and industries. Students who plan to transfer are encouraged to review the requirements of the transfer institutions and plan their programs accordingly. Students in this program will receive the A.S. degree upon successful completion of the following requirements and suggested courses:

**Business Courses - a minimum of 12 credits including:**

BUS	1101	Introduction to Business	4
BUS	2201	Principles of Accounting I	4
AGRI	2251	Principles of Farm & Ranch Mgmt	4

**Agriculture Courses - a minimum of 18 credits including an Agri-business internship of at least 2 credits.**

**Agriculture credits may be chosen from the following:**

AGRI	1101	Intro to Animal Science	3
AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	1110	Introduction to Horticulture	3
AGRI	1121	Dairy Technician	2
AGRI	1125	Custom Application	2
AGRI	1151	Farm Records & Bus. Analysis	4
AGRI	1152	Ag Marketing & Pricing	3
AGRI	2201	Principles of Animal Nutrition	3
AGRI	2202	Weed Science	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	Introduction to Precision Agriculture	3
AGRI	2212	Corn & Soybean Production	3
AGRI	2214	Machinery Principles & Mgt.	3
AGRI	2216	Introduction to Meat Science	3
AGRI	2235	Special Topics in Agriculture	1-3
AGRI	2251	Principles of Farm & Ranch Mgt.	4
AGRI	2299	AGRI-Business Internship	2-8

**Agriculture Business Management and Marketing, A.A.S.****Location: Worthington**

This program prepares students for employment in agri-business. Graduates may find employment opportunities in sales, services, marketing or management positions in the agriculture business sector.

**Required General Education from the following (15 credits required):**

CMST	1101	Public Speaking	3
ENGL	1101	Composition I	3
ECON	2201	Macro Economics	3
ECON	2202	Micro Economics	3
NSCI	1100	Issues in the Environment	3
PSCI	2202	State and Local Government	3
		Math Elective (Math 1105 or higher)	3
		Humanities Elective	3

**Ag Business Management Core Requirements (25 credits required):**

BUS	1101	Introduction to Business	4
BUS	2201	Principles of Accounting I	4
BUS	2221	Principles of Management	3
BUS	2230	Principles of Marketing	3
AGRI	1151	Farm Records & Business Mgt.	3
AGRI	1152	Marketing and Pricing	3
AGRI	2235	Special Topics Ag Marketing	3
AGRI	2251	Farm and Ranch Management	3

**Ag Business Management Agriculture Requirements (32 credits required):**

AGRI	1101	Introduction to Animal Science	3
AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	1110	Introduction to Horticulture	3
AGRI	1125	Custom Application	2
AGRI	2201	Principles of Animal Nutrition	3
AGRI	2202	Weed Science	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	Introduction to Precision Agriculture	3
AGRI	2205	Intro to Precision Mgt. Software	3
AGRI	2212	Corn and Soybean Production	3
AGRI	2214	Machinery Principles & Management	3
AGRI	2216	Introduction to Meat Science	3
AGRI	2299	Ag Business Internship	2-11
		<b>Total Credits</b>	<b>72</b>

**Agriculture - Plant Science GIS/GPS, A.S.****Location: Worthington**

The Plant Science GIS/GPS Associate of Science degree is designed to provide students with several options. One option is a career in the emerging field of Precision Agriculture. Examples of employment would include soil gridding, nutrient management planning and variable rate application. The second option allows the student to continue on to a Bachelor's degree in this field with an emphasis in Agronomy.

AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	2202	Weed Science	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	Introduction to Precision Agriculture	3
AGRI	2205	Introduction to Precision Management Software	3
AGRI	2212	Corn & Soybean Production	3
BIOL	1110	Principles of Biology I	4

BIOL	2230	Plant Biology	4
ENGL	1101	Composition I	3
CHEM	1101	General Inorganic I	5
CMST	1101	Public Speaking	3
ECON	2201	Macroeconomics	3
GEOG	1100	Introduction to Geography	3
MATH	1111	College Algebra	3
PHIL	1101	Introduction to Philosophy	3
PHIL	2201	Introduction to Ethical Theory	1
PHIL	2202	General Applied Ethics	1
PHIL	2205	Business Ethics	2
		Electives	4
		<b>Total Credits</b>	<b>60</b>

**Agriculture - Precision Agriculture Application Technician, Certificate****Location: Worthington**

AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	1125	Custom Application	2
AGRI	2202	Weed Science	3
AGRI	2204	Introduction to Precision Agriculture	3
AGRI	2212	Corn & Soybean Production	3
AGRI	2297	Ag Production Management Intern	4
AUTO	1195	Commercial Driver's License.	2
HLTH	1115	First Aid	1
		Electives	2
		<b>Total Credits</b>	<b>26</b>

**Agriculture - Production Agriculture, Diploma****Location: Worthington**

This diploma allows the student to immediately enter the field of Production Agriculture. The students' primary focus with this diploma is two-fold. The learner will either enter the workforce in direct support of production agriculture such as seeking employment at an elevator or working as an employee or entrepreneur in livestock and/or crop production.

AGRI	1101	Introduction to Animal Science	3
AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	1151	Farm Records & Bus. Analysis	4
AGRI	1152	Ag Marketing & Pricing	3
AGRI	2201	Principles of Animal Nutrition	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2205	Introduction to Precision Management Software	3
AGRI	2214	Machinery Principles & Management	3
AGRI	2236	Ag Marketing	2
AGRI	2251	Farm & Ranch Management	4
AGRI	2297	Ag Production Mgt. Intern	2-8
		<b>General Education</b>	<b>10</b>

**Agricultural Electives, choose from the following to equal or exceed 64 credits required:**

AUTO	1194	Commercial Driver's License Permit	1
AUTO	1195	Commercial Driver's License	2
AGRI	1110	Introduction to Horticulture	3
AGRI	1121	Dairy Technician	2
AGRI	1125	Custom Application	2
AGRI	2202	Weed Science	3
AGRI	2204	Introduction to GIS/GPS	3
AGRI	2212	Corn & Soybean Production	3
AGRI	2216	Introduction to Meat Science	3



FBMA	2120	Fundamentals of Financial Mgt/ Business Plan	3
FBMA	2134	Directed Study-Personnel Mgt.	3
		<b>Total Credits</b>	<b>64</b>

### **Agriculture Production, A.A.S.**

#### **Location: Worthington**

This A.A.S. degree in Agriculture Production is designed for the student whose career is in production Agriculture. This degree has two options, one is an Agronomy emphasis and the other option is an emphasis in Animal Science. The student will focus on course and lab work closely aligned to prepare the student to enter this field. This program is composed of many courses in Agriculture leading to a graduate with extensive preparation in Production Agriculture.

#### **General Education Requirements 15 credits from the following:**

BIOL	1100	Survey of Biology	3
CMST	1101	Public Speaking	3
ENGL	1101	Composition I	3
ECON	2202	Micro Economics	3
GEOG	1101	Introduction to Physical Geography	3
NSCI	1100	Issues in the Environment	3
MATH	1107	Concepts in Math	3
PSCI	2202	State and Local Government Humanities Electives	3

#### **Ag production core requirements 57 credits from the following:**

AGRI	1101	Livestock Production	3
AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	1110	Introduction to Horticulture	3
AGRI	1125	Custom Application	2
AGRI	1151	Farm Records & Bus. Analysis	4
AGRI	1152	Marketing & Pricing	3
AGRI	2201	Principles of Animal Nutrition	3
AGRI	2202	Weed Science	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	Introduction to Precision Agriculture	3
AGRI	2205	Introduction to Precision Mgt. Software	3
AGRI	2212	Corn & Soybean Production	3
AGRI	2214	Machinery Principles & Management	3
AGRI	2216	Introduction to Meat Science	3
AGRI	2235	Special Topics Ag Marketing	2
AGRI	2251	Farm & Ranch Management	4
AGRI	2297	Internship	2-8
AUTO	1194	Commercial Driver's License Permit	1
AUTO	1195	Commercial Drivers License	2
FBMA	2120	Fundamentals of Financial Management/Business Plan	3
FBMA	2134	Directed Study-Personnel Management	2
		<b>Total Credits</b>	<b>72</b>

### **Agriculture Production Management, A.S.**

#### **Location: Worthington**

This two-year program is designed to prepare students for employment in production agriculture as farm operators or in fields of employment related to farm production or for continuing their education at a four-year institution. Students who plan to transfer are encouraged to review the requirements of the transfer institution and plan their programs accordingly. Students in this program will receive the A.S. degree upon successful completion of the following requirements and suggested courses:

AGRI	1101	Intro to Animal Science	3
AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	1110	Introduction to Horticulture	3
AGRI	1125	Custom Application	2
AGRI	1151	Farm Records & Bus. Analysis	4
AGRI	1152	Ag Marketing & Pricing	3
AGRI	2201	Principles of Animal Nutrition	3
AGRI	2202	Weed Science	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	Introduction to Precision Agriculture	3
AGRI	2212	Corn & Soybean Production	3
AGRI	2214	Machinery Prin. & Management	3
AGRI	2216	Introduction to Meat Science	3
AGRI	2235	Special Topics in Agriculture	1-3
AGRI	2251	Principles of Farm & Ranch Mgt.	4
AGRI	2297	Ag Production Mgt. Intern	2-8

### **Art, A.A.**

#### **Location: Worthington**

The following is a suggested Minnesota Transfer Curriculum (MnTC) program for students interested in obtaining a four-year degree in art.

CMST	1101	Public Speaking	3
ENGL	1101	Composition I	3
		<b>Choose one of the following:</b>	<b>3</b>
ENGL	1102	Composition II	3
ENGL	2243	Composition: Creative Writing	3
ENGL	2276	Composition: Technical Writing	3
		Social Science Electives**	3-6
		Biology Electives	3-4
ART	1101	Beginning Drawing	3
ART	1115	Beginning Painting	3
ART	2240	Art History	3
ART	2245	Art History II	3
		<b>Choose one of the following:</b>	<b>3-4</b>
NSCI	1100	Issues in the Environment	3
PSCI	2210	Environmental Politics	3
GEOG	1101	**Intro to Physical Geography	4
		Chemistry or Physics Electives	3-5
		Math Electives	3
MUSC	1105	Enjoying Music	3
HIST	1111	Western Civilization I	3
HIST	1112	Western Civilization II	3
ART	1124	Introduction to Ceramics	3
ART	2215	*Intermediate Ceramics	3
ART	1103	*Display and Exhibition	1
PSYC	1101	Introduction to Psychology	4
		<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit - required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* Consult an advisor

\*\*If either PSCI 2210 or GEOG 1101 is taken to meet Areas 5 and 10, only three credits in SOC SCI is required.

### **Automotive Technology, A.A.S.**

#### **Locations: Jackson**

The automotive technician inspects, tests, and diagnoses vehicles to determine necessary maintenance and repair. They drive vehicles analyzing specific systems such as: the

brake system, suspension system, and transmission/driveline systems. They also analyze engines for cylinder compression and fuel consumption, while listening for sounds indicative of malfunctions. The automotive technician uses advanced diagnostic data to perform all maintenance and repairs. Using micrometers, calipers and thickness gauges, the technician can measure a component for excessive wear. Specific components are often disassembled for further inspection and evaluation; these components include the engine, transmission and differential.

AUTO 1120	Air Conditioning	3
AUTO 1126	Steering and Alignment	3
AUTO 1131	Brakes	3
AUTO 1136	Engine Technology & Lab	4
AUTO 2107	Automatic Transmissions	3
AUTO 2108	Intro to Hybrid Electric Vehicles	3
AUTO 2113	Manual Transmission	3
AUTO 2121	Engine Performance II	5
AUTO 2122	Advance Engine Performance III	5
AUTO 2146	Body Computer Controlled Electrical Systems	4
AUTO 2155	Introductions to Diesel Electronics	4
TRAN 1100	Intro to Transportation	2
TRAN 1111	Electrical	3
TRAN 1145	Engine Performance I	2
	*General Education	15
	<b>Total Credits</b>	<b>62</b>

\* Note: General Education (15 credits) from 3 of the 10 goal areas.

Elective: AUTO 2190 Summer Internship (after 2nd Semester)  
4 – 6 credits

### Automotive Technician, Diploma

#### Locations: Jackson

The Automotive Technician Program provides students with the skills needed to pursue a career in any area of automotive repair. Our program takes great pride in its professionalism. A dress code, attendance policy, and student conduct code are strictly enforced. Because the program is so intensive, class size is limited to ensure optimum training.

AUTO 1120	Air Conditioning	3
AUTO 1126	Steering/Suspension/Alignment	3
AUTO 1131	Brakes	3
AUTO 1136	Engine Technology & Lab	4
AUTO 2107	Automatic Transmissions	3
AUTO 2113	Manual Transmissions	3
AUTO 2121	Engine Performance II	5
AUTO 2146	Body Computer Controlled Electrical Systems	4
TRAN 1100	Intro to Transportation	2
TRAN 1111	Electrical Fundamentals	3
TRAN 1145	Engine Performance I	2
	<b>Total Credits</b>	<b>35</b>

### Biology - Fish - Wildlife, A.A.

#### Location: Worthington

The program listed below is only a suggested guide, and the specific courses required vary among the four-year colleges. The student planning a degree in these areas should contact the Biology Department and the advisors at Minnesota West-Worthington campus for assistance with curriculum planning. This degree meets the Associate of Arts and MnTC requirements and will take five or six semesters to complete.

Students desiring the Associate of Science degree may be able to complete the program in four semesters.

CMST 1101	Public Speaking	3
ENGL 1101	Composition I	3
BIOL 1110	Principles of Biology I	4
BIOL 2220	Animal Biology	4
BIOL 2230	Plant Biology	4
BIOL 2270	*Microbiology	4
CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
PHYS 1201	Fundamentals of Physics I	4
PHYS 1202	Fundamentals of Physics II	4

#### Choose two of the following: 7-9

MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
MATH 1121	*Calculus I	4

#### Choose one of the following: 3

ENGL 1102	Composition II	3
ENGL 2276	Composition: Technical Writing	3
ENGL 2243	Composition: Creative Writing	3

#### Social Science Electives\*\* 6-9

<b>Choose one or two:</b>		
CHEM 2201	Organic Chemistry I	5
CHEM 2202	Organic Chemistry II	5

#### Choose one of the following:

NSCI 1100	Issues in the Environment	3
PSCI 2210	Environmental Politics	3
GEOG 1101	**Intro to Physical Geography	4
	Humanities Electives	9
	<b>Total Credits</b>	<b>60</b>

STSK 1110 Freshman Seminar (1) is required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\*Depends on high school preparation and transfer institution.

\*\*If either PSCI 2210 or GEOG 1101 is taken to meet Areas 5 and 10, only six credits in SOC SCI is required. Some institutions require ECON 2201.

### Business Administration, A.A.

#### Location: Worthington

Upon completion of the program listed below, the student may transfer to an upper division school of business and complete his/her requirements for the Bachelor of Arts or Bachelor of Science degree in Business. Students may also choose to delay the completion of their formal education and seek employment knowing that when they decide to return to school the credits they have earned at Minnesota West-Worthington will allow them to enter an upper division program on either a full or part-time basis. This program meets the Associate of Arts and MnTC requirements.

ENGL 1101	Composition I	3
MATH 1111	College Algebra	3
	or	
CMST 1101	Public Speaking	3
	Chemistry or Physics	3-4
PSYC 1101	Introduction to Psychology	4
BUS 1101	Introduction to Business	4
BUS 2201	Principles of Accounting I	4

BUS 2202	Principles of Accounting II	4
ECON 2201	Principles of Macroeconomics	3
ECON 2202	Principles of Microeconomics	3
MATH 1105	Intro to Probability and Statistics	4
	Biology Electives	3-4
	Social Science Elective***	3
	Humanities Electives	9

**Choose one of the following:**

ENGL 1102	Composition II	3
ENGL 2276	Composition: Technical Writing	3
ENGL 2243	Composition: Creative Writing	3

**Choose one of the following:**

NSCI 1100	Issues in the Environment	3
PSCI 2210	Environmental Politics	3
GEOG 1101**	Intro to Physical Geography	4

**Total Credits 60**

STSK 1110 – Freshman Seminar (1) credit - required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

Note: See advisor for areas MnTC 8 and 9

\*\*Depends on transfer institution

\*\*\* If either PSCI 2210 or GEOG 1101 is taken to meet Areas 5 and 10, the SOC SCI requirement is fulfilled.

**Business Management, A.A.S.**

**Location: Worthington**

This degree is designed for students who plan to enter the job market after completion of the program. It prepares students for entry-level positions in offices, private industry, the civil service, etc., and a variety of business fields. The following are the requirements for attaining a degree in this area:

1. General education requirements - sufficient to meet the minimum general education requirements of the general A.A.S. degree.
2. Career courses - to include the following:

BUS 1101	Introduction to Business	4
*BUS 1104	Business Math	3
BUS 2201	Principles of Accounting I	4
BUS 2202	Principles of Accounting II	4
BUS 2221	Principles of Management	3
BUS 2230	Principles of Marketing	3
BUS 2241	Business Law	3
BUS 2242	Business Communications	3
CSCI 1102	Introduction to Microcomputers	3
CSCI 2100	Advance Microcomputer Application	3
	General Education Electives	15
	Electives	12
	<b>Total Credits</b>	<b>60</b>

\* Course may be waived by petition

**Business Management, A.S.**

**Locations: Worthington and Online**

This degree is designed for students planning to enter the job market after completion of the program or to continue their education in four-year colleges. It prepares students for entry-level positions in offices, private industry, civil service, and a variety of business fields. The following are the requirements for attaining a degree in this area. (A course in keyboarding and/or keyboarding proficiency is strongly recommended). To complete the degree students must fulfill the following requirements:

1. Successful completion of a minimum of 60 credits of which at least 15 must be earned at Minnesota West Community & Technical College.

2. A grade point average of 2.0 ("C") or better.

3. Meet the minimum of 30 credits of general education as required by the A.S. degree.

BUS 1101	Introduction to Business	4
BUS 2201	Principles of Accounting I	4
BUS 2202	Principles of Accounting II	4
*BUS 2221	Principles of Management	3
*BUS 2230	Principles of Marketing	3

**Choose a minimum of twelve (12) elective credits from the following:**

BUS 1104	Business Mathematics	3
BUS 2232	Professional Selling	3
BUS 2241	Business Law	3
BUS 2242	Business Communications	3
BUS 2275	Human Resource Mgmt.	3
ECON 2202	Principles of Microeconomics	3

\*Transfer with validation by the receiving institutions:

Methods of validation:

- a. Institutions have the option of course validation or
- b. Students can "test out" by exam or may receive "deferred credit" by successful completion of one specified advanced course in the program at the receiving institution. The total number of program credits required shall not exceed that for students who entered the institution as first year students.

**Management, Certificate.**

**Location: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

Students in the Management certificate program will receive basic business knowledge which can be used immediately in the workplace or as part of a 2 year business degree.

Students will focus on the business environment, management practices and marketing principles.

BUS 1101	Introduction to Business	4
BUS 2221	Principles of Management	3
BUS 2230	Principles of Marketing	3
	Two Business or Accounting Courses	6
	<b>Total Credits</b>	<b>16</b>

**Carpentry Diploma,**

**Location: Pipestone**

The Carpentry program prepares students for a career as a carpenter in residential and commercial construction. In this program students study the concept of green building. Green building is a growing trend among home builders nationwide and incorporates a whole building design approach into every phase of the building process, including design, construction, energy, water efficiency, lot development, resource efficient building design to enhance the well-being of occupants, and to minimize negative impacts on the community and natural environment.

Students interested in this program should like to work outdoors, have an interest in doing hands-on work with common building materials, possess good problem solving skills, have strong math skills, and have a healthy work

ethic. Most importantly, students should have the desire to learn and expand their knowledge of the construction industry.

CRPT 1101	Tool Safety, Construction Terms, & Materials	2
CRPT 1105	Floor and Wall Framing	4
CRPT 1135	Exterior Finishing Wall & Roof Covering	2
CRPT 1150	Site Layouts, Foundations	3
CRPT 1155	Building Science	2
CRPT 1160	Roof Framing	4
CRPT 1170	Applied Carpentry Calculations and Estimating	3
CRPT 2242	Deck & Porch Construction	2
CRPT 2249	Cabinet Installation	4
CRPT 2260	Interior Finish & Staircase Construction	3
CRPT 2270	Construction Business Management	2
CRPT 2271	Construction Drafting and Design	3
	<b>Total Credits</b>	<b>34</b>

### **Carpentry, Certificate**

**Location: Pipestone**

CRPT 1101	Tool Safety, Construction Terms, & Materials	2
CRPT 1105	Floor and Wall Framing	4
CRPT 1160	Roof Framing	4
CRPT 1170	Applied Carpentry Calculations and Estimating	3
CRPT 2260	Interior Finish & Staircase Construction	3
CRPT 2271	Construction Drafting, Design and Blueprint Reading	3
	<b>Total Credits</b>	<b>19</b>

### **Chemistry, A.S.**

**Location: Worthington**

Students in chemistry will take the following courses at Minnesota West-Worthington campus. This program is patterned after the University of Minnesota and is an Associate of Science degree.

CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
CHEM 2201	Organic Chemistry I	5
CHEM 2202	Organic Chemistry II	5
ENGL 1101	Composition I	3
MATH 1113	Pre-Calculus	4
MATH 1121	Calculus I	4
MATH 1122	Calculus II	4
MATH 2201	**Calculus III	4
PHYS 2121	General Physics I	5
PHYS 2122	General Physics II	5
	<b>Humanities Electives</b>	<b>6</b>
	<b>Social Science Electives</b>	<b>6</b>
	<b>Choose one of the following:</b>	<b>3</b>
CMST 1101	Public Speaking	3
ENGL 1102	Composition II	3
ENGL 2276	Composition: Technical Writing	3
ENGL 2243	Composition: Creative Writing	3
	<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSC1 1102, or any Physical Education course.

\*Minimums only.

\*\*Depending on high school preparation and placements. Students planning to teach should include HLTH 1100 and 2220.

Note: Some universities and liberal arts colleges require a year of a FOREIGN LANGUAGE, preferably German, French. Check with the specific four-year college from which you intend to obtain your degree.

An additional semester is required to complete the A.A. degree and the MnTC requirements. Students should take three credits in HUMANITIES; three credits in SOC SCI (PSCI 2210 or GEOG 1101 are recommended); six-eight credits to complete Areas 7,8,9, and 10 unless completed with HUM and SOC SCI courses. This is a total of 10-18 credits.

### **Child Development, A.S.**

**Location: Granite Falls**

This degree is designed for students planning to enter the job market after completion of the program or to continue their education. The program is designed to transfer for a Bachelor's degree in Early Childhood Education. Included in the course of study are a minimum of 30 transfer-level general education credits and 30 occupational credits. In conjunction with lab school and field experience, the course work prepares students as child development professionals for a variety of settings. The courses meet the Minnesota Department of Human Services requirements for child care professionals. The Minnesota Department of Human Services will check the background of each applicant to ensure that there is no record of child maltreatment.

1. A minimum of 30 credits from at least 6 of the 10 goal areas in the Minnesota Transfer Curriculum. Required general education categories are listed below:

A. Communications - a minimum of 9 credits  
 CMST 1101 Speech (3), required  
 ENGL 1101 Composition I, (3) required  
 ENGL 1102 Composition II, (3) required

B. Science/Math – a minimum of 3 credits.  
 MATH 1111 College Algebra (3) suggested

C. Behavior/Social Science – a minimum of 7 credits  
 PSYC 1101 Intro to Psychology (4) required or  
 PSYC 1150 Developmental Psychology (3)  
 SOC 1101 Intro to Sociology (3) required

D. Humanities – a minimum of 3 credits

2. Career courses: Fulfill a minimum of 30 credits in technical core courses including those listed below:

HSER 1266	Foundations of Child Development	2
CDEV 1266	Foundations of Child Dev. Lab	1
HSER 1268	Health, Nutrition & Safety	2
CDEV 1268	Health, Nutrition & Safety Lab	1
HSER 1269	Guidance	2
CDEV 1269	Guidance lab	1
CDEV 1262	Creative Activities w/lab	4
CDEV 1340	Planning & Implementing w/lab	4
CDEV 2200	Infant/Toddler Development w/lab	4
HSER 1267	Special Needs	2
HSER 1131	Autism	1

**Choose 2 of the following courses**

CDEV 1240	Family & Community Relations	3
EDUC 1100	Introduction to Education w/lab	3
CDEV 2560	Language & Lit. Learning for E.C.	3
	<b>Total Credits</b>	<b>30</b>

(Suggested Electives: NSCI 1100 Issues in the Environment, ART 1120 Art Appreciation, MUSC 1105 Enjoying Music, HIST 1111 Western Civ. I, BIOL 1110 Principles of Biology, ART 2240 Art History, GEOG 1100 Geography)

### Child Development, Certificate

#### Location: Granite Falls

Persons completing this program may work in a variety of settings related to child care and education such as a preschools, day cares, public schools, Head Start programs, and private homes (nannies). Students enrolled in the program receive instruction in safety, health, nutrition, guidance, child development, and the preparation and presentation of learning experiences to enhance all areas of a child's development. This course of study is designed to improve the quality of services children receive, to increase professionalism in graduates, and to promote the overall development of children. Lab school/and field experience in various settings provide opportunities for students to apply their knowledge and skills. The Minnesota Department of Human Services will check the background of each applicant to ensure that there is no record of child maltreatment. The curriculum shown here is designed to enhance a child development professional's opportunity to advance in the field.

CDEV	1240	Family & Community Relations	3
CDEV	1262	Creative Activities	4
CDEV	1266	Foundations of Child Develop I Lab	1
HSER	1266	Foundations of Child Development	2
CDEV	1268	Children's Health, Nutrition & Safety Lab	1
HSER	1268	Children's Health, Nutrition & Safety	2
CDEV	1269	Guidance, Managing the Physical & Social Environment Lab	1
HSER	1269	Guidance: Managing the Physical and Social Environments	2
		<b>Total Credits</b>	<b>16</b>

### Child Development, Diploma

#### Location: Granite Falls

Persons completing this program would work in a variety of settings related to child care and education such as a preschools, day cares, public schools, Head Start programs, and private homes (nannies). Students enrolled in the program receive instruction in safety, health, nutrition, guidance, child development, and the preparation and presentation of learning experiences to enhance all areas of a child's development. This course of study is designed to improve the quality of services children receive, to increase professionalism in graduates, and to promote the overall development of children. Lab school/and field experience in various settings provide opportunities for students to apply their knowledge and skills. The Minnesota Department of Human Services will check the background of each applicant to ensure that there is no record of child maltreatment. The curriculum shown here is designed to enhance a child development professional's opportunity to advance in the field.

**Prerequisite: Completed certificate program to enter the Diploma program.**

CDEV	1340	Planning and Implementing with lab	4
CDEV	1510	Internship	2-4
CDEV	2200	Infant & Toddler Dev. with lab	4
CDEV	2560	Language & Literature Learning Experiences	3
EDUC	2900	Introduction to Special Education	3

HSER	1131	Autism Spectrum Disorders	1
		<b>Total Credits</b>	<b>34</b>

### Chiropractic (pre-chiropractic), A.A.

#### Location: Worthington

This profession has experienced a strong resurgence in the past decade. The profession stresses a holistic approach to health. Chiropractors advocate that most common ills can be prevented and/or alleviated through exercise, nutrition, adjustment, maintenance, and personal health counseling. Minnesota West-Worthington campus provides all of the academic courses for the first two years of the chiropractic program. The transfer institutions (primarily Northwestern School of Chiropractics) for continued study readily accept our Associate of Science degree graduates.

ENGL	1101	Composition I	3
		<b>Choose one of the following 2:</b>	<b>3-4</b>
MATH	1111	College Algebra	3
MATH	1113	Pre-Calculus	4
CHEM	1101	General Inorganic Chemistry I	4
CHEM	1102	General Inorganic Chemistry II	4
BIOL	1115	Human Biology	3
		<b>Choose one of the following 3:</b>	<b>3</b>
ENGL	1102	Composition II	3
ENGL	2276	Composition: Technical Writing	3
ENGL	2243	Composition: Creative Writing	3
PHYS	1201	Fundamentals of Physics I	4
PHYS	1202	Fundamentals of Physics II	4
		<b>Humanities Electives*</b>	<b>3</b>
CMST	1101	Public Speaking	3
		<b>Choose two of the following 3:</b>	<b>8-10</b>
BIOL	2201	Human Anatomy	4
BIOL	2202	Human Physiology	4
BIOL	2245	**Medical Terminology	2
SOC	1101	Introduction to Sociology	3
PSYC	1101	Introduction to Psychology	4
		<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* Minimum only

\*\* Depends on transfer institution

### Community Health Worker, Certificate

#### Location: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online

The Community Health Worker (CHW) program will prepare you to obtain employment in a variety of organizations. Community Health Workers perform a broad range of health related functions and play an important role in bridging the gap between cultures and health care systems. A CHW will work with health care organizations to increase cultural competence, improve access to health care for racial and ethnic minorities, improve the quality of care for the chronically ill, promote healthy communities, and educate families about access to and use of health care coverage.

CMHW	1000	Advocacy and Outreach	3
CMHW	1100	Community, Capacity Building and Teaching	3

CMHW 1200	Communications, Competence and Legal Implications of the CHW	3
CMHW 1250	Introduction to Trauma Informed Care	2
CMHW 1300	Health Promotion Competencies	3
CMHW 1400	Community Health Worker Internship	2
EMS 1112	First Aid/CPR	1

### Computer Applied Technology, A.S.

#### Location: Worthington

The completion of the Computer Applied Technology degree offers the student an opportunity to transfer into several articulated Baccalaureate programs. While students concentrate on an area of study in computer science, they are assured that after completion of this degree, they are employable in many technical and business settings, including manufacturing companies, data processing firms, software development companies, banks, insurance companies, government agencies, colleges and universities. The degree is heavily dependent upon technology based course offerings. To complete the degree, students must fulfill the following requirements:

- Successful completion of 60 credits of which at least 15 must be earned at Minnesota West Community & Technical College.
- A grade point average of 2.0 ("C") or better.
- Computer Division requirements: 9 credits
  - ENGL 1101 Composition I
  - CSCI 1102 Introduction to Microcomputers
  - MATH 1111 College Algebra
- A minimum of 24 credits from the four general education categories listed below:
  - Communications: ENGL 2276 or CMST 1101
  - One or more credits from Science/Math
  - Four or more credits from Behavior/Social Science – PSYC 1101 or ECON 2201 or ECON 2202 required.
- Fulfill at least a 30 credit core of technical courses. Note: 3 credits from Item #3. CSCI 1102 required and an additional 27 credits from the table below:

BUS 1101	Introduction to Business	4
BUS 2201	Principles of Accounting I	4
CSCI 2100	Adv Microcomputer Applications	3
CSCI 2140	Spreadsheets & Graphics	3
CSCI 2200	Visual Basic Programming	4
CSCI 2250	Java Programming	4
CSCI 2290	Technology Capstone Seminar	1
CSCI 2240	Fundamentals of Programming I	4
	or	
CSCI 2255	Java Programming II	4

### Computer and Information Technology, A.A.S.

#### Location: Worthington

Although successful completion of the Computer and Information Technology (CIT) program prepares the student for employment within the dynamic computer, electronic information and technology areas, the program is specifically designed to maximize transferability into the Bachelor of Applied Science (BAS) at Minnesota State University, Mankato, MN. This degree also articulates to Minnesota State University, Moorhead, MN and Southwest Minnesota State University, Marshall, MN. Students are encouraged to consult with faculty and/or advisors at Minnesota West and the transfer institution of their choice.

CMST 1101	Public Speaking	3
ENGL 1101	Composition I	3
MATH 1111	College Algebra	3
PHYS 1201	Fundamentals of Physics	4

#### Select a minimum of 3 credits from the following:

HIST 1101	American History I	4
HIST 1102	American History II	4
GEOG 1100	Introduction to Geography	3
GEOG 1101	Introduction to Physical Geography	4
PSCI 1101	Introduction to Political Science	3
PSCI 1201	American Government and Politics	3
PSCI 2210	Environmental Politics	3
PSCI 2202	State and Local Government	3
PSYC 1101	Introduction to Psychology	4

#### Select a minimum of 3 credits from the following:

ART 2240	Art History	3
ART 2245	Art History II	3
HIST 1111	Western Civilization I	3
HIST 1112	Western Civilization II	3
ENGL 1105	Introduction to Literature	3
ENGL 2201	Survey of American Literature I	3
ENGL 2202	Survey of American Literature II	3
PHIL 2201	Introduction to Ethical Theory	1
PHIL 2202	General Applied Ethics	1

#### Required Core Courses

CST 1112	CLI/PowerShell	3
CST 1190	Introduction to Networking	4
CST 2110	PC Maintenance & Repair Hardware	3
CST 2215	PC Maintenance & Repair Software	3
CST 2224	Windows Client Server	4
CST 2310	Info Technology Customer Service	2
CST 2199	Internship	1-8
	or	
CSCI 2290	Technology Capstone Seminar	1
CSCI 1102	Introduction to Microcomputers	3
CSCI 2200	Visual Basic Programming	4
CSCI 2250	Java Programming	4
ENGL 2276	Composition: Technical Writing	3
CSCI 2255	Java Programming II	4
<b>Select one of the following courses</b>		
CSCI 2240	Fundamentals of Programming I	4
MATH 1121	**Calculus I	4
<b>Total Credits</b>		<b>60</b>

\*Baccalaureate admission requires a 2.50 or higher GPA in core courses; to include a recommended minimum of a "B" in CSCI 2250 and a minimum of a "C" in CSCI 2255.

\*\*If not completed within A.A.S., additional mathematics will be required at Minnesota State University, Mankato.

### Computer Science, A.S.

#### Location: Worthington

The Computer Science A.S. program is designed to provide students the option to enter the computer related job market on completion or optionally transfer to Southwest Minnesota State University at Marshall, MN to complete the Bachelor of Science in the Computer Science degree.

ART 2230	Computer Graphics	3
CMST 1101	Public Speaking	3
CSCI 1102	Introduction to Microcomputers	3
CSCI 2200	Visual Basic Programming	4
	or	
CSCI 2240	Fundamentals of Programming I C++	4
CSCI 2250	Java Programming I	4
CSCI 2255	Java Programming II	4

CST	1135	UNIX Operating System	3
CST	1190	Introduction to Networking	4
CST	2224	Windows Client/Server	4
ECON	2201	Principles of Macroeconomics or	3
ECON	2202	Principles of Microeconomics	3
ENGL	1101	Composition I	3
ENGL	2276	Technical Writing	3
MATH	1105	Statistics	4
MATH	1121	Calculus I	4
NSCI	1100	Issues in the Environment	3
PHYS	1201	Fundamentals of Physics	4
PSYC	1101	Introduction to Psychology	4
<b>Total Credits</b>			<b>60</b>

### Computer Specialist, A.A.S.

#### Location: Worthington

The Computer Specialist A.A.S. Degree provides the student with a career entry employment opportunity for a wide variety of employers including manufacturers, data processing companies, banks, insurance companies, bookkeeping companies and departments, medical facilities, and government agencies. The program is designed to be heavily dependent on technology as a method of course delivery, communications, and student learning.

To complete the degree students must fulfill the following requirements:

1. Successful completion of 60 credits, 15 of which must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.0 ("C") or better.
3. A minimum of 20 credits from the four general education categories listed below:
  - A. Communications  
a minimum of 3 credits – required ENGL 1101
  - B. Science/Math  
a minimum of 3 credits - required MATH 1105 or MATH 1111 or PHIL 1200
  - C. Behavioral/Social Science  
a minimum of 3 credits
  - D. Humanities  
a minimum of 3 credits
4. A minimum of 30 credits in career courses (listed below)
5. Electives sufficient to total 60 credits.

#### Required Courses:

CSCI	1102	Introduction to Microcomputers	3
CSCI	1150	Presentation Development	3
CSCI	2100	Advanced Microcomputer Applications	3
CSCI	2140	Electronic Spreadsheets/Graphics	3
CSCI	2200	Visual BASIC Programming	4
CSCI	2290	Technology Capstone Seminar	1
<b>13 credits of electives from the following:</b>			
BUS	1101	Introduction to Business	4
BUS	2200	Intro Management Info Systems	3
BUS	2221	Principles of Management	3
CSCI	2215	Web Programming I	3
CSCI	2240	Fundamentals of Programming I	4
CSCI	2245	Fundamentals of Programming II	4
CSCI	2250	Java Programming I	4
CSCI	2255	Java Programming II	4

### Computer & Networking Technology, A.A.S.

#### Location: Granite Falls, Jackson, and Online

Computer & Networking technicians solve software, hardware and networking issues. They set up and maintain computer systems and networks. Technicians provide hands on and remote support for end users of computers and networks. This degree provides hands-on training in computer hardware, operating system and networks. Students learn skills necessary to provide support of industry leading computer systems and networks.

CST	1101	IT Exploration	2
CST	1112	CLI/PowerShell	1
CST	1125	Operating Systems	3
CST	1135	Unix Operating System	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	4
CST	1200	Introduction to Information Security	3
CST	1500	Routers and Switches	3
CST	2110	PC Maintenance & Repair Hardware	3
CST	2215	PC Maintenance & Repair Software	3
CST	2224	Windows Client/Server Admin. I	4
CST	2310	Info Technology Customer Service	2
CST	2350	Virtual Computing	2
CST	2600	Fundamentals of Wireless Networking	3
CST	2900	Computer Technology Capstone	2
ENGL	1101	Composition I	3
**Technical Electives			6
*General Education Electives			12
<b>Total Credits</b>			<b>60</b>

\* General Education electives in three additional areas of the curriculum.

\*\*Electives in the areas of ACCT, ADSA, BUS, CSCI, CST, ELEC, RNEW, ROBT with the approval of the advisor.

### Computer Support Technician, Diploma

Computer support technicians solve software and hardware problems, set up computer systems, install new software and hardware, train users, and maintain networks. Support technicians may work directly with computer users in person or provide support over the phone through a help desk. This major provides hands-on training in computer operating system operation, the use of application software, network administration and installation, software installation and removal, computer maintenance and repair, hardware installation, and help desk skills. Provides the students with practical knowledge needed to solve computer problems. Accuplacer test scores determine placement in Math and English courses and may require additional courses to be completed.

#### Location: Granite Falls

CST	1101	IT Exploration	2
CST	1112	CLI/Powershell	1
CST	1125	Operating Systems	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	4
CST	1200	Introduction to Information Security	3
CST	2110	PC Maintenance & Repair Hardware	3
CST	2215	PC Maintenance & Repair Software	3
CST	2224	Windows Client/Server Administration	4
CST	2310	Info Technology Customer Service	2
Technical Education Electives			4
<b>Total Credits</b>			<b>30</b>

**Computer Maintenance and Repair, Certificate****Location: Granite Falls, Jackson**

Students in the Computer Maintenance and Repair certificate receive training in administrating, installing and configuring computers; installing, implementing and utilizing software; and upgrading and troubleshooting personal computer hardware. This program provides training in personal computer (PC) maintenance and repair, operating systems, including Windows and DOS, and help desk etiquette. This program is designed to prepare the students for CompTIA's A + certification. A successful graduate will be prepared to work in the fields of PC maintenance and repair, help desk and software support.

CST Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one year.

CST	1101	IT Exploration	2
CST	1112	CLI/PowerShell	1
CST	1125	Operating Systems	3
CST	1135	Unix Operating Systems	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	4
		or	
CST	1195	Network Basics	2
CST	2110	PC Maintenance & Repair Hardware	3
CST	2215	PC Maintenance & Repair Software	3
CST	2310	Info Technology Customer Services	2
		Technical Electives	8 - 10
		Choose electives from: ACCT, ADSA, CST, CSCI.	
		<b>Total Credits</b>	<b>30</b>

**(Computer) Desktop Support Specialist, Certificate****Location: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

Provides students with essential knowledge and understanding of common business productivity software. CSCI certificates recognize student achievement and encourage lifelong learning.

CSCI Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CSCI	1102	Introduction to Microcomputers	3
CSCI	2100	Advanced Microcomputer Applications	3
CSCI	2140	Electronic Spreadsheets and Graphics	3
CST	1125	Operating Systems	3
CST	2310	Information Tech Customer Service	2
		Additional CSCI and/or CST credits	2
		<b>Total Credits</b>	<b>16</b>

**(Computer) Information Security and Assurance, A.A.S.****Location: Online**

This program prepares students to assess, administer, and secure computer information systems and networks by performing technical security audits and implementing numerous technical information solutions to bring networks into compliance.

ENGL	1101	Composition I	3
CST	1101	IT Exploration	2
CST	1112	CLI/PowerShell	1
CST	1125	Operating Systems	3
CST	1135	Unix Operating Systems	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	4
CST	1200	Introduction to Information Security	3

CST	1220	Information Security Management	3
CST	1300	Computer Forensics	3
CST	1500	Routers and Switches	3
CST	2110	PC Maintenance & Repair Hardware	3
CST	2310	Information Technology	
		Customer Service	2
CST	2224	Windows Client/Server Admin. I	4
CST	2350	Virtual Computing	2
CST	2520	Ethical Hacking	2
		Technical Electives	6
		General Education Electives	12
		<b>Total Credits</b>	<b>60</b>

\* Additional credits of electives in 2 General Education areas with the approval of the advisor.

\*\*Electives in the areas of ACCT, ADSA, CST, CSCI, RNEW with the approval of the advisor.

**(Computer) Information Security Management, Certificate****Location: Granite Falls, Jackson, and Online**

Students in the Information Security Management Certificate learn to assess the need for security; examine ethical, legal and professional security issues; assess and control risks; design secure networks; examine disaster recovery plans; educate personnel; and maintain a security program. In addition, the students learn about the theory of authentication, encryption, attacks and malicious code, and the components of a secure network including web servers and remote access. This certificate is designed for the person responsible for the security direction of the organization, including managers, accounting personnel, administrative assistants, and computer technical support personnel.

CST Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CSCI	1102	Introduction to Microcomputers	3
CST	1190	Introduction to Networking	4
		or	
CST	1195	Network Basics	2
CST	1200	Introduction to Information Security	3
CST	1220	Information Security Management	3
		Electives	1 - 3
		<b>Total Credits</b>	<b>14</b>

**(Computer) Information Technology, Certificate****Location: Online**

CST	1101	IT Exploration	2
CST	1112	CLI/PowerShell	1
CST	1125	Operating Systems	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	4
CST	2110	PC Maintenance and Repair Hardware	3
		Electives	2
		<b>Total Credits</b>	<b>16</b>

**(Computer) Web Development, A.S.****Location: Worthington**

The completion of the Web Development Science A.S. degree prepares the student for the evolving Internet business settings including manufacturing, data processing, software development, banking, financing insurance



companies, government agencies, colleges, and universities. Unique legal, hardware/software, security, financial and risk issues related to promoting an Internet presence are integrated with case studies designed to demonstrate the intricacies of related programming solutions.

To complete the degree, students must fulfill the following requirements:

1. Successful completion of 60 credits of which at least 15 must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.00 ("C") or better.
3. Computer Division requirements: 9 credits
  - A. ENGL 1101 Composition
  - B. CSCI 1102 Introduction to Microcomputers
  - C. MATH 1107 Concepts in Math or higher.
4. A minimum of 24 credits from the four general education categories listed below:
  1. Communications: ENGL 2276 or CMST 1101 required.
  2. A lab science course from either Chemistry or Physics required.
  3. Four or more credits from Behavior/Social Science – PSYC 1101 or ECON 2201 or ECON 2202 required.
  4. Four or more credits from Humanities and Fine Arts.
5. Fulfill at least a 30 credit core of technical courses. Note: 3 credits from Item #3. CSCI 1102 required, and add 27 credits from the table below.
6. World Language (Students who did not take two years of world language in high school may need one year of college credit in a language to meet state university requirements).

CSCI	2140	Electronic Spreadsheets & Graphics	3
CSCI	2150	Multimedia for the Web	3
CSCI	2215	Web Programming I	3
CSCI	2250	Java Programming	4
BUS	2230	Principles of Marketing	3
BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4

**Secondary Programming Language: Select a minimum of one course from the following:**

CSCI	2170	Python Programming	3
CSCI	2200	Visual Basic Programming	4
CSCI	2240	Fundamentals of Programming I C++	4
CSCI	2255	Java Programming II	4

**(Computer) Webpage Design Assistant, Certificate**

**Location: Granite Falls, Worthington, and Online**

Provides students with essential knowledge and understanding of common project management skills related to web design such as; create, update, implement and maintain web site content. CSCI certificates recognize student achievement and encourage lifelong learning. CSCI Department Disclosure: Due to scheduling the courses that satisfy this certificate are not guaranteed to be offered within one semester. CSCI1102 is a prerequisite for this certificate.

CSCI	2140	Electronic Spreadsheets & Graphics	3
CSCI	2150	Multimedia for the Web	3
CSCI	2215	Web Programming I	3
ART	1120	Art Appreciation	3
CSCI	2200	Visual Basic Programming	4
		or	
CSCI	2240	Fundamentals of Programming I C++	4
		<b>Total Credits</b>	<b>16</b>

**(Computer) Applications Specialist, Certificate**

**Location: Granite Falls, Jackson, Pipestone, Worthington, and Online**

Provides students with essential knowledge and understanding of common business productivity software. CSCI certificates recognize student achievement and encourage lifelong learning. CSCI Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CSCI	1102	Intro to Microcomputers	3
CSCI	1150	Presentation Development	3
CSCI	2100	Adv. Microcomputer Applications	3
CSCI	2140	Electronic Spreadsheets/Graphics	3
CSCI	2290	Technology Capstone Seminar	1
		CSCI Electives	3
		<b>Total Credits</b>	<b>16</b>

**(Computer) CISCO Networking, Certificate**

**Location: Granite Falls, Jackson, Pipestone, Worthington, and Online**

The Cisco CCNA Curriculum includes four courses from the Cisco CCNA curriculum and aligns to Federal standards for networking job roles of system administrators and security professionals. Graduates will be prepared to take the CCNA certification test. Cisco Certified Network Associate (CCNA®) validates the ability to install, configure, operate, and troubleshoot medium-size route and switched networks, including implementation and verification of connections to remote sites in a WAN. CCNA curriculum includes basic mitigation of security threats, introduction to wireless networking concepts and terminology, and performance-based skills. The widely respected Cisco Career Certifications bring valuable, measurable rewards to network professionals, their managers, and the organizations that employ them.

CST Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CST	1190	Introduction to Networking	4
CST	1500	Routers and Switches	3
CST	2150	Advanced Routing Technology	4
CST	2600	Fundamentals of Wireless Networking	3
		Technical Elective	1
		<b>Total Credits</b>	<b>15</b>

**(Computer) Computer Specialist, Certificate**

**Location: Granite Falls, Jackson, Pipestone, Worthington, and Online**

Provides students with a background in the specialized areas of Unix, coding and Web programming. CSCI certificates recognize student achievement and encourage lifelong learning. CSCI Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CSCI	1102	Intro to Microcomputers	3
CSCI	1110	Concepts of Coding	2
CSCI	2200	Visual Basic Programming	4
CSCI	1135	UNIX Operating Systems	3
CSCI	2215	Web Programming	3
CSCI	2290	Technology Capstone Seminar	1
		<b>Total Credits</b>	<b>16</b>

**(Computer) Technology Workplace Ready, Certificate****Location: Granite Falls, Jackson, Pipestone, Worthington, and Online**

Completion of the Technology Workplace Ready Certificate assures the student that he/she is ready to enter the workplace environment with an expected thorough understanding of common and necessary computer software and technology skills. Students may choose to compliment any program or degree with the Technology Workplace Ready Certificate to enhance a competitive resume. CSCI certificates recognize student achievement and encourage lifelong learning. CSCI Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CST	1180	Data Security Awareness	1
CSCI	1100	Microcomputer Keyboarding OR	2
CST	1195	Network Basics	2
CSCI	1102	Intro to Microcomputers	3
CSCI	1150	Presentation Development	3
CSCI	2100	Advance Microcomputer Applications	3
CSCI	2140	Electronic Spreadsheets & Graphics	3
CSCI	2290	Technology Capstone Seminar	1
<b>Total Credits</b>			<b>16</b>

**(Computer) IT Workplace Specialist, Certificate****Location: Granite Falls, Jackson, Pipestone, Worthington, and Online**

The student will have an entry level background in the most current, industry used, operating systems and some type of computer language experience like a visual basic background. CSCI certificates recognize student achievement and encourage lifelong learning. CSCI Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CSCI	1102	Intro to Microcomputers	3
CSCI	1135	UNIX Operating Systems	3
CSCI	1190	Introduction to Networking	4
CSCI	2200	Visual Basic Programming	4
		CSCI or CST Electives	4
<b>Total Credits</b>			<b>16</b>

**(Computer) IT Workplace Assistant, Certificate****Location: Granite Falls, Jackson, Pipestone, Worthington, and Online**

Students will be able to set up entry level items on a network, conduct some basic troubleshooting of network problems and with an extensive background in the use of the Microsoft Office Suite of applications be able to assist users. CSCI certificates recognize student achievement and encourage lifelong learning. CSCI Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CSCI	1102	Intro to Microcomputers	3
CSCI	1190	Introduction to Networking	4
CSCI	2100	Adv Microcomputer Applications	3
SCCI	2140	Electronic Spreadsheets/Graphics	3
CSCI	2290	Technology Capstone Seminar	1
		CSCI or CST Electives	4
<b>Total Credits</b>			<b>16</b>

**(Computer) Programmer Specialist, Certificate****Location: Granite Falls, Jackson, Pipestone, Worthington, and Online**

Ensures that students have a multiple computer language programming experience; logically and creatively designing concise code, executing and maintaining it. CSCI certificates recognize student achievement and encourage lifelong learning. CSCI Department Disclosure: Due to scheduling, the courses that satisfy this certificate are not guaranteed to be offered within one semester.

CSCI	1102	Intro to Microcomputers	3
CST	1180	Data Security Awareness	1
CSCI	2240	Fund of Programming C++	4
CSCI	2250	Java Programming I	4
CSCI	2255	Java Programming II	4
<b>Total Credits</b>			<b>16</b>

**Cosmetology, Diploma****Locations: Jackson and Pipestone**

Students receive theory as well as practical experience in hair, skin, and nail care through classroom study, demonstrations and practical experience in the campus clinic. Some areas of study include safety and sanitation, customer service, and job seeking skills. Upon successful completion of hours and quota requirements mandated by the Minnesota Board of Cosmetologists Examiners, students must also take a written and a skills certification tests for licensure. Some of the opportunities include salon owner, salon manager, stylist, hair colorist, nail technician, esthetician, manufacturer's representative, state board inspector, just to name a few.

COSM	1100	Preclinic Introduction	4
COSM	1105	Preclinic Hair Care	4
COSM	1110	Preclinic Nail Care	4
COSM	1115	Preclinic Color & Texture	4
COSM	1120	Preclinic Skin Care	4
COSM	1135	Salon Preparation	3
COSM	1130	Advanced Hair Care	3
COSM	1140	Clinic I	4
COSM	1145	Clinic II	4
COSM	1150	Clinic III	4
COSM	1155	Clinic IV	3
COSM	1160	Clinic V	4
COSM	1165	Clinic VI	3
COSM	1170	Clinic VII	3
COSM	1175	Clinic VIII	3
COSM	1181	License Prep. for Cosmetology I	2
COSM	1182	License Prep. for Cosmetology II	2
<b>Total Credits</b>			<b>58</b>

**Cosmetology, extended hours for other states**

COSM	1230	Licensure Seminar	2
COSM	1220	Salon Operations VIII	1-18
<b>Total Credits</b>			<b>66</b>

**Esthetician, Certificate****Locations: Jackson and Pipestone**

Students will receive theory as well as practical experience in skin care through classroom study, demonstrations and clinical experience. Some areas of study include safety and disinfection control, customer service, and job seeking skills. Students will also develop the skills necessary to perform facials, facial massage, consultation, analysis and

microdermabrasion. Upon successful completion of quota and hour requirements mandated by the Minnesota Board of Cosmetologists Examiners, students must take a skills certification and written exam for licensure. Esthetics is one of the fastest growing areas in the beauty industry.

COSM 1100	Preclinic Introduction	4
COSM 1120	Preclinic Skin Care	4
COSM 1135	Salon Preparation	3
COSM 1145	Clinic II	4
COSM 1155	Clinic IV	3
COSM 1165	Clinic VI	3
COSM 1182	License Prep. for Cosmetology II	2
	<b>Total Credits</b>	<b>23</b>

### **Nail Technician, Certificate**

#### **Locations: Jackson and Pipestone**

Students will receive theory as well as practical experience in nail care through classroom study, demonstrations and clinical experience. Some areas of study include safety and disinfection control, customer service, and job seeking skills. Students will also develop skills necessary to perform manicures, pedicures, artificial nail enhancements, massage techniques, and consultation. Upon successful completion of quota and hour requirements mandated by the Minnesota Board of Cosmetologists Examiners, students must also take a skills certification and written exam for licensure. Skilled nail technicians are in very high demand.

COSM 1100	Preclinic Introduction	4
COSM 1110	Preclinic Nail Care	4
COSM 1220	Salon Operations VIII	5
	<b>Total Credits</b>	<b>13</b>

### **Dental Assistant, A.A.S.**

#### **Location: Canby**

The Dental Assistant program is designed to prepare individuals for a career in a variety of oral healthcare settings. This may be as a clinical chairside assistant to a dentist or dental hygienist or as a non-clinical practice management assistant. The program is accredited by the American Dental Association Commission on Dental Accreditation and upon completion the student will take national and state examinations leading to certification and licensure in dental assisting.

The course work includes content in general studies, bio-medical and dental sciences, clinical practices, and expanded functions allowed by the State of Minnesota.

Students will spend 10 weeks in extramural clinical experiences in area dental offices.

CMST 1101	Speech or	3
CMST 1103	Interpersonal Communication	3
ENGL 1101	Composition I	3
PSYC 1101	Introduction to Psychology or	4
SOC 1101	Introduction to Sociology Area 3 Electives	3
GSCL 1105	Job Seeking Skills	1
	General Education Electives	5-6
DEN 1100	Oral Radiology I	3
DEN 1105	Oral Radiology II	3
DEN 1110	Dental Science	3
DEN 1115	Dental Health	2
DEN 1120	Chairside Assisting I	3

DEN 1125	Chairside Assisting II	4
DEN 1130	Preclinical Dental Assisting	4
DEN 1135	Dental Practice Management	2
DEN 1140	Dental Materials	3
DEN 1145	Expanded Functions A	3
DEN 1150	Expanded Functions B	3
DEN 1155	Extramural Clinical Experience I	3
DEN 1160	Extramural Clinical Experience II	3
DEN 1180	Jurisprudence	1
DEN 1185	Nitrous Oxide Inhalation Admin	1
	<b>Total Credits</b>	<b>60</b>

### **Dental Assistant, Diploma**

#### **Location: Canby**

CMST 1101	Speech or	3
CMST 1103	Interpersonal Communication	3
ENGL 1101	Composition I	3
GSCL 1105	Job Seeking Skills	1
DEN 1100	Oral Radiology I	3
DEN 1105	Oral Radiology II	3
DEN 1110	Dental Science	3
DEN 1115	Dental Health	2
DEN 1120	Chairside Assisting I	3
DEN 1125	Chairside Assisting II	4
DEN 1130	Preclinical Dental Assisting	4
DEN 1135	Dental Practice Management	2
DEN 1140	Dental Materials	3
DEN 1145	Expanded Functions A	3
DEN 1150	Expanded Functions B	3
DEN 1155	Extramural Clinical Experience I	3
DEN 1160	Extramural Clinical Experience II	3
DEN 1180	Jurisprudence	1
DEN 1185	Nitrous Oxide Inhalation Admin	1
	<b>Total Credits</b>	<b>48</b>

### **Dental Hygiene Science (pre-dental hygiene), A.A.**

#### **Location: Worthington**

The pre-dental hygiene program at Minnesota West-Worthington Campus is designed to prepare a student for transfer into a dental hygiene program by fulfilling all of the major academic requirements of lower division dental hygiene programs at transfer universities. This program meets MnTC requirements.

BIOL 1110	Principles of Biology I	4
BIOL 2270	Microbiology	4
CHEM 1101	Inorganic Chemistry I*	4
CHEM 1102	Inorganic Chemistry II	4
ENGL 1101	Composition I	3
ENGL 2276	Composition: Technical Writing or	3
ENGL 1102	Composition II or	3
ENGL 2243	Composition: Creative Writing	3
HLTH 2240	Basic Nutrition	3
MATH 1105	Intro to Probability & Statistics	4
NSCI 1100	Issues in the Environment or	3
PSCI 2210	Environmental Politics or	3
GEOG 1101	Intro to Physical Geography****	4
PSYC 1101	Introduction to Psychology	4
SOC 1101	Introduction to Sociology Humanities Electives **	3
		6

Social Science Electives***	3
Free Electives*****	5
<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* Chemistry requirement varies. See an advisor for appropriate courses.

\*\* Includes literature course for University of Minnesota. See an advisor for appropriate courses.

\*\*\* Includes a history course for University of Minnesota. See an advisor for appropriate courses.

\*\*\*\* If either PSCI 2210 or GEOG 1101 is taken the SOC SCI requirement is complete.

\*\*\*\*\* See an advisor for assistance in choosing appropriate courses to meet transfer institutions. and MnTC requirements. Proficiency in a second language (e.g., Spanish) is highly desired.

### Dental Science (pre-dental science), A.S.

#### Location: Worthington

The pre-dental course is a three-year program (as semester credits) that prepares a student for entrance to a school of dentistry. Two and one-half years of this program may be taken at Minnesota West-Worthington campus. The following program is patterned after the University of Minnesota and meets the Associate of Science degree requirements.

ART	1120	Art Appreciation	3
ART	1101	Beginning Drawing or Beginning Painting	3
ART	1115	Beginning Painting	3
BIOL	1110	Principles of Biology I	4
BIOL	2270	Microbiology*	4
CHEM	1101	General Inorganic Chemistry I	4
CHEM	1102	General Inorganic Chemistry II	4
CHEM	2201	Organic Chemistry I	4
CHEM	2202	Organic Chemistry II	4
ENGL	1101	Composition I	3
ENGL	1102	Composition II or Composition: Technical Writing	3
ENGL	2276	Composition: Technical Writing	3
MATH	1113	Pre-Calculus	4
MATH	1121	Calculus I	4
MATH	1105	Intro to Probability & Statistics	4
MUSC	1105	Enjoying Music	3
PHYS	1201	Fundamentals of Physics I	4
PHYS	1202	Fundamentals of Physics II	4
		<b>Total Credits</b>	<b>60</b>

#### Third Year

BIOL	2201	Human Anatomy	4
BIOL	2202	Human Physiology	4
CMST	1101	Public Speaking	3
PSYC	1101	Introduction to Psychology	4
		Remaining MnTC Requirements	14-18
		<b>Total **</b>	<b>29-33</b>

An additional semester is required to complete the Associate of Arts degree and MnTC requirements. Students should take: three credits in HUM; five credits in SOC SCI (PSCI 2210 or GEOG 1101 recommended); two-six credits to meet areas 8, 9, and 10 if requirement is not met through HUM or SOC SCI

courses; three credits HLTH 1101; one credit PHED Activity if not previously completed. The total is 14-18 additional credits.

\* Depends on transfer institution.

\*\* An overall GPA of 3.25 is highly recommended for an application to be considered as competitive. Additional courses in Biochemistry, Cell Biology and History are required as is volunteer experience in a one-on-one personal service agency.

Note: Students are required to complete the DSAT (Dental School Admissions Test) prior to acceptance by dental schools.

### Diesel Technology, A.A.S.

#### Location: Canby

The Diesel Technology program provides individuals with the training needed for maintaining and repairing heavy-duty diesel powered equipment. Coursework emphasizes diesel engines, hydraulics, electrical, air conditioning, and diesel fuel injection systems. The program prepares students for careers in field services and as sales representatives and as managers of diesel service departments.

#### General Education

General Education from 3 of the 10 goal areas of the Minnesota Transfer Curriculum.

15

#### Technical Electives

DSL	1100	Diesel Engine Theory	3
DSL	1105	Diesel Engine Lab	4
DSL	1110	Electrical Theory	2
DSL	1115	Electrical Lab	2
DSL	1120	Powertrain Principles	2
DSL	1125	Powertrain Lab	3
DSL	1130	Hydraulics Theory and Application	3
DSL	1135	Fuel Injection Principles	3
DSL	1150	Internship	4
DSL	2106	Advanced Powertrain Theory	3
DSL	2111	Advanced Powertrain Lab	4
DSL	2131	Service Department Operations and Procedures	3
DSL	2136	Fuel Systems Theory	5
DSL	2145	Advanced Diesel	4
DSL	2150	Advanced Engines Lab	5
DSL	2155	Diesel Engine Control Systems	3
DSL	2180	Computerized Diagnostics	2
DSL	2190	GPS Systems Operations	2
		<b>Total Credits</b>	<b>72</b>

### Diesel Technician (Ag & Truck), Diploma

#### Location: Canby

DSL	1150	Internship	4
DSL	2131	Service Department Operations and Procedures	3
DSL	2136	Fuel Systems Theory	5
DSL	2137	Fuel Lab	5
DSL	2145	Advanced Engines Theory	4
DSL	2150	Advanced Engines Lab	5
DSL	2155	Diesel Engine Control Systems	3
DSL	2180	Computerized Diagnostic System	2
DSL	2190	GPS Systems Operation	2
		General Education or General Studies Electives	2
		<b>Total Credits</b>	<b>35</b>

**Diesel Mechanics (Ag & Truck), Diploma**

<b>Location: Canby</b>			
DSL	1100	Diesel Engine Theory	3
DSL	1105	Diesel Engine Lab	4
DSL	1110	Electrical Theory	2
DSL	1115	Electrical Lab	2
DSL	1120	Powertrain Principles	2
DSL	1125	Powertrain Lab	3
DSL	1130	Hydraulics Theory and Application	3
DSL	1135	Fuel Injection Principles	3
DSL	1142	Heating & Air Conditioning	3
DSL	2106	Advanced Powertrain Theory	3
DSL	2111	Advanced Powertrain Lab	4
		General Education or General Studies Electives	3
		<b>Total Credits</b>	<b>35</b>

**Advanced Diesel, Certificate**

<b>Location: Canby</b>			
DSL	2131	Service Dept. Operations and Procedures	3
DSL	2136	Fuel Systems Theory	5
DSL	2137	Fuel Labs	5
DSL	2145	Advanced Engines Theory	4
DSL	2150	Advanced Engines Lab	5
DSL	2155	Diesel Engine Control Systems	3
DSL	2180	Computerized Diagnostic System	2
DSL	2190	GPS Systems Operation	2
		<b>Total Credits</b>	<b>29</b>

**Basic Diesel, Certificate**

<b>Location: Canby</b>			
DSL	1100	Diesel Engine Theory	3
DSL	1105	Diesel Engine Lab	4
DSL	1110	Electrical Theory	2
DSL	1115	Electrical Lab	2
DSL	1135	Fuel Injection Principles	3
DSL	1142	Heating/Air Conditioning Systems	3
		<b>Total Credits</b>	<b>17</b>

**Diesel Powertrain and Hydraulics, Certificate**

<b>Location: Canby</b>			
GSCL	1105	Job Seeking Skills	1
DSL	1120	Powertrain Principles	2
DSL	1125	Powertrain Lab	3
DSL	1130	Hydraulics Theory and Application	3
DSL	2106	Advanced Powertrain Theory	3
DSL	2111	Advanced Powertrain Lab	4
DSL	1150	Internship	4
		<b>Total Credits</b>	<b>20</b>

**Economics , A.A.**

**Location: Worthington**  
Economics is an independent area of study. It is, therefore, not listed under the business section. Students planning to major in economics should obtain a catalog from the four-year school to which they intend to transfer and consult with the Worthington advisors to determine their exact program. This program meets the MnTC and the Associate of Arts requirements.

BUS	1101	Introduction to Business	4
BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4
CMST	1101	Public Speaking	3
ENGL	1101	Composition I	3

ENGL	1102	Composition II	3
ECON	2201	Principles of Macroeconomics	3
ECON	2202	Principles of Microeconomics	3
MATH	1105	*Intro to Probability & Statistics	4
MATH	1113	*Pre-Calculus	4
		or	
MATH	1121	*Calculus I	4
NSCI	1100	Issues in the Environment	3
		or	
PSCI	2210	Environmental Politics	3
		or	
GEOG	1101	Physical Geography	4
PSCI	1201	American Government & Politics	3
PSYC	1101	Introduction to Psychology	4
		Biology Electives	3-4
		Chemistry or Physics Electives	3-4
		Humanities Electives	6
		<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* Depends on high school preparation and transfer institution.

**Education, Elementary or Special, A.A.****Location: Worthington**

Minnesota West-Worthington campus offers the first two years of courses for that program and, in addition, a number of supporting courses for those students planning the special education emphasis. Many colleges require a grade of B in composition as well as a GPA of 2.5 or better in all courses for admission into the Education Department. The program below meets the Associate of Arts degree and MnTC requirements for Minnesota State, but can be adapted to meet the varied needs of other institutions.

ENGL	1101	Composition I	3
BIOL	1100	Survey of Biology	3
		or	
BIOL	1110	Principles of Biology I	4*
PHYS	1100	Survey of Physics	3
CHEM	1100	Introduction to Chemistry	4
ART	1120	Art Appreciation	3
		or	
ART	1118	Arts and Crafts	3
HIST	1101	American History I	4
HIST	1102	American History II	4
ENGL	1102	Composition II	3
		or	
ENGL	2243	Composition: Creative Writing	3
		or	
ENGL	2276	Composition: Technical Writing	3
HLTH	2220	Drugs, Society & the Individual	3
HLTH	1117	CPR for the Professional Rescuer & Community First Aid	1-3
		or	
HLTH	1120	Comprehensive CPR & other First Aid	1-3
PSYC	1101	Introduction to Psychology and Developmental Psychology	4
		or	
PSYC	1150	Developmental Psychology	3
		or	
PSYC	1140	Child & Adolescent Psychology	3
HIST	1105	Minnesota History	3

GEOG 1100	Physical Geography	3
MUSC 1101	Fundamentals of Music	3
CMST 1101	Public Speaking	3
	MATH	3
SOC 1101	Introduction to Sociology	3
NSCI 1100	Issues in the Environment	3
	or	
PSCI 2210	Environmental Politics	3
	or	
GEOG 1101	Intro to Physical Geography	4
THTR 2210	Oral Interpretation	3
	or	
	Humanities Elective*	3
PSCI 1201	American Government & Politics	3
	or	
PSCI 2202	State & Local Government	3

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* Depends on transfer institution.

The State of Minnesota Board of Licensure is currently redefining the professional and pre-professional requirements for education majors. Consult your advisor for current information.

Note: The PPST exam is required before students can enroll in education courses at the junior level. See Student Services for more information and a test application.

### Education, Secondary, A.A.

#### Location: Worthington

Minnesota West-Worthington campus offers the necessary courses for students who are planning to teach in secondary schools. The secondary education program for high school teaching prepares students for teaching in all of the various popular subject fields including English, social sciences, natural sciences, humanities, physical education, foreign language (Spanish), home economics, math, computer science, business and industrial technical. The education programs meet the AA degree and MnTC requirements at state universities. The following suggested program is to be used as a guideline only. Students preparing for teaching in secondary schools or colleges should earn about 10 credits in their major field with at least a 2.5 grade point average. Grades consisting of "B's" in composition courses are required by many colleges.

CMST 1101	Public Speaking	3
ENGL 1101	Composition I	3
PSYC 1101	Introduction to Psychology	4
PSYC 1150	Developmental Psychology	3
	Biology	3-4
	Humanities Electives	9
	Social Science Electives	3
HLTH 2220	Drugs, Society & the Individual	3
ENGL 1102	Composition II	3
	or	
ENGL 2243	Composition: Creative Writing	3
	or	
ENGL 2276	Technical Writing	3
	Electives in Field	6
MATH 1105	Intro to Probability & Statistics	4
	or	
MATH 1111	College Algebra	3
GEOG 1101	Intro to Physical Geography	4

		Chemistry or Physics	3-5
NSCI 1100		Issues in the Environment	3
		or	
PSCI 210		Environmental Politics	3
		or	
GEOG 1101		Intro to Physical Geography	4
		General Education Electives	5
		<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

### Education Paraprofessional, Certificate

#### Location: Online

This certificate program prepares graduates for employment in a K-12 school district and provides a curriculum which meets the core competencies. The curriculum will provide a career pathway for paraprofessionals which will allow them to begin, continue, and enhance their education. The curriculum is organized to move the learner through the selected course work online and through the A.S. degree without unnecessary duplication of course work. The certificate is made up of four required and five elective online classes developed by incorporating the core competencies that have been produced for paraprofessionals by the Institute on Community Integration at the University of Minnesota. The coursework is designed to begin students with a 12-credit certificate which is also part of the Child Development, Diploma; Child Development A.S.; as well as the Child Development Track of the Human Services degree.

HSER 1132	Behavior Management	2
HSER 1266	Foundations of Child Development	2
HSER 1267	Special Needs of Young Child	2
HSER 1269	Guidance: Managing the Physical and Social Environments	2
	Electives (4 credits) from the following courses:	
CDEV 1240	Family and Community Relations	3
CSCI 1102	Introduction to Microcomputers	3
HSER 1121	American Sign Language	3
HSER 1131	Autism	1
HSER 1268	Health Nutrition and Safety	2
	<b>Total Credit</b>	<b>12</b>

### Electric Utility Substation Technology, A.A.S.

#### Location: Jackson

Curriculum includes extensive hands-on practice and theory in single and three phase metering, overcurrent and complex relaying, single-and-three phase transformers, regulators, capacitors, generation, transmission, distribution and many other subjects. Career opportunities include installing and calibrating electrical watt-hour meters, planning and working in electrical substations, testing and installing high voltage and high current relays used in transmission and distribution lines, electrical dispatcher, or a power plant maintenance technician.

ENGL 1101	Composition I	3
MATH	MN Transfer Area 4 course	3
CSCI 1102	Intro to Microcomputers	3
	Humanities Electives	3
	General Education Electives	7
ELCO 1100	Electric Circuit Fundamentals	3

ELCO 1105	Electric Circuit Fundamentals Lab	3
ELEC 1230	Safety Principles and OSHA	1
ELEC 2205	Electric Motor Control I	4
ELEC 2225	Electric Motor Control II	4
ELEC 2230	Programmable Logic Controllers	4
ELUT 1105	Blueprint, Schematics and Transit	3
ELUT 1110	Transformer Banking I	3
ELUT 1115	Generation, Transmission, Dist.	3
ELUT 1120	Specifications, Testing and Maintenance	2
ELUT 2121	Protective Relays I	2
ELUT 2116	Reclosures & Protective Equipment	2
ELUT 2110	Transformer Banking II	2
ELUT 2100	Metering I	3
ELUT 2126	Regulators and Capacitors	2

**General Education Electives from:**

English, Biology, Chemistry, Philosophy, Theatre, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

**Humanities Electives from the following:**

Art, Foreign Language, Literature, Music, Philosophy, Theatre, Western Civilization

**Total Credits 60**

**Electric Utility Substation Technician, Diploma**

**Location: Jackson**

General Education and/or		
GSCL1105	Job Seeking Skills, GSCM1120 Technical Writing, GSSS1100 Human Relations	7

CSCI 1102	Intro to Microcomputers	3
ELCO 1100	Electric Circuit Fundamentals	3
ELCO 1105	Electric Circuit Fundamentals Lab	3
MATH 1100	Integrated Math or higher	3
ELEC 1230	Safety Principles and OSHA	1
ELEC 2205	Electric Motor Controls I	4
ELEC 2225	Electric Motor Control II	4
ELEC 2230	Programmable Logic Controllers	4
ELUT 1105	Blueprint, Schematics, and Transit	3
ELUT 1110	Transformer Banking I	3
ELUT 1115	Generation, Transmission and Distribution	3
ELUT 1120	Specifications, Testing and Maintenance	2
ELUT 2100	Metering I	3
ELUT 2110	Transformer Banking II	2
ELUT 2116	Reclosures and Protective Equipment	2
ELUT 2121	Protective Relays	2
ELUT 2126	Regulators and Capacitors	2
EMS 1112	AHA CPR Healthcare Provider, AED First Aid Certification	1
	Electives	5
<b>Total Credits</b>		<b>60</b>

**Electrician, A.A.S.**

**Locations: Canby and Jackson**

The electrician program prepares individuals to apply their knowledge and skills to install, operate, maintain, and repair electrical apparatuses and systems such as residential, commercial, and industrial electric - power wiring, and D.C. and A.C. motors, controls, and electrical distribution panels. Also, included is instruction in the use of test equipment.

**General Education requirements 15**

These must be selected from 3 of the 10 goal areas of the Minnesota Transfer Curriculum (see page 5)

ELCO 1100	Electrical Circuits Fundamentals and	3
ELCO 1105	Electrical Circuits Fund. Lab or	3
ELCO 1110	AC/DC I and	3
ELCO 1120	AC/DC II	3
ELEC 1200	Residential Wiring I	5
ELEC 1205	National Electric Code I	2
ELEC 1210	Residential & Farm Wiring	5
ELEC 1215	National Electric Code II	2
ELEC 1220	Conduit Installation	4
ELEC 1225	Electric Motors	3
ELEC 1230	Safety Principles and OSHA	1
ELEC 1235	Applied Electrical Calculations	2
ELEC 1240	Commercial Wiring	5
ELEC 2200	Low Voltage	2
ELEC 2205	Electric Motor Controls I	4
ELEC 2210	National Electrical Code III	2
ELEC 2220	Industrial Wiring	3
ELEC 2225	Electric Motor Controls II	4
ELEC 2230	Programmable Logic Controllers	4
ELEC 2235	National Electric Code IV	2
ELEC 2240	Transformers	3
EMS 1112	AHA CPR Healthcare Provider	1
ELEC 2250	Heating and Air Cond. Controls	3
ELEC 2265	Alternative Energies	3
<b>Total Credits</b>		<b>81</b>

**Electrician, Diploma**

**Locations: Canby and Jackson**

ELCO 1100	Electrical Circuits Fundamentals and	3
ELCO 1105	Electrical Circuits Fund. Lab or	3
ELCO 1110	AC/DC I and	3
ELCO 1120	AC/DC II	3
ELEC 1200	Residential Wiring I	5
ELEC 1205	National Electric Code I	2
ELEC 1210	Residential & Farm Wiring	5
ELEC 1215	National Electric Code II	2
ELEC 1220	Conduit Installation	4
ELEC 1225	Electric Motors	3
ELEC 1230	Safety Principles and OSHA	1
ELEC 1235	Applied Electrical Calculations	2
ELEC 1240	Commercial Wiring	5
ELEC 2200	Low Voltage	2
ELEC 2205	Electric Motor Controls I	4
ELEC 2210	National Electrical Code III	2
ELEC 2220	Industrial Wiring	3
ELEC 2225	Electric Motor Controls II	4
ELEC 2230	Programmable Logic Controllers	4
ELEC 2235	National Electric Code IV	2
ELEC 2240	Transformers	3
EMS 1112	AHA CPR Healthcare Provider	1
ELEC 2265	Alternative Energies	3
ELEC 2250	Heating and Air Cond. Controls	3

General Education, or Related, of 8 credits would include the following courses:

GSSS 1100 Human Relations, GSCL 1105 Job Seeking Skills, GSCM 1120 Technical Writing

or English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature,

Music, Philosophy, Theatre, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

**Total Credits 74**

**Emergency Medical Services, Certificate**

**Location: Jackson and Marshall Center Site**

An instructional program that prepares individuals to perform initial medical diagnosis, treatment, and comprehensive care in medical crises under the general supervision of a coordinating physician. Includes instruction in all aspects of basic health care; disease, disorder, and injury symptomatology and diagnosis; emergency medical treatment procedures for various injuries and disease outbreaks; basic pharmacology; anesthetics; intravenous and other drug administration procedures; obstetrics procedures; basic surgical techniques; emergency medical equipment operation and maintenance; special care of patients exposed to heat, cold, radiation, or contagious disease; and administrative aspects of emergency medicine. Programs may include emergency vehicle operation and patient transportation procedures, depending on level of training.

EMS	1101	Introduction to EMT	2.5
EMS	1102	EMT Completion/Bridge	4.5
HC	1180	Medical Terminology in Healthcare	2
HC	1151	Body Structures & Function	3
HC	1290	Health Care and Society	1
HC	2120	Disease Conditions	3
		Or	
ADSM	1120	Medical Office Procedures	3
		<b>Total Credits</b>	<b>16</b>

**Emergency Medical Technician, Certificate**

**Location: Jackson and Marshall Center Site**

This certificate meets the initial requirements of the EMS Regulatory Board and the National Registry for EMTs for direct employment with an Emergency Ambulance Service, basic transport service, and emergency room, law enforcement or fire department. Successful completion of this course, the practical skills exam and the designated readiness written exams allows the student eligibility to take the National Registry Exam.

EMS	1101	Introduction to EMT Basic	2.5
EMS	1102	EMT Basic Completion Course	4.5
		<b>Total Credits</b>	<b>7</b>

**(Energy) Biofuels Technology; Biodiesel, Certificate**

**Location: Granite Falls and Online**

This 18-credit program is offered to students in an on-line format. The program courses provide foundational learning to support process plant technologies and operation with a concentration in biodiesel technologies.

RNEW	1100	Process Dynamics	3
RNEW	1102	Biodiesel Fundamentals	2
RNEW	1107	Industrial Safety	2
RNEW	1115	Mechanical Fundamentals for Process Controls	3
RNEW	1125	P & ID, PFD	1
RNEW	1160	Instrumentation & Control	3
RNEW	1175	Industrial Water Treatment	2
RNEW	1195	Biodiesel Technologies & Regulatory Issues	2
		<b>Total Credits</b>	<b>18</b>

**(Energy) Biofuels Technology; Ethanol, Certificate**

**Location: Granite Falls and Online**

The Biofuels Technology Ethanol program focuses on ethanol production. This certificate will enhance an individual's ability to enter and advance a career in the renewable energy industry, such as a process technician or in sales and marketing.

RNEW	1100	Process Dynamics	3
RNEW	1101	Ethanol Process Fundamentals	2
RNEW	1107	Industrial Safety	2
RNEW	1115	Mechanical Fundamentals for Process Controls	3
RNEW	1125	P & ID, PFD	1
RNEW	1160	Instrumentation & Control	3
RNEW	1175	Industrial Water Treatment	2
RNEW	2120	Ethanol Separation Technology	2
		<b>Total Credits</b>	<b>18</b>

**Energy Technical Specialist, A.A.S.**

**Location: Canby, Granite Falls and Online**

This degree, which can be completed online, will prepare students for work as technicians in energy technology and convey the skills and knowledge necessary to be successful in the traditional and renewable energy fields.

In addition to 15 General Education credits students enrolled in the Energy Technical Specialist program will study a 35 credit core curriculum providing a strong base in electrical, electronic and mechanical systems. Students will select 10 credits in an area of specialization to complete their program of study from the following: Wind Energy, Ethanol, Biodiesel, Fossil Fuels or Nuclear Power Generation.

The Energy Technical Specialist degree is offered through a partnership of multiple colleges in the Minnesota State system. Each of the partner colleges offer courses in their respective areas of expertise and the participating colleges accept transfer courses from each other.

Students entering into the Energy Technical Specialist program should realize that the energy industry is highly specialized and there are extraordinary employment characteristics associated in some areas of the power industry. Depending on the energy company, hiring managers may require a federal background check, drug and alcohol testing, and a physical if necessary for a position.

**Required Courses**

RNEW	1107	Industrial Safety	2
RNEW	1300	Intro to Traditional & Renewable Energy	3
ELCO	1110	AC/DC I and	3
ELCO	1120	AC/DC II	3
MECA	1210	Digital/Solid State Electronics	3
RNEW	1100	Process Dynamics	3
RNEW	1115	Mechanical Fundamentals for Process Control	3
MECH	2136	Programmable Logic Controls	3
		or	
RNEW	2543	Program Logic Controls	3
MECH	1120	Pneumatics Theory	3
FLPW	1103	Basic Hydraulics	3
RNEW	1160	Instrumentation & Control	3



RNEW 1125	P&ID and PFD Reading <b>and</b>	1
MECH 1115	Auto CAD	2
	or	
ECAD 1023	Print Reading*	3
RNEW 1507	Basic Digital Electronics*	3

**Specialty Emphasis/Certificate Courses (select 10 credits)**

**Bio Fuel**

RNEW 1101	Ethanol Process Fundamentals	2
RNEW 1102	Biodiesel Process Fundamentals	2
RNEW 1110	Low/High Pressure Boilers	1
RNEW 1130	Pollution Control Fundamentals	2
RNEW 1175	Industrial Water Treatment	2
RNEW 1195	Biodiesel Feedstocks, Technologies & Regulatory Issues	2
RNEW 2120	Ethanol Separation Technology	2

**Wind Power**

ELWT 1100	Wind Energy Fundamentals	3
ELWT 1160	Environmental Health/Safety Wind Energy	1
ELWT 1170	OSHA Safety Climbing	2

**General Education Requirements (15 credits)**

MATH 1111	College Algebra	3
ENGL 1101	Composition I	3
PHSY 1100	Survey of Physics	3
NSCI 1100	Issues in the Environment	3
	General Education Elective	3
	<b>Total Credits</b>	<b>60</b>

\*Not a Minnesota West course.

**(Energy) Solar Photovoltaic Technician, Certificate**

**Location: Canby and Jackson**

The Solar Photovoltaic program combines lecture and hands on training to provide the skills necessary to install solar PV systems. Graduates will develop an understanding of where PV systems started, where they are now and where they will be in the future. Under minimal supervision graduates must be able to define the solar resource and complete a site assessment. They must also develop a comfort level with the capabilities, limitations, and basic construction of all major PV system pieces. Graduates must also be able to size systems to client's expectations, inspect, commission and maintain the systems.

ELCO 1100	Electrical Circuit Fundamentals <b>and</b>	3
ELCO 1105	Electrical Circuit Fundamentals Lab	3
	or	
ELCO 1110	AC/DC I <b>and</b>	3
ELCO 1120	AC/DC II	3
ELEC 1205	National Electric Code I	2
ELEC 1220	Conduit Installation	4
ELEC 1230	Safety Principles and OSHA	1
ELEC 1235	Applied Electrical Calculations	2
SOLR 1020	Introduction to Solar Assessment	3
SOLR 1030	Solar Energy Construction Projects	2
SOLR 2020	Advanced Photovoltaic Systems	3
SOLR 2025	Photovoltaic Systems Lab	2
	<b>Total Credits</b>	<b>25</b>

**(Energy) Wind Energy Technology, A.A.S.**

**Location: Canby**

The Wind Energy Technology program combines lecture and hands-on training to provide skills necessary in completing advanced technical troubleshooting and repairs on wind energy turbines. Under minimal supervision, graduates will be able to

carry out complex daily assembly, service, repair, and operations of infrastructure to wind turbine generators and related equipment. Exposure to concepts of basic digital circuits, motor controllers, programmable logic controllers, and computerized data collection, interpretation, storage, and retrieval is evident throughout the program.

Wind Energy Technicians must operate in compliance with company, State, and Federal OSHA requirements and be capable of climbing to 300 feet. They work closely with clients and must have an understanding of environmental issues and politics, written technical skills, and data interpretation.

CSCI 1102	Introduction to Microcomputers	3
ELCO 1110	AC/DC I and	3
ELCO 1120	AC/DC II	3
ELEC 1225	Electric Motors	3
ELEC 1235	Applied Electrical Calculations	2
ELEC 2200	Low Voltage	2
ELEC 2205	Electric Motor Control I	4
ELEC 2230	Programmable Logic Controllers	4
ELEC 2265	Intro to Alternate Energy	3
ELUT 1110	Transformer Banking	3
ELWT 1100	Wind Energy Fundamentals	3
ELWT 1110	Mechanical Systems	3
ELWT 1170	Environmental Health & Safety Wind Energy & Climb Lab	2
ELWT 2110	Turbine Siting & Construction	3
FLPW 1103	Basic Hydraulics (Lecture)	3
FLPW 1105	Basic Hydraulics Lab	1
	General Education Electives	15
	<b>Total Credits</b>	<b>60</b>

**(Energy) Wind Energy Mechanic, Diploma**

**Location: Canby**

CSCI 1102	Introduction to Microcomputers	3
ELCO 1110	AC/DC I	3
ELCO 1120	AC/DC II	3
ELEC 1225	Electric Motors	3
ELEC 1235	Applied Electrical Calculations	2
ELEC 2265	Introduction to Alternate Energy	3
ELUT 1110	Transformer Banking	3
ELWT 1100	Wind Energy Fundamentals	3
ELWT 1110	Mechanical Systems	3
ELWT 1170	Environmental Health & Safety Wind Energy & Climb Lab	2
FLPW 1103	Basic Hydraulics	3
FLPW 1105	Fluid Power Hydraulics Lab	1
	Elective	2
	<b>Total Credits</b>	<b>34</b>

**(Energy) Windsmith, Certificate**

**Location: Online**

The Windsmith Certificate is designed as an introductory to the Wind Energy Industry. Individuals wanting to increase their working knowledge of this field are best suited for this course. However, students may be able to secure employment as a Technician by completing the Windsmith Certificate.

This certificate will introduce students to how the wind works, its reliability, and the related economic, environmental, and political issues. Students will also be introduced to the basic operating principles of wind energy systems and status of the industries past and future. OSHA

safety regulations and standards that pertain to the construction and maintenance of wind turbines and the energy industry will also be covered. In addition, concepts of AC and DC circuits, as well as basic hydraulic applications are incorporated into the Windsmith certificate.

ELCO	1110	AC/DC I and	3
ELCO	1120	AC/DC II	3
ELWT	1100	Wind Energy Fundamentals	3
ELWT	1160	Wind Energy OSHA Standards	1
ELWT	1170	Environmental Health & Safety Wind Energy & Climb Lab	2
FLPW	1103	Basic Hydraulics (Lecture)	3
RNEW	1105	Intro to OSHA	1
		<b>Total Credits</b>	<b>16</b>

### Engineering (pre-engineering), A.S.

#### Location: Worthington

Engineering programs prepare graduates to do research and to design and develop new technologies and devices. Engineering technology programs prepare graduates to apply engineering knowledge and methods along with technical skills. Engineering technologists often translate and apply engineering research in real world applications. The engineering program at Minnesota West-Worthington campus is designed to fulfill the major requirements of lower division engineering programs at transfer universities. This program meets the Associate of Science requirements but does not meet the Minnesota Transfer Curriculum.

For most fields of engineering, the first two years of the program provide students with a needed foundation in math and science. In addition, students begin fulfilling general education requirements for graduation. Actual specialization in such fields as computer, agricultural, aeronautical, chemical, civil, geological, material processing, electrical, mechanical, and industrial engineering generally begins in the junior year.

In an effort to meet the needs of each student, Minnesota West-Worthington campus offers three engineering tracks, each allowing graduates to transfer as juniors.

CHEM	1101	General Inorganic Chemistry I	4
CMST	1101	Fundamentals of Speech and Lab	3
ECON	2201	Principles of Macroeconomics	3
ENGL	1101	Composition I	3
ENGL	2276	Technical Writing	3
ENGR	1101	Intro Engineering	1
ENGR	2214	Engineering Mechanics-Statics	3
ENGR	2215	Engineering Mechanics-Dynamics	3
GEOG	1101	Intro to Physical Geography	4
HIST	1111	Western Civilization	3
MATH	1121	Calculus I	4
MATH	1122	Calculus II	4
MATH	2201	Calculus III	4
MATH	2203	Differential Equations	3
PHIL	2101	Ethics Theory & Practices	3
PHIL	2205	Business Ethics	2
PHYS	2121	General Physics I and Laboratory	5
PHYS	2122	General Physics II and Lab	5
		<b>Total Credits</b>	<b>60</b>

### Environmental Sciences, A.A.

#### Location: Worthington

The study of the environment combines knowledge of biological, chemical and physical principles with the broad

background of the liberal arts. Students will find a variety of fields in which to specialize at the BA/BS level. At Minnesota West-Worthington campus, students should concentrate on completing the MnTC and a broad science/math background.

BIOL	1110	Principles of Biology I	4
CMST	1101	Public Speaking	3
ENGL	1101	Composition I	3
ENGL	1102	Composition II	3
CHEM	1101	General Inorganic Chemistry I	4
CHEM	1102	General Inorganic Chemistry II	4
MATH	1111	College Algebra	3
NSCI	1100	Issues in the Environment	3
PSCI	1201	American Government & Politics	3
		or	
PSCI	2202	State and Local Government	3
		or	
PSCI	2210	**Environmental Politics	3-9
		Humanities Electives	9
		Social Services Electives	6

#### Courses to fulfill remaining MnTC/AA Degree\*\*\*

AGRI	1103	Introduction to Soil Science	3
AGRI	2204	Introduction to Precision Agriculture	3
		Electives	2
		<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\*\* Depends on program emphasis

\*\*\* See an Advisor

### Fluid Power Technology, A.A.S.

#### Location: Granite Falls

Fluid power is the technology of generating, controlling, and applying smooth, effective power of pumped or compressed fluid, either a liquid (hydraulics) or air (pneumatics) to push, pull, rotate, regulate, or drive virtually all of the mechanisms of modern industry. Fluid Power Technicians perform such tasks as:

- Designing fluid power systems
- Installing fluid, power systems and components, such as pumps, motors, compressors, valves, cylinders, and accessories.
- Troubleshooting and maintaining fluid power systems on such equipment as industrial machines, construction and agricultural machines, airplanes, ships, over-the-road vehicles and material handling devices.
- Testing and manufacturing fluid power systems and components.
- Conducting research on new concepts, applications, and improvements of fluid power systems
- Manufacturing components and systems.
- Marketing and selling fluid power systems, working closely with customers of fluid power manufacturers and distributors.

#### General Education Credits

FLPW	1100	Hydraulic Theory	4
FLPW	1105	Fluid Power Hydraulic Lab	3
FLPW	1110	Fluid Power Calculations	2
FLPW	1115	Auto CAD	2
FLPW	1120	Pneumatics Theory	3

FLPW 1131	Fluid Power Lab II	3
FLPW 2100	Advanced Systems Calculations	3
FLPW 2105	Advanced System Lab I	4
FLPW 2110	Circuit Design and Control Theory	3
FLPW 2126	Systems Analysis	4
FLPW 2130	Advanced Systems Lab II	4
FLPW 2136	Programmable Logic Controls	3
FLPW 2141	Proportional and Servo Control Theory	2
FLPW 2170	Second Year Technical Projects	2
ROBT 1107	Electrical Theory I/Lab	3
ROBT 1122	Electrical Theory II	2
ROBT 1135	Electromechanical Theory	2
	Technical Elective	5
	<b>Total Credits</b>	<b>72</b>

CHEM 2202	Chemistry II	5
CMST 1101	Public Speaking	3
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
HLTH 2240	**Basic Nutrition	3
<b>Choose two of the following:</b>		
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
MATH 1121	*Calculus	4
PHYS 1201	Fundamentals of Physics I	4
PHYS 1202	**Fundamentals of Physics II	4
PSYC 1101	Introduction to Psychology	4
	Humanities Electives***	4
	<b>Total Credits</b>	<b>60</b>

### Fluid Power Technology, Diploma

#### Location: Granite Falls

General Education Credits			10
FLPW 1100	Hydraulic Theory	4	
FLPW 1105	Fluid Power Hydraulic Lab	3	
FLPW 1110	Fluid Power Calculations	2	
FLPW 1115	Auto CAD	2	
FLPW 1120	Pneumatics Theory	3	
FLPW 1131	Fluid Power Lab II	3	
	Technical Electives	8	
FLPW 2100	Advanced Systems Calculations	3	
FLPW 2105	Advanced System Lab I	4	
FLPW 2110	Circuit Design and Control Theory	3	
FLPW 2126	Systems Analysis	4	
FLPW 2130	Advanced Systems Lab II	4	
FLPW 2136	Programmable Logic Controls	3	
FLPW 2141	Proportional and Servo Control Theory	2	
FLPW 2170	Second Year Technical Project	2	
ROBT 1107	Electrical Theory I/Lab	3	
ROBT 1122	Electrical Theory II	2	
ROBT 1135	Electromechanical Theory	2	
	<b>Total Credits</b>	<b>67</b>	

### Food Science, A.S.

#### Location: Worthington

Food Science degrees are limited almost exclusively to land grant universities, although some state universities do have Food Science Technology majors. The Associate of Science degree listed below would prepare students to complete the first two years of a bachelor's degree in a science option of a Food Science Degree program. The degree requirements listed below are based primarily on the requirements of the University of Minnesota and Minnesota State University, Mankato. The degree requirements for schools in Wisconsin (U of W-River Falls), North Dakota (NDSU), South Dakota (SDSU) and Iowa (Iowa State University) are very similar in the areas of communications and math/science. Calculus and Organic Chemistry requirements may vary, as well as social science, humanities, and physical education. This does not meet the MnTC requirements. Students planning to attend the University of Minnesota are advised to complete the Associate of Arts degree and the MnTC.

BIOL 1110	Principles of Biology I	4
BIOL 2201	Human Anatomy	4
BIOL 2202	Human Physiology	4
BIOL 2270	Microbiology	4
CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
CHEM 2201	Chemistry I	5

\* Depends on high school preparation

\*\* Depends on transfer institution

\*\*\* Minimums only BIOL 2201 and 2202 are required at Minnesota State University, Mankato MATH 1121 and 1122 are required at the University of Minnesota. An additional semester is required to complete the AA degree and MnTC requirements. Students should take the following courses: five credits in SOC SCI; five credits in HUM; PSCI 2210, GEOG 1101 and ECON 2202 are strongly recommended; PHIL 2201 AND 2202, and HIST 1111 are strongly recommended; HLTH 1100 for three credits; two-six credits to meet Areas 8,9,10 if not met by HUM and SOC SCI requirements. This will total 13-20 additional credits.

### Forestry/Natural Resources, A.S.

#### Location: Worthington

Four-year college graduates in the field of forestry are responsible for the management of approximately one-third of the land area of the United States. The educational program in the School of Natural Resources (University of Minnesota) prepares the student in forest resource development and forest science curricula in the art, science and business of managing forest lands for all their products (timber, water, wildlife, grazing, and recreation). Forest products, forest engineering and forest marketing graduates are directly involved in the harvesting, processing, distribution and marketing of forest products in the nation. The recreation resource management curriculum specializes in manufactured housing, marketing, pulp and paper, wood science and technology as well as the management and marketing of recreation areas.

The College of Natural Resources at the University of Minnesota has many options or areas of specialization within the broad area of forestry. All of these programs require a broad science background, and the following is only one possible two-year course of study. Upon completion of this program, the student earns the AS degree.

AGRI 1103	Introduction to Soil Science	3
BIOL 1110	Principles of Biology I	4
BIOL 2220	Animal Biology	4
BIOL 2230	Plant Biology	4
CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
CHEM 2201	Organic Chemistry I	5
CMST 1101	Public Speaking	3
ECON 2201	Principles of Macroeconomics	3

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1105	*Intro to Probability & Statistics	4
MATH 1121	****Calculus I	4
PHYS 1201	Fundamentals of Physics I	4
PHYS 1202	Fundamentals of Physics II	4
	Social Science Electives***	3
	Humanities Electives***	3
	<b>Total Credits</b>	<b>60</b>

\* Required for forest resources and forest science majors for the Itasca Biological Sciences Program

\*\* Depends on the area of specialization

\*\*\* Minimums only.

\*\*\*\* Depends on high school preparation

An additional semester is required to complete the A.A. degree and MnTC requirements. Students should take six credits in HUM; two-six credits in SOC SCI (PSCI 2210 recommended); two-six credits to meet areas 7, 8 and 9 of MnTC if not complete as part of HUM/SOC SCI requirements. This will total 10-20 additional credits.

### Health Information Technology, A.A.S

**Location: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

Minnesota West offers two program options related to Health Information Management careers: including a Diploma in Medical Coding Specialist, and an Associate of Applied Science degree in Health Information Technology. Health Information Technicians analyze, secure, and maintain patient health information. Health Information Technicians compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal and regulatory requirements of the health care industry. Other duties may include processing, maintaining, compiling and reporting patient information for health requirements and standards using the medical coding system. Medical Coding Specialists work closely with other health care professionals in coding diagnosis and procedures on patient medical records, analyzing medical records for completeness of documentation, working with insurance companies, and reimbursement procedures.

HC 1151	Body Structure & Function	3
HC 1180	Medical Terminology in Healthcare	2
HC 1290	Health Care & Society	1
HC 2120	Disease Conditions	3
HIMC 1100	CPT-4	3
HIMC 1110	ICD-10-CM	3
HIMC 1120	ICD-10-PCS	3
HIMC 1140	Intro to Health Information and Delivery Systems	3
HIMC 1150	Reimbursement & Insurance in Healthcare	2
HMIC 1160	Intro to Medical Billing and Coding	2
HIMC 2100	Computer Health Information	3
HIMC 2110	Mgt. and Supervision of Healthcare	3
HIMC 2120	Quality & Performance Improvement In Healthcare	2
HIMC 2130	Capstone	2
HIMC 2135	HIT Seminar	1
HIMC 2140	Calculating & Reporting Statistics In Healthcare	2
MEDA 2135	Pharmacology	3

### General Education

CMST 1103	Interpersonal Communications	3
CSCI 1102	Introduction to Microcomputers	3
ENGL 1101	Composition I	3
ENGL 2276	Technical Writing	3
PHIL 2101	Ethics Theory & Practices	3
SOC 1101	Intro to Sociology	3

**Total Credits 60**

### Health Information Technician Assistant, Certificate

**Location: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

HC 1180	Medical Terminology in Healthcare	2
HC 1290	Health Care & Society	1
HIMC 1140	Intro to Health Information and Delivery Systems	3
HIMC 1150	Reimbursement & Insurance in Healthcare	2
HMIC 1160	Intro to Medical Billing and Coding	2
HIMC 2100	Computer Health Information	3
HIMC 2110	Mgt. and Supervision of Healthcare	3
HIMC 2120	Quality & Performance Improvement In Healthcare	2
HIMC 2140	Calculating & Reporting Statistics In Healthcare	2
	<b>Total Credits</b>	<b>20</b>

### Healthcare Administrative Assistant, A.A.S.

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

A healthcare administrative assistant performs the confidential administrative and clerical work of a medical office. The variety of duties may include bookkeeping, billing, scheduling appointments, and processing insurance claims. They may be responsible for telephone, mail, transcription and typing duties. Other duties include ordering laboratory tests and supplies, as well as receiving, interviewing and instructing patients.

ADSA 1100	College Keyboarding I	3
ADSA 1105	College Keyboarding II	3
ADSA 1111	Office Management	3
ADSA 1141	Customer Service for Office Professionals	2
ADSA 1145	Supervisory Management	3
ADSA 1122	Word Processing I	2
ADSA 1123	Word Processing II	2
ADSM 1120	Medical Office Procedures I	3
ADSM 1190	Healthcare Documentation	4
BUS 2242	Business Communications	3
CSCI 1102	Introduction to Microcomputers	3
GSCL 1105	Job Seeking Skills	1
HC 1151	Body Structure & Function	3
HC 1180	Medical Terminology in Healthcare	2
HC 1290	Health Care & Society	1
HC 2120	Disease Conditions	3
HIMC 1150	Reimbursement & Insurance in Healthcare	2
HIMC 1160	Introduction to Medical Coding	2

**General Education Requirements: 15**

CMST 1101	Public Speaking	3
ENGL 1101	Composition I	3
NSCI 1100	Issues in the Environment	3

PSYC	1150	Developmental Psychology	3
SOC	1101	Introduction to Sociology	3
<b>Total Credits</b>			<b>60</b>

### Healthcare Administrative Assistant, Diploma

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

ADSA	1100	College Keyboarding I	3
ADSA	1122	Word Processing I	2
ADSA	1123	Word Processing II	2
ADSA	1141	Customer Service for Office Prof	2
ADSM	1120	Medical Office Procedures I	3
ADSM	1190	Healthcare Documentation	4
BUS	2242	Business Communications	3
CSCI	1102	Introduction to Microcomputers	3
GSCL	1105	Job Seeking Skills	1
HC	1151	Body Structure & Function	3
HC	1180	Medical Terminology in Healthcare	2
HC	1290	Health Care and Society	1
HC	2120	Disease Conditions	3
HMIC	1160	Introduction to Medical Coding	2
<b>Total Credits</b>			<b>36</b>

### Healthcare Supervision & Leadership, Certificate

**Location: Online**

This Internet-based certificate will provide the opportunity for the incumbent frontline leaders and supervisors/workers from all departments of healthcare facilities to pursue advanced training in the areas of Employment, Customer Services, Personnel Supervision, Leadership, Legal Compliance, Finance, Industry Trends and Marketing as these topics relate to the healthcare environment. The Internet platform will allow healthcare personnel to pursue advanced training without leaving their facility or placing undue hardships on their current positions and/or employment status. The curriculum will provide for independent practice and virtual role-playing, and the student will be able to interact with college instructional staff via email.

SBMT	1400	Employment	2
SBMT	1405	Customer Service	2
SBMT	1410	Personnel Supervision	4
SBMT	1415	Leadership	4
SBMT	1420	Corporate Compliance	2
SBMT	1425	Finance for Healthcare	3
SBMT	1430	Healthcare Industry Trends	1
SBMT	1435	Marketing in Healthcare	1
<b>Total Credits</b>			<b>19</b>

### Management and Supervision in Healthcare, A.S.

**Location: Online**

The Management and Supervision in Healthcare A.S. program is designed to provide students with the education needed to enhance their management skills. This Internet based A.S. program will provide the opportunity for healthcare workers to gain advanced training in pursuing a management position in healthcare. Frontline leaders within healthcare facilities can also pursue advancement in their assigned areas. The Internet platform allows students to continue their education without leaving their facility and without placing undue hardships on their current positions and/or employment status. The curriculum will provide for independent practice and virtual role playing, and the student will be able to interact with college instruction staff via email and discussion groups. Students will have the option upon completing the A.S. degree to transfer to

a university to complete a four-year degree depending on the university's requirement.

To earn an A.S. degree students must complete the following requirements:

1. Successful completion of 60 semester credits of which at least 15 must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.00 ("C") or better.
3. A minimum of 30 credits selected from at least 6 of the 10 goal areas in the Minnesota Transfer Curriculum. (see page 5)

Students can ensure seamless transfer of course work at a receiving institution by contacting the institution of transfer for information relating to advanced course work or test out procedure.

#### Required Core:

SBMT	1310	Resolving Conflict	1
SBMT	1315	Principles of Supervisory Leadership	3
SBMT	1325	Problem Solving & Decision Making	2
SBMT	1330	Interpersonal Skills for Supervisors	1
SBMT	1335	Work Teams	1
SBMT	1345	Finance & Accounting for Non-Financial Managers	3
SBMT	1400	Employment	2
SBMT	1405	Customer Service	2
SBMT	1410	Personnel Supervision	4
SBMT	1415	Leadership	4
SBMT	1420	Corporate Compliance	2
SBMT	1425	Finance for Healthcare	3
SBMT	1430	Healthcare Industry Trends	1
SBMT	1435	Marketing in Healthcare	1

#### Also Required:

General Education Requirements	30
<b>Total Credits</b>	<b>60</b>

### Home Economics (Human Ecology), A.A.

**Location: Worthington**

There are many programs available in the field of home economics: costume design, dietetics, fashion merchandising, food service, home management, textiles and clothing, foods in business, community nutrition, etc. Each has different requirements. Because of this diversity, it would be misleading to list absolute requirements for all home economics programs. At Worthington, it is possible to take at least one, and more often, two years of courses required for any of the home economics programs. Be sure to check with your advisor to ensure that you are getting the appropriate courses for your major and transfer institution.

You are strongly encouraged to earn the Associate of Arts degree and meet the MnTC requirement if attending the University of Minnesota or a state university. The two-year program outlined below meets these requirements.

ART	1120	Art Appreciation	3
BIOL	1110	Principles of Biology I	4
CHEM	1101	Inorganic Chemistry I	4
CHEM	1102	Inorganic Chemistry II	4
CHEM	2201	*Organic Chemistry I	5
CHEM	2202	*Organic Chemistry II	5
CMST	1101	Public Speaking	3
ECON	2201	Principles of Macroeconomics	3
ECON	2202	Principles of Microeconomics	3
ENGL	1101	Composition I	3
ENGL	1102	Composition II	3
		or	
ENGL	2276	Composition: Technical Writing	3
		or	
ENGL	2243	Composition: Creative Writing	3
HLTH	1110	Dimensions of Community/ Public Health	3
MATH	1111	College Algebra	3
MATH	1113	**Pre-Calculus	4
MUSC	1105	Enjoying Music	3
		or	
THTR	1101	Introduction to Theater	3
NSCI	1100	Issues in the Environment	3
		or	
GEOG	1101	Intro to Physical Geography	4
		or	
PSCI	2210	Environmental Politics	3
PHIL	2201	Introduction to Ethical Theory	1
PHIL	2202	General Applied Ethics	1
PHYS	1201	Fundamentals of Physics I	4
PHYS	1202	Fundamentals of Physics II	4
PSYC	1101	Introduction to Psychology	4
SOC	1101	Introduction to Sociology	4
		or	
SOC	1102	Social Problems	3
		or	
SOC	2210	Marriage and the Family	3
		or	
SOC	2220	Family Life Dynamics	3
		Humanities Electives	4
		<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* Depends on transfer institution and area of specialization

\*\* Depend on high school preparation

### Individualized Studies A.A.S.

#### Location: Worthington and Online

This degree program is designed for working adults and/or students who have well-defined career goals. The program is intended to provide students with the opportunity to develop specific competencies and earn an Associate in Applied Science degree in technical studies that are not available through existing degree programs at Minnesota West Community & Technical College. This program is not intended to provide certification in any field.

The program requires submission of a written degree plan initiated by the student with assistance from an academic advisor/faculty member. The plan must also demonstrate transferability to at least one four-year accredited institution,

even when it may not be the intention of the student to transfer immediately after completing this degree.

Career-area credits may be earned in technical courses, independent study projects and internships. Credits may be transferred from other institutions in accord with Minnesota State residency requirement for earning the Associate in Applied Science degree.

To earn an A.A.S. degree, students must complete the following requirements:

1. Successful completion of 60 semester credits of which at least 15 must be earned at Minnesota West Community & Technical College.
2. A grade point average or 2.0 (C) or better.
3. A minimum of 15 credits selected from at least 3 of the 10 goal areas in Minnesota Transfer Curriculum.
4. Fulfill at least a 45 credit core of technical courses unique to the program being completed of which no more than 6 credits can be from an internship.

### Law (pre-law), A.A.

#### Location: Worthington

Law schools in Minnesota do not require specific undergraduate major or courses as pre-law preparation. Rather, they recommend that students acquire a broad education such as is usually assured in a liberal arts program. Special emphasis is placed on the development of skills in oral and written expression. Pre-law students should choose a major and plan a program which is as broad as possible while still being consistent with degree requirements. The student is ultimately responsible of registering in courses that fulfill degree and transfer requirements. Professional advisement is available to the student while he/she pursues his/her course work. Many pre-law students major in history, political science and business administration, though other departmental majors provide good background for law study. Most law schools emphasize that students present a major demonstrating depth of knowledge of the particular field, accompanied by a wide variety of electives that meet the MnTC requirements. The program outlined below meets the AA degree and MnTC requirements. It is recommended that a pre-law student pursue a course of study leading to the Associate of Arts degree and that whatever the intended major, it includes the following courses:

CMST	1101	Public Speaking	3
ENGL	1101	Composition I	3
ENGL	1102	Composition II	3
HIST	1101	American History I	4
HIST	1102	American History II	4
		Chemistry/Physic Electives	3-4
PSCI	1101	Introduction to Political Science	3
PSCI	1201	American Government and Politics	3
PSCI	2202	State and local Government	3
		Math/Logic Electives	3-5
		Humanities Electives*	9
		<b>Choose one of the following:</b>	<b>3-4</b>
NSCI	1100	Issues in the Environment	3
GEOG	1101	Physical Geography	4
PSCI	2210	Environmental Politics	3
		Free Electives***	6-10

Biology Electives	3-4
Social Science Electives**	3
<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* THTR 2210, HIST 1111 AND 1112, PHIL 2201 AND 2202 and proficiency in a second language are strongly recommended.

\*\* SOC courses, PSYC 1101, 1150, 2221, ECON 2201, 2202, are strongly recommended.

\*\*\*BUS 2201, 2202 and courses from HUM and SOC SCI areas listed above as well as foreign languages are strongly recommended.

### Law Enforcement Transfer Pathway, A.S.

#### Location: Worthington

The Minnesota West Community and Technical College law enforcement A.S. program is a Minnesota Board of Peace Officers Standards and Training (POST) approved program and will qualify students for licensing as a law enforcement officer in the state of Minnesota upon completion of the A.S. degree. The curriculum has been designed to meet the learning objectives for Professional Peace Officer Education (PPOE) and Minnesota State Transfer Pathways for Criminal Justice – Law Enforcement.

The program offers small class sizes, individualized attention, and is focused on modern 21st century education and hands-on training that will prepare students for the demands of today's law enforcement careers. The program instructors are experienced law enforcement individuals that have taught in the field and are recognized experts in the areas that they teach.

Students have the option to pursue certification after completing the summer skills program and begin their career upon completing the Associate of Science (A.S.) degree or continuing their education under the transfer pathways.

A separate application and admissions process is required for admission into the Law Enforcement Program.

CJS	1101	Introduction to Criminal Justice	3
LAW	1200	Juvenile Justice	3
LAW	1220	Law Enforcement and Community	3
LAW	1230	Law Enforcement and Human Behaviors	3
LAW	2400	Minnesota Statutes	4
LAW	1240	Police Leadership Ethics	3
LAW	2410	Criminal Investigations	3
LAW	2420	Criminal Procedures	3
LAW	2350	Skills	12

#### General Education Requirements:

CMST	1101	Public Speaking	3
CMST	1103	Interpersonal Communications	3
ENGL	1101	Composition I	3
ENGL	2276	technical Writing	3
MATH	1107	Concepts in Math	3
PHIL	2101	Ethics Theory and Practice	3
PSCI	2202	State and Local Government	3
PSYC	1101	Introduction to Psychology	4
PSYC	2221	Abnormal Psychology	3
SOC	1102	Social Problems	3
		<b>Total Credits</b>	<b>68</b>

EMS	1110	First Responder Basic	2
		Recommended spring semester of year two	
LAW	2297	Law Enforcement Internship	1-3
		Recommended spring semester of year two	
		Emergency Vehicle Operations Course	0
		Recommended summer semester	

### Law Enforcement, A.A.S.

#### Location: Worthington

CMST	1101	Public Speaking	3
		or	
CMST	1103	Interpersonal Communication	3
ENGL	1101	Composition I	3
PHIL	2101	Ethics Theory and Practice	3
PSYC	1101	Introduction to Psychology	4
SOC	1102	Social Problems	3
EMS	1110	First Responder Basic	2
CJS	1101	Intro to Criminal Justice	3
LAW	1120	Physical Fitness for Law Enforcement I	2
LAW	1125	Physical Fitness for Law Enforcement II	1
LAW	1200	Juvenile Justice	3
LAW	1210	Communication – Relations	4
LAW	1220	Law Enforcement and Community	3
LAW	1230	Law Enforcement and Human Behaviors	3
LAW	1240	Police Leadership – Ethics	3
LAW	2224	Police Report Writing	2
LAW	2233	Firearms – Tactical Management	4
LAW	2250	Accident Investigation – Radar/Radio/DUI Enforcement	4
LAW	2300	Patrol Operations	4
LAW	2310	Use of Force	4
LAW	2400	Minnesota Statutes	4
LAW	2410	Criminal Investigations	3
LAW	2420	Criminal Procedures	3
LAW	2500	Traffic Stops	2
LAW	2510	Crime Scene Processing	2
		Emergency Vehicle Operations Course (EVOC)	0
		<b>Total Credits</b>	<b>72</b>

### Law Enforcement Skills, Certificate

#### Location: Worthington

Provides students that have completed POST Boards approved Professional Peace Officers Education (PPOE) Academic Program with the skills requirements of the Professional Peace Officers Education Category Three: Performance of Peace Officer Duties and Tasks, and Category Four: Tools, Techniques and Tactics for licensing as a police officer. This program meets the transfer pathways requirements.

Prerequisite(s): Completion of the POST Boards approved Professional Peace Officers Education (PPOE) Academic Program or the approval of a POST approved PPOE Coordinator.

LAW	2350	Peace Officer Skills	12
		<b>Total Credits</b>	<b>12</b>

### Liberal Arts, A.A.

#### Location: All Campuses and Online

The Liberal Arts Program leads to a Bachelor of Arts or Bachelor of Science degree. The following outline should be used as a guide for students seeking a broad and general

foundation in the arts and sciences during the first two years. This program will provide the student an opportunity to test several occupational areas before making a final decision by acquainting him/her with all the basic fields of human knowledge. The program outlined will meet the requirements for the Associate of Arts Degree and Minnesota Transfer Curriculum. The Associate of Arts degree can be used to fulfill the freshman-sophomore general education requirements at all state universities and most four-year colleges and universities in other states. The degree is the basic graduation award toward which most students will work if they intend to transfer. It emphasizes a broad general education. A year of world languages may be required at some schools in some majors. In order to obtain an Associate of Arts degree, students must complete the following uniform requirements:

**FRESHMAN**

ENGL 1101	Composition	3
BIOL	Biology Lab Course	3-4
	Humanities Electives*	9
	Free Elective	4
	General Education Electives	7
ENGL 1102	Composition II	3
	or	
ENGL 2243	Composition: Creative Writing	3
	or	
ENGL 2276	Composition: Technical Writing	3
	Total Credits for First Year	32-33

**SOPHOMORE**

CMST 1101	Public Speaking	3
CHEM/PHYS		3-5
MATH/PHIL 1200		3-5
	Social Science Electives*	9
	Free Electives**	6-10
	Total Credits for Second Year	32
	<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 2220, CSCI 1102, or any Physical Education course.

\* Students should choose courses that will meet humanities and social sciences requirements as well as the "Themes" of Gender Education; Diversity; Global Perspective; Ethical and Civic Responsibility; and the Environment to maximize their electives.

\*\* Students may select courses in business, agriculture, human services, computer science, health, or physical education.

**Manufacturing Production Technician, Certificate**

**Location: Granite Falls and Worthington**

Introduces students to production technologies and information to start on a manufacturing career pathway. Students are given opportunities to enhance or develop important work-place knowledge and skills in the areas of safety, quality, manufacturing processes, and maintenance awareness.

CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacturing Process & Production	2
CMAE 1522	Quality Practices	2
CMAE 1526	Maintenance Awareness	2
GSCL 1105	Job Seeking Skills	1
	<b>Total Credits</b>	<b>9</b>

**Mathematics, A.A.**

**Location: Worthington**

The program for the mathematics major follows the Associate of Arts and MnTC requirements. Students should include the following in their program.

BIOL	Biology Lab Course	3-4
CMST 1101	Public Speaking	3
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1105	Statistics	4
MATH 1113	**Pre-Calculus	4
MATH 1121	**Calculus I	4
MATH 1122	Calculus II	4
MATH 2201	Calculus III	4
MATH 2206	Ordinary Differential Equations	5
PSYC 1101	Introduction to Psychology	4
PHYS 2121	***General Physic I	5
	or	
PHYS 2122	***General Physic II	5
	Humanities Electives	6
	Social Science Electives*	3-5
	Humanities Electives	3

	Choose one of the following:	3-4
NSCI 1100	Issues in the Environment	3
GEOG 1101	Physical Geography	4
PSCI 2210	Environmental Politics	3
	<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* If either PSCI 2210 or GEOG 1101 is taken to meet Areas 5 and 10, only three credits of SOC SCI electives are required.

\*\* Depends on high school preparation and placement

\*\*\* Check with an advisor about the physics requirements at transfer institutions.

**Mechatronics, A.A.S.**

**Location: Granite Falls and Worthington**

Mechatronics integrates mechanical, electronics, fluid power, and computer control systems to create automated manufacturing production systems. The Mechatronics program prepares students for entry-level technician positions in the areas of robotics, industrial manufacturing and maintenance, fluid power, instrumentation, electronics, and process control automation.

MECH 1102	Mechanical Power Transmission	2
MECH 1103	Hydraulics Theory	3
MECH 1105	Hydraulic Lab	3
MECH 1110	Fluid Power Calculations	2
MECH 1115	Auto CAD	2
MECH 1120	Pneumatic Theory	3
MECH 1131	Pneumatic Lab	1
MECH 2100	Advanced Systems Calculations	3
MECH 2110	Circuit Design & Control Theory	3
MECH 2136	Programmable Logic Controls	3
MECH 2141	Proportional & Servo Control Theory	2
MECH 1125	Electrical Controls I	2
MECH 1135	Electrical Controls II	3
MECH 2120	Automated Systems	5



MECH 2125	Motion Control	3
RNEW 1160	Instrumentation & Control Theory	3
RNEW 2165	Instrumentation & Control Lab	1
	General Education	16
	<b>Total Credits</b>	<b>60</b>

### **Mechatronics, Diploma**

**Location: Granite Falls and Worthington**

MECH 1102	Mechanical Power Transmission	2
MECH 1103	Hydraulics Theory	3
MECH 1105	Hydraulic Lab	3
MECH 1110	Fluid Power Calculations	2
MECH 1115	Auto CAD	2
MECH 1120	Pneumatic Theory	3
MECH 1131	Pneumatic Lab	1
MECH 2100	Advanced Systems Calculations	3
MECH 2110	Circuit Design & Control Theory	3
MECH 2136	Programmable Logic Controls	3
MECH 2141	Proportional & Servo Control Theory	2
MECH 1125	Electrical Controls I	2
MECH 1135	Electrical Controls II	3
MECH 2120	Automated Systems	5
MECH 2125	Motion Control	3
RNEW 1160	Instrumentation & Control Theory	3
RNEW 2165	Instrumentation & Control Lab	1
	<b>Total Credits</b>	<b>44</b>

### **Mechatronics Fluid Power Specialist, Certificate**

**Location: Granite Falls and Worthington**

Designed for students who desire national certification as a Fluid Power Specialist. The skills learned will prepare students for taking the International Fluid Power Society hydraulic and pneumatic specialist exams. Passing both will certify them as a Fluid Power Specialist. Students with this certification are recognized in the industry as possessing the knowledge and skills necessary to perform as technicians in the fluid power industry.

MECH 2100	Advanced Systems Calculations	3
MECH 2105	Advanced Fluid Power Systems I	4
MECH 2126	Systems Analysis	4
MECH 2130	Advanced Fluid Power Systems II	4
MECH 2141	Proportional & Servo Control Theory	2
	<b>Total Credits</b>	<b>17</b>

### **Medical Coding Specialist, Diploma**

**Location: Canby, Granite Falls, Jackson, Pipestone, Worthington and Online**

Medical Coding Specialists work closely with other health care professionals in coding diagnosis and procedures on patient medical records, analysing medical records for completeness of documentation, working with insurance companies, and reimbursement procedures.

Prior knowledge of the basic elements of word processing, spreadsheets, databases and document integration, along with the basic concepts of graphics, telecommunications, and the Internet are recommended.

(Recommend taking this degree with the Medical Secretary Diploma or the Medical Secretary A.A.S.)

CSCI 1102	Introduction to Microcomputers	3
HC 1151	Body Structure & Function	3
HC 1180	Medical Terminology in Healthcare	2

HC 1290	Healthcare and Society	1
HC 2120	Disease Conditions	3
HIMC 1100	CPT-4	3
HIMC 1110	ICD 10- CM	3
HIMC 1120	ICD 10 – PCS	2
HIMC 1130	Advanced Coding	3
HIMC 1140	Intro to Health Information & Delivery	3
HIMC 1150	Reimbursement & Insurance in Healthcare	2
HIMC 1160	Intro to Medical Billing and Coding	2
HIMC 2125	Board Review	1
MEDA 2135	Pharmacology	3
	<b>Total Credits</b>	<b>34</b>

### **Medical Assistant, A.A.S.**

**Location: Luverne**

Medical Assistants help physicians examine and treat patients, as well as perform routine tasks needed to keep an office running efficiently. In small practices, medical assistants handle both clerical and clinical duties and report directly to the office manager or physician. Those employed in large practices tend to specialize in a particular area under the supervision of department administrators. Clerical duties may include patient scheduling, receptionist duties, medical record management, office correspondence, medical insurance procedures, and management of office accounts, fees, and collections. Clinical duties may include interviewing patients, patient education, taking vital signs, preparing patients for examination and assisting the physician during exams, performing routine laboratory testing and electrocardiography, sterilizing instruments, and administering medications. Students enrolling in the medical assistant program must possess a high school diploma or GED. Prior to participating in the clinical practicum, students must submit health information and evidence of valid CPR/First Aid certification. Successful completion of all required program courses and general education courses with a grade of "C" or better is necessary to graduate.

Students in the medical assistant program will undergo a background study as required by Minnesota law. Graduates of the Minnesota West Medical Assistant program are eligible to earn certification by taking the American Association of Medical Assistant's Certification Exam.

ADSM 1120	Medical Office Procedures I	3
BIOL 2245	Medical Terminology	2
	or	
HC 1180	Medical Terminology Healthcare	2
BIOL 1110	Principles of Biology I	4
	or	
BIOL 1115	Human Biology	3
EMS 1112	CPR/AED for the Professional Rescuer	1
ENGL 1101	Composition I	3
HC 1100	Nutrition	1
HC 1151	Body Structure and Function	3
HC 1290	Healthcare & Society	1
HC 2120	Disease Conditions	3
HIMC 1150	Reimbursement & Insurance in Healthcare	2
HIMC 1160	Intro to Medical Coding	2
MDLT 1100	Intro to Med Lab Science	3
MEDA 1105	Clinical Procedures I	3

MEDA	1135	Laboratory Skills	3
MEDA	2110	Clinical Procedures II	4
MEDA	2135	Pharmacology	3
MEDA	2139	Professional Integration	1
MEDA	2140	Practicum	6
PSYC	1150	Developmental Psychology	3
SOC	1101	Introduction to Sociology	3
		Humanities Elective	3
		General Education Electives	3-4
STSK	0091	Basic Math (if needed)	
		<b>Total Credits</b>	<b>60</b>

### Medical Assistant, Diploma

#### Location: Luverne

ADSM	1120	Medical Office Procedures I	3
BIOL	2245	Medical Terminology	2
		or	
HC	1180	Medical Terminology Healthcare	2
HC	1100	Nutrition	1
HC	1290	Healthcare & Society	1
HIMC	1150	Reimbursement & Insurance in Healthcare	2
HIMC	1160	Intro to Medical Coding	2
ENGL	1101	Composition I	3
HC	1151	Body Structure & Function	3
HC	2120	Disease Conditions	3
EMS	1112	CPR/AED for the Professional Rescuer	1
MDLT	1100	Intro to Lab Science	3
MEDA	1105	Clinical Procedures I	3
MEDA	1135	Laboratory Skills	3
MEDA	2110	Clinical Procedures II	4
MEDA	2135	Pharmacology	3
MEDA	2139	Professional Integration	1
MEDA	2140	Practicum	6
STSK	0091	Basic Math (if needed)	(1)
		<b>Total Credits</b>	<b>44</b>

### Medical Laboratory Technician, A.A.S.

#### Location: Luverne

The Medical Laboratory Technician (MLT) program at Minnesota West is designed to prepare students for employment in the medical, clinical, research and public health laboratories. A MLT collects and/or receives patient specimens and performs general laboratory tests to aid physicians in the diagnosis and treatment of disease. The MLT program combines academic general education with a concentration in the basic sciences, didactic studies in medical laboratory science and clinical training (externship) in a hospital laboratory. It is recommended that students enrolling in the Medical Laboratory Technician program have a science and math background. Prior to participating in the clinical externship, student must submit health vaccination and undergo a background study as required by Minnesota law. Successful completion of all required course with a grade of C (75%) or better is necessary to graduate. Student must test into MATH 0098 level.

Accredited by: The National Accrediting Agency for Clinical Laboratory Science (NAACLS); 8410 West Bryn Mawr Avenue – Suite 670; Chicago, IL 60631: (773) 714-8880

BIOL	1115	Human Biology	3
CHEM	1150	Survey of Chemistry	4
ENGL	1101	Composition I	3
		Humanity or Social/Behavioral/Social Science Electives	5
HC	1180	Medical Terminology In Healthcare	2
HC	1290	Healthcare & Society	1
MDLT	1100	Introduction to Laboratory Science	3
MDLT	1105	Microbiology I	3
MDLT	1110	Medical Lab Calculations	2
MDLT	1115	Biological Fluids	3
MDLT	1120	Immunology	3
MDLT	1125	Clinical Chemistry I	3
MDLT	1130	Hematology I	3
MDLT	2101	Microbiology II	3
MDLT	2106	Immunohematology	3
MDLT	2110	Clinical Chemistry II	2
MDLT	2120	Hematology II	3
MDLT	2310	Clinical: Urinalysis/BIO Fluids	2
MDLT	2320	Clinical: Hematology & Hemostasis	4
MDLT	2330	Clinical: Medical Microbiology	4
MDLT	2340	Clinical: Clinical Chemistry & Immunology	3
MDLT	2350	Clinical: Immunohematology	4
MDLT	2360	Capstone	1
		<b>Total Credits</b>	<b>67</b>

### Office Management, A.S.

#### Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online

The Office Management program is designed to provide students the option to enter business management related job market on completion or optionally transfer to Southwest Minnesota State University at Marshall, MN to complete the Bachelor of Science in the Business Management degree.

An Office Manager's duties may include business communications, word processing and data entry, office machines operations and maintenance, office management, customer service, office accounting, records management, and supervision of office staff.

BIOL	1110	Principles of Biology	4
		or	
CHEM	1150	Survey of Chemistry	4
CSCI	1102	Introduction to Microcomputer	3
ACCT	1120	Spreadsheet Concepts	2
ACCT	1122	Database Concepts	2
ADSA	1111	Office Management	3
ADSA	1122	Word Processing I	2
ADSA	1123	Word Processing II	2
ADSA	1126	Advanced Office Applications	2
ADSA	1145	Supervisory Management	3
ADSA	1176	Business Communications	3
		or	
BUS	2242	Business Communications	3
BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4
CMST	1101	Public Speaking	3
		Or	
CMST	1103	Interpersonal Communications	3
ENGL	1101	Composition I	3
ECON	2201	Principles of Macroeconomics	3
ECON	2202	Principles of Microeconomics	3
ENGL	2276	Technical Writing	3
MATH	1105	Intro to Probability & Statistics	4

PHIL	2101	Ethical Theory & Practices	3
PSYC	1101	Intro to Psychology	4
<b>Total Credits</b>			<b>60</b>

### Phlebotomy, Certificate

#### Location: Luverne

The curriculum prepares the student for employment as a Phlebotomist/Laboratory Assistant in a hospital, laboratory, or clinic. The training is designed to prepare students to collect specimens, perform venipunctures and dermal punctures, prepare and transport specimens, and perform laboratory computer operations. Full-time students can complete the academic portions of the program in two semesters. The clinical portion of the program is by arrangement, and completion may vary by student. Successful completion of all required program courses and general education courses with a grade of C (75%) or better is necessary to graduate. Enrollment notes: A physical exam; hepatitis immunization; entrance assessment; application fee; and a copy of high school transcript, diploma or GED are all needed for enrollment. Students in the Phlebotomy Technician program will undergo a background study as required by Minnesota law.

BIOL	2245	Medical Terminology or	2
HC	1180	Medical Terminology Healthcare	2
HC	1151	Body Structure and Function	3
HC	1290	Healthcare and Society	1
MDLT	1100	Introduction to Laboratory Science	3
MDLT	2200	Externship	4
MEDA	1135	Laboratory Skills	3
<b>Total Credits</b>			<b>16</b>

### Nursing – Practical Nursing, Diploma

#### Location: Pipestone, Worthington and Distance

Practical Nursing is designed to create upward mobility nursing education opportunities. After successful completion of the Practical Nursing Program, students will receive the Practical Nursing Diploma and be eligible to take the NCLEX-PN examination. Students may exit at this point or continue in the program to receive the Associate Degree in Nursing and are then eligible to take the RN licensing examination.

Prerequisites: These must be taken prior to starting the nursing program: BIOL 1115 Human Biology or equivalent biology course is required before taking Anatomy, Nursing Assistant course, AHA CPR for Healthcare Provider, or equivalent certification course. (Certification must be the American Heart Association-Basic Life Support or American Red Cross-CPR for Professional Rescuer). You must remain CPR certified through the completion of the program.

The following course sequence is required for completion of this program. Only students who have been accepted into the Nursing program are allowed to take the nursing courses. The non-nursing courses listed may be taken either before or during the program, with the exception of the prerequisite courses which must be taken before the beginning of the program. Recommended courses for Practical Nursing Program: MATH 1111 College Algebra, BIOL 2245 Medical Terminology, and CSCI 1102 Introduction to Microcomputers.

#### Prerequisites

BIOL	1115	Human Biology or	3
BIOL	1110	Principles of Biology I	4

Total Prerequisites 3

BIOL	2201	Anatomy	4
PSYC	1150	Developmental Psychology	3
NURS	1100	Principles & Practices of Nursing	3
NURS	1120	Nursing of the Adult I	3
NURS	1130	Pharmacology	3
NURS	1140	Nursing Skills Lab	2
NURS	1180	*Clinical Applications I	2
NURS	1220	Nursing of the Adult II	3
NURS	1230	Pharmacology II	2
NURS	1250	Family Nursing	3
NURS	1280	*Clinical Applications II	6
NURS	1295	PN Integration	2
<b>Total Credits</b>			<b>39</b>

Notes: Practical nursing students are required to participate in the Kaplan Integrated Testing Program.

Required end of program assessment will include:

- Completion of a Kaplan Integrated predictor exam prior to graduation
- Completion of a Kaplan Review course prior to authorization to test for NCLEX-PN exam.

Clinical experiences are a part of the program and are done locally in area healthcare facilities. On-campus and online learning students need to be prepared to travel to local clinical sites as part of the program.

### Nursing A.S. – Registered Nurse

#### Location: Worthington and Online

Nursing A.S. is designed for Licensed Practical Nurses who wish to obtain the Associate of Science Nursing Degree. It is an entrance point for mobility students who have graduated from another nursing program or have completed Minnesota West's Practical Nursing Program. After successful completion of the Nursing A.S. Program, students are awarded the Associate of Science (AS) Nursing Degree and are then eligible to take the NCLEX-RN examination. At this point, students are also eligible to articulate to a BSN/BAN program in the Minnesota State system.

Admission requirements include: a minimum decision score of 80 on the NLN exam (required for licensed LPN's who have been practicing as an LPN for more than one year or graduated from another nursing program), a grade of C or higher in all required coursework, a minimum GPA of 2.5, and completion of the courses described below.

\*\*Note: Associate of Science program admission criteria will be changing for 2015-2016 AS program applicants.

NURS 2000, Transition into Professional Nursing Education (1 credit), is required prior to entrance into Fall Semester nursing classes for students who have graduated from another nursing program or are returning to Minnesota West's Nursing Program.

LPN Licensure is required prior to taking any NURS courses in the A.S. Nursing Program.

The following course sequence is required for completion of this program. Only students who have been accepted into the Nursing program are allowed to take the nursing

courses. The non-NURS courses shown may be taken either before or during the program..

**Prerequisites**

Practical Nursing Diploma  
or

Completion of practical nursing program (Advanced Standing)		10
BIOL	2201 Anatomy	4
BIOL	2202 Physiology	4
ENGL	1101 Composition I	3
PSYC	1150 Developmental Psychology	3
Co-requisite courses: The following General Education courses may be taken prior to beginning or during AS program. Must be completed prior to graduation.		
	Communication Elective (CMST 1101,1103, 1120, 1130 recommended)	3
	Sociology Elective	3
PHIL	2101 Ethics Theory and Practices (medical focus)	3
	Electives (Composition II and College Math recommended)	7
NURS	2125 Patient Centered Care I	4
NURS	2130 Pharmacology: A Pathophysiologic Approach	2
NURS	2145 Principles of Professional Nursing I	2
NURS	2150 Skills Lab	2
NURS	2190 Acute Care Clinical I	2
NURS	2225 Patient Centered Care II	3
NURS	2245 Health Promotion and the Role of the Professional Nurse	2
NURS	2260 Family-Centered Care	3
NURS	2290 Acute Care Clinical II	2
NURS	2390 Clinical in Alternate Settings	2
<b>Total Credits</b>		<b>64</b>

**Notes:** A nursing preceptorship NURS 2275 (1-2 credits) is optional upon completion of all nursing course work. Recommended electives include: ENGL 1102, humanities, social sciences (HIST 1101, HIST 1102, geography, political science or economics), chemistry, BIOL 1115, PSYC 1101, college math or statistics.

Humanities: choose from the areas of art, literature, theatre, HIST 1111, HIST 1112, music, or any course with HUM designator.

AS nursing students are required to participate in the Kaplan Integrated Testing Program.

Required end of program assessment will include:

- Completion of a Kaplan Integrated predictor exam prior to graduation
- Completion of a Kaplan Review course prior to authorization to test for NCLEX-RN exam.

Clinical experiences are a part of the program and are completed locally in area healthcare facilities. On-campus and distance learning students need to be prepared to travel to local clinical sites as a program requirement.

**Occupational Therapy, (pre-occupational therapy) A.A.**

**Location: Worthington**

Occupational therapy is treatment by means of mental and physical activities, including arts and crafts. The ultimate objective of the occupational therapist is to help individuals

restore themselves to their highest level of independence through improvement of their physical, emotional and social well-being. You may complete the Associate of Arts or the Associate of Science degree depending on the transfer institution. The program listed meets MnTC and is an Associate of Arts program.

ART	1118	Arts and Crafts	3
BIOL	1110	Principles of Biology I	4
BIOL	2201	Human Anatomy	4
BIOL	2202	Human Physiology	4
CHEM	1101	General Inorganic Chemistry I	5
CMST	1101	Public Speaking	3
ENGL	1101	Composition I	3
ENGL	1102	Composition II	3
GEOG	1101	Introduction to Geography	4
MATH	1111	College Algebra	3
PHIL	2201	Introduction to Ethical Theory	1
PHIL	2222	Medical Ethics	1
PHYS	1201	Fundamentals of Physics I	4
PSYC	1101	Introduction to Psychology	4
PSYC	1150	Developmental Psychology	3
SOC	1101	Introduction to Sociology	3
THTR	1101	Introduction to Theater	3
NSCI	1100	Issues in the Environment	3
		or	
PSCI	2210	Environmental Politics	3
		Social Science Course*	3
<b>Total Credits</b>			<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* If either PSCI 2210 or GEOG 1101 is taken to meet Areas 5 and 10, only three credits of Social Science electives are required.

**Optometry (pre-optometry), A.S.**

**Location: Worthington**

Students planning to pursue the pre-optometry program at Minnesota West-Worthington campus are advised to determine quite early in their program where they plan to complete the degree requirements. The lower division courses are similar for pre-optometry programs, but in most cases the applicant must complete a prescribed set of courses if he/she is not accepted for study. These courses are available at Minnesota West-Worthington campus for the pre-optometry major. We will assist you in gaining acceptance for further training. Students planning to study as optometrists are expected to perform in the "B" range and above. The following program is patterned after the University of Minnesota. Students are encouraged to complete the Associate of Arts degree or the Minnesota Transfer Curriculum requirements. **THIS WILL TAKE ONE ADDITIONAL SEMESTER.** To complete the Associate of Arts degree and MnTC requirements, students should add: five credits of HUM courses; five credits of SOC SCI courses; two-nine credits to meet Areas 8, 9, 10 (if not met through HUM or SOC SCI courses); three credits of PSYC 1150; This is a total of 15-26 additional credits

**FRESHMAN**

BIOL	1110	Principles of Biology I	4
CHEM	1101	General Inorganic Chemistry I	4
CHEM	1102	General Inorganic Chemistry II	4

CMST 1101	Public Speaking	3
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1121	**Calculus I	4
	*Humanities Electives	3

#### SOPHOMORE

BIOL 2201	Human Anatomy	4
BIOL 2202	Human Physiology	4
BIOL 2270	Microbiology	4
CHEM 2201	Organic Chemistry I	5
PHYS 1201	Fundamentals of Physics I	4
PSYC 1101	Introduction to Psychology	4
	Math Electives	3
	**Social Science Electives	3
	<b>Total Credits</b>	<b>60</b>

\*\* Depends on high school preparation and placement. Check with an advisor about the requirements at transfer institutions. Proficiency in a second language is highly desired.

#### Pharmacy Technology , Diploma

**Location: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Online**

The Pharmacy Technician Diploma Program prepares graduates for entry level careers working under the direction of a trained and licensed Pharmacist in retail, clinic or hospital settings. A pharmacy technician assists the pharmacist in all aspects of prescription processing, customer services, and administrative duties in accordance with the standard written procedures and guidelines under the supervision of a professional pharmacist. Pharmacy technicians will perform different duties depending on the practice setting in which they are employed. In general, a pharmacy technician may perform the following duties: receive and verify prescriptions, and prepare medications for customers/patients through mixing, counting and labeling prescriptions. Pharmacy technicians also consult with doctors, nurses, and other healthcare professionals regarding patient information, allergies, and lab results to determine optimal patient care. This program prepares graduates for the Pharmacy Technician Certification Board exam which is necessary for certification.

HC 1180	Medical Terminology in Healthcare	2
	Or	
BIOL 2245	Medical Terminology	2
HC 1151	Body Structure & Function	3
HC 1290	Health Care and Society	1
PHRM 1100	Pharmacy Principles and Practices I	5
PHRM 1115	Pharmacology for Technicians I	4
PHRM 2120	Disease Conditions	3
PHRM 1105	Pharmacy Principles and Practices II	5
PHRM 1110	Pharmacy Calculations	3
PHRM 1120	Pharmacology for Technicians II	3
PHRM 1130	Hospital Externship	3
PHRM 1135	Retail Externship	3
	<b>Total Credits</b>	<b>35</b>

#### Pharmacy Technician , Certificate

**Location: Online**

The Pharmacy Technician program prepares pharmacy technicians to assist licensed pharmacists dispense prescription medications in pharmacies. The Pharmacy Technician training program will prepare students to work in a pharmacy and be eligible to take a certification examination at the age of 18. An externship provides the student with hands-on experience as

well as providing the necessary skills to pass the certification exam to be successful in the industry.

HC 1180	Medical Terminology in Healthcare	2
	Or	
BIOL 2245	Medical Terminology	2
PHRM 1101	Pharmacy Principles and Practices	5
PHRM 1130	Hospital Externship	3
PHRM 1135	Retail Externship	3
	<b>Total Credits</b>	<b>10</b>

#### Pharmacy ( pre- pharmacy), A.S.

**Location: Worthington**

The Colleges of Pharmacy at the University of Minnesota, South Dakota State University, and North Dakota State University have Pharm-D (Doctor of Pharmacy) degrees. The completion of two years of college work is required for admission to the Colleges in the university. The following courses offered at Minnesota West meet the requirements for entrance to the College of Pharmacy at the University of Minnesota. The program can be adjusted to meet the requirements at other Colleges of Pharmacy. This meets the Associate of Science degree requirements. Students are encouraged to complete the Associate of Arts degree and the MnTC if they plan to attend the University of Minnesota. A year of college-level world language or second language proficiency may be required by some schools and is highly desired when seeking employment.

BIOL 1110	Principles of Biology I	4
BIOL 2220	Animal Biology	4
BIOL 2201	Human Anatomy	4
BIOL 2202	Human Physiology	4
BIOL 2270	Microbiology	4
CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
CHEM 2201	Organic Chemistry I	4
CHEM 2202	Organic Chemistry II	4
CMST 1101	Public Speaking	3
ECON 2201	Principles of Macroeconomics	3
	or	
ECON 2202	Principles of Microeconomics	3
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1113	Pre-Calculus	4
MATH 1121	***Calculus I	4
PHYS 1201	Fundamentals of Physics I	4
PHYS 1202	Fundamentals of Physics II	4
PSYC 1101	Introduction to Psychology	4
SOC 1101	Introduction to Sociology	3
	Humanities Elective**	
	<b>Total Credits</b>	<b>60</b>

\* Depends on transfer institution

\*\* Minimums only

\*\*\* Depends on high school preparation and placement.

To complete the Associate of Arts degree in one additional semester, students should take: five credits HUM; three credits HLTH 1101; three credits PSCI 2210, NSCI 1100 or GEOG 1101; one credit PHED Activity (if not previously completed); three credits SOC SCI; four-six credits to meet MnTC Areas 8 and 9 if not previously met by HUM/SOC SCI courses. three credits of HLTH 1110 is strongly recommended. This totals 11-24 additional credits.

NOTE: The transfer institution of all applicants requires the Pharmacy College Admission Test (PCAT). Applications for the PCAT are available in the counseling office.

### Physical Education, Health, Recreation/Parks Administration, A.A.

#### Location: Worthington

The lower division courses for these three areas of concentration are basically the same. Therefore, we have listed them under a common heading in the program of study. The student is advised to check with Minnesota West-Worthington campus counseling staff for the exact requirements for the four-year college he/she intends to attend.

Recreation/Parks Administration majors may specialize in one of several areas of concentration. The area desired should be determined while in attendance at Minnesota West in order to meet the transfer requirements. Additional credits in business courses may be in order for some receiving colleges. The curriculum requirements below meet the MnTC requirements.

BIOL	2201	Human Anatomy	4
BIOL	2202	Human Physiology	4
ENGL	1101	Composition I	3
		Math Elective	3
PHED	1101	Foundations of Health, Physical Education & Recreation	3
PHED	2101	History of Physical Education & Sports	2
HLTH	2220	Drugs, Society and the Individual	3
NSCI	1100	Issues in the Environment	3
		or	
PSCI	2210	Environmental Politics	3
		or	
GEOG	1101	Intro to Physical Geography	4
ENGL	1102	Composition II	3
PHED	1110	Care & Prevention of Athletic Injuries I	3
		Biology Elective	3
		Physics Electives	3
		Humanities Electives	9
		Social Science Electives**	9
		<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

\* If either PSCI 2210 or GEOG 1101 is taken to meet Areas 5 and 10, deduct three credits from SOC SCI requirements.

### Plumbing and Heating Technology, Diploma

#### Location: Jackson

The Plumbing and Heating Technology degree provides graduates with foundation skills and experiences in the construction and maintenance of plumbing and heating systems. Plumbers/heating technicians are in high demand and are an important part of public health and safety. Students will learn installation of fixtures, pipe threading, the tools and equipment used, water supply, water pumps, drainage systems, fabrication and testing, maintenance and repair, and hydronic and residential heating systems.

As part of the program, students will also learn to read blueprints, applied math skills, the State of Minnesota Plumbing

Code, and trade knowledge. Graduates will be ready to enter the field as apprentices. Students will study plastic piping including the joining of drainage, waste & vent, water supply and distribution lines. Students will become familiar with the different types of copper pipe, fittings and tubing and PEX water and heating distribution piping. Students will also utilize and study water pumps.

PLHT	1100	Introduction to Plumbing	3
PLHT	1105	Plumbing Installation and Fixtures	4
PLHT	1110	Code I	2
PLHT	1115	Print Reading I	1
PLHT	1120	Heating and Air Conditioning Electrical Controls and Circuits	3
PLHT	1125	Heating and Air Conditioning Fundamentals	3
PLHT	1130	Plumbing Installation and Fixtures II	5
PLHT	1135	Code II	2
PLHT	1140	Print Reading II	2
PLHT	1145	Heating and Air Conditioning Installation and Services	5
PLHT	1150	Sheet Metal Technology	2
		<b>Total Credits</b>	<b>32</b>

### Power Sports Technology, Diploma

#### Location: Jackson

This program is designed to prepare students for employment at motorcycle, snowmobile or ATV dealerships, distributorships and manufacturers. The primary focus of the program involves diagnosis, service, and repair. Students entering this program should have good mechanical aptitude, communication skills, and the ability to comprehend service literature.

AUTO	1111	Electrical	4
AUTO	1100	Introduction to Transportation	2
TRPS	1100	Engine Technology	4
TRPS	1105	Fuel Systems I	3
TRPS	1110	Fuel Systems II	3
TRPS	1115	Power Train	3
TRPS	1125	Onboard Computers	3
TRPS	1130	Ignition Systems	3
TRPS	1135	Brakes	2
TRPS	1140	Business Operations	1
TRPS	1145	Steering and Suspension	3
TRPS	1150	Special Topics	1-3
		<b>Total Credits</b>	<b>33</b>

### Powerline Technology, A.A.S.

#### Location: Granite Falls and Jackson

The Powerline Technician major is designed to train students to become apprentices in powerline construction and maintenance. Students learn basic skills and applications in transmission and distribution. Persons trained in this field work for power companies installing and maintaining overhead and underground powerlines. They install equipment such as overvoltage and overcurrent protective devices, transformers, capacitors, and regulators. Powerline technicians are employed by investor owned power companies, consumer owned power companies, municipalities, and by electrical contractors.

#### The 15 credits of General Education required are:

ENGL	1101	Composition I	3
MATH		MN Transfer Area 4 course	3
		Humanities Electives	3

	General Education Electives	6
ELCO 1100	Electrical Circuits Fundamentals	3
ELPL 1100	Pole Climbing & Equip. Operation	3
ELPL 1102	Pole Climbing & Equip. Operations I	4
ELPL 1106	Electrical Distribution of Powerlines I	4
ELPL 1121	Electrical Distribution of Powerlines III	4
ELUT 1101	Electrical and Rigging Safety	3
ELUT 1105	Blueprint, Schematics and Transit	3
ELUT 1110	Transformer Banking I	3
ELUT 1115	Generation Transmission & Distribution	3
ELPL 1116	Electrical Distribution of Powerlines II	4
ELUT 2110	Transformer Banking II	2
ELUT 2116	Reclosures & Protective Equipment	2
ELUT 2121	Protective Relays I	2
ELUT 2100	Metering I	3
ELUT 2126	Regulators and Capacitors	2

#### Humanities Electives:

Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization.

#### General Education Electives:

English, Biology, Chemistry, Math, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology.

**Total Credits 60**

#### Powerline Technician, Diploma

##### Location: Granite Falls and Jackson

	General Education or Related Electives	4
CSCI 1102	Introduction to Microcomputers	3
MATH 1100	Integrated Math or higher	3
ELCO 1100	Electrical Circuits Fundamentals	3
ELPL 1100	Pole Climbing and Equipment Operations	3
ELPL 1102	Pole Climbing and Equipment Operations II	4
ELPL 1106	Electric Distribution of Powerlines I	4
ELPL 1116	Electric Distribution of Powerlines II	4
ELPL 1121	Electric Distribution of Powerlines III	4
ELUT 1101	Electrical Rigging and Safety	3
ELUT 1105	Blueprint, Schematics and Transit	3
ELUT 1110	Transformer Banking I	3
ELUT 1115	Generation, Transmission and Distribution	3
ELUT 2116	Reclosures and Protective Equipment	2
ELUT 2100	Metering I	3
ELUT 2110	Transformer Banking II	2
ELUT 2121	Protective Relays	2
ELUT 2126	Regulators and Capacitors	2
EMS 1112	1st Aid/CPR Electives	1
	<b>Total Credits</b>	<b>61</b>

#### Powerline, Diploma

##### Location: Granite Falls and Jackson

ELCO 1100	Electrical Circuits Fundamentals	3
ELEC 1235	Electrical Calculations	2
ELPL 1100	Pole Climbing & Equip. Operation	3
ELPL 1102	Pole Climbing & Equip. Operation	4

ELPL 1106	Electrical Distribution of Powerlines I	4
ELPL 1116	Electrical Distribution of Powerlines II	4
ELPL 1121	Electrical Distribution of Powerlines III	4
ELUT 1101	Electrical and Rigging Safety	3
ELUT 1105	Blueprint, Schematics and Transit	3
ELUT 1110	Transformer Banking I	3
ELUT 1115	Generation, Transmission and Distribution	3
EMS 1112	AHA CPR Healthcare Provider, AED First Aid Certification Electives	1
	<b>Total Credits</b>	<b>38</b>

#### Precision Machining, A.A.S.

##### Location: Granite Falls

The Precision Machining program will provide hands-on, practical experience with lathes and mills, computer-aided-drafting and design software, precision machinery, and other computerized equipment.

CMAE 1514	Safety Awareness	2
CMAE 1518	Manufacturing Process & Production	2
CMAE 1522	Quality Practices and Measurement	2
CMAE 1526	Maintenance Awareness	2
FLPW 1115	Auto CAD	2
GSCL 1105	Job Seeking Skills	1
MACH 1400	Metallurgy & Machining Calculations	1
MACH 1405	Machining Fundamentals & Processes I	4
MACH 1410	Interpreting Engineering Prints I	2
MACH 1415	Machining Fundamentals & Processes II	4
MACH 1420	CNC Milling Machine Programming And Operation I	3
MACH 1425	CNC Milling Machine Programming And Operation II	4
MACH 1430	CNC Lathe Programming and Operation I	3
MACH 1435	CNC Lathe Programming and Operation II	4
MACH 1460	Interpreting Engineering Prints II	2
MACH 1465	Swiss Lathe Programming & Operation	2
MACH 1480	Internship	3
MATH 1107	Concepts in Math	3
CMST 1101	Public Speaking Or	3
CMST 1103	Interpersonal Communication	3
ENGL 1101	Composition I	3
ENGR 1101	Introduction to Engineering General Education Electives	1
	<b>Total Credits</b>	<b>60</b>

#### Precision Machining, Diploma

##### Location: Granite Falls

The Precision Machining program will provide hands-on, practical experience with lathes and mills, computer-aided-drafting and design software, precision machinery, and other computerized equipment.

FLPW 1115	Auto CAD	2
GSCL 1105	Job Seeking Skills	1
MACH 1400	Metallurgy & Machining Calculations	1
MACH 1405	Machining Fundamentals & Processes I	4
MACH 1410	Interpreting Engineering Prints I	2
MACH 1415	Machining Fundamentals & Processes II	4
MACH 1420	CNC Milling Machine Programming And Operation I	3
MACH 1425	CNC Milling Machine Programming	

	And Operation II	4
MACH 1430	CNC Lathe Programming and Operation I	3
MACH 1435	CNC Lathe Programming and Operation II	4
MACH 1460	Interpreting Engineering Prints II	2
MACH 1465	Swiss Lathe Programming & Operation	2
MATH 1107	Concepts in Math	3
	<b>Total Credits</b>	<b>35</b>

### Precision Machining, Certificate

#### Location: Granite Falls

FLPW 1115	Auto CAD	2
GSCL 1105	Job Seeking Skills	1
MACH 1400	Metallurgy & Machining Calculations	1
MACH 1405	Machining Fundamentals & Processes I	4
MACH 1410	Interpreting Engineering Prints I	2
MACH 1420	CNC Milling Machine Programming and Operation I	3
MACH 1430	CNC Lathe Programming and Operation I	3
	<b>Total Credits</b>	<b>16</b>

### Psychology and Sociology, A.A.

#### Location: Worthington

This program prepares students for entrance into four-year social work, psychology, or sociology programs. It can be altered to meet individual college and student needs. The program below meets MnTC and Associate of Arts degree requirements.

CMST 1101	Public Speaking	3
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
HLTH 2220	Drugs, Society and the Individual	3
HSER 1101	Introduction to Human Services	2
MATH 1105	Intro to Probability & Statistics	4
NSCI 1100	Issues in the Environment	3
	or	
PSCI 2210	Environmental Politics	3
	or	
GEOG 1101	Intro to Physical Geography	4
PSCI 2202	State and Local Government	3
	or	
	**Social Science Electives	3
PSYC 2230	Behavior Modification	3
	or	
PSYC 1150	Developmental Psychology	3
PSYC 1101	Introduction to Psychology	4
PSYC 2221	Abnormal Psychology	3
SOC 1101	Introduction to Sociology	3
SOC 2220	Family Life Dynamics	3
	Biology Electives	3-4
	Chemistry/Physics Electives	3-5
	Humanities Electives	9
	<b>Total Credits</b>	<b>60</b>

STSK 1110 – Freshman Seminar (1) credit required.

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.

Dependent on transfer institution. See an advisor for assistance in choosing electives.

\*\* If either PSCI 2210 or GEOG 1101 is taken to meet Areas 5 and 10 of MnTC, the SOC SCI requirement is complete. Proficiency in a second language is highly recommended when seeking employment.

### Radiologic Technology, A.A.S.

#### Location: Luverne

The Radiologic Technology program prepares students to gain knowledge and skills necessary to perform various radiologic procedures through didactic, laboratory, and clinical experiences and carries out these functions under the supervision of a Registered Radiologic Technologist. Instruction in x-ray procedures; equipment operation; patient care; and CT imaging included.

#### Prerequisites

BIOL 1115	Human Biology	3
	or	
BIOL 1110	Principles of Biology I	4
BIOL 2245	Medical Terminology	2
BIOL 2201	Anatomy	4
	<b>Total Prerequisites</b>	<b>9</b>
BIOL 2202	Physiology	4
PSYC 1150	Developmental Psychology	3
MATH 1111	Algebra	3
ENGL 1101	Composition	3
HC 1290	Healthcare and Society	1
RADT 1100	Intro Radiography & Patient Care	3
RADT 1110	Radiological Procedures I	4
RADT 1130	Radiological Exposures I	3
RADT 1150	Clinical Radiography I	7
RADT 1120	Radiological Procedures II	3
RADT 1160	Clinical Radiography II	8
RADT 1140	Radiological Exposures II	3
RADT 2210	Radiological Procedures III	3
RADT 2250	Clinical Radiography III	8
RADT 2220	Radiological Equipment	4
RADT 2240	Principles of Radiobiology	3
RADT 2230	Radiological Pathology	2
RADT 2260	Clinical Radiography IV	8
RADT 2280	Board Review	2
	<b>Total Credits</b>	<b>84</b>

### Supervisory Leadership in Management, Certificate

#### Location: Online

The Supervisory Leadership in Management certificate program will help the incumbent student prepare for career growth opportunities. This certificate program will enhance career success through sound leadership skills and management practices. The Internet platform will allow students to pursue their education without leaving their facility or placing undue hardships on their current positions and/or employment status. The curriculum will provide for independent practice and virtual role-playing, and the student will be able to interact with college instruction staff via e-mail and discussion groups.

SBMT 1310	Resolving Conflict	1
SBMT 1315	Principles of Supervisory Leadership	3
SBMT 1320	Creativity and Innovation	1
SBMT 1325	Problem Solving & Decision Making	2
SBMT 1330	Interpersonal skills for Supervisors	1
SBMT 1335	Work Teams	1
SBMT 1340	Time Management	1
SBMT 1345	Finance & Accounting for	



Non-Financial Managers 3

**Additional 10 Credits chosen from Management and Supervision in Healthcare:**

SBMT 1400	Employment	2
SBMT 1405	Customer Service	2
SBMT 1410	Personnel Supervision	4
SBMT 1415	Leadership	4
SBMT 1420	Corporate Compliance	2
SBMT 1425	Finance for Healthcare	3
SBMT 1430	Healthcare Industry Trends	1
SBMT 1435	Marketing in Healthcare	1
	<b>Total Credits</b>	<b>23</b>

HC 2120	Disease Conditions	3
PSYC 1150	Developmental Psychology	3
SURG 1110	Surgical Microbiology	2
SURG 1120	Surgical Pharmacology	2
SURG 1130	Operating Room Theory	4
SURG 1140	Operating Room Practices	4
SURG 1150	Operating Room Procedures	4
SURG 1151	Operating Room Procedures II	4
SURG 1160	Clinical I	2
SURG 1170	Clinical II	12
SURG 1181	Board Review	2
	General Education Electives	3
	<b>Total Credits</b>	<b>60</b>

**Solar Photovoltaic Technician, Certificate**

**Location: Canby and Jackson**

The Solar Photovoltaic program combines lecture and hands on training to provide the skills necessary to install solar PV systems. Graduates will develop an understanding of where PV systems started, where they are now and where they will be in the future. Under minimal supervision graduates must be able to define the solar resource and complete a site assessment. They must also develop a comfort level with the capabilities, limitations, and basic construction of all major PV system pieces. Graduates must also be able to size systems to client's expectations, inspect, commission and maintain the systems.

ELCO 1100	Electrical Circuit Fundamentals AND	3
ELCO 1105	Electrical Circuit Fundamentals Lab Or	3
ELCO 1110	AC/DC I AND	3
ELCO 1120	AC/DC II	3
ELEC 1205	National Electric Code I	2
ELEC 1200	Residential Wiring I	5
ELEC 1230	Safety Principles and OSHA	1
ELEC 1235	Applied Electrical Calculations	2
SOLR 1020	Introduction to Solar Assessment Lab	3
SOLR 1030	Solar Energy Construction Projects	2
SOLR 2020	Advanced Photovoltaic Systems	3
SOLR 2025	Photovoltaic Systems Lab	2
	<b>Total Credits</b>	<b>26</b>

**Surgical Technology , A.A.S.**

**Location: Luverne**

The Surgical Technology program prepares students to perform general technical support tasks in the operating room before, during and after surgery. Includes instruction in pre-operation patient and preparing surgical team, handling surgical instruments at the table side, maintaining supply inventory before and during operations, sterilization and cleaning of equipment, maintaining clean and sealed environments, following operating room safety procedures, record-keeping, and working with the surgical team. Students in the Surgical Technology program will undergo a background study as required by Minnesota law.

EMS 1112 or AHA CPR Health Care Provider must be taken prior to the start of spring clinical and is not counted toward the total program credits.

BIOL 1115	Human Biology	3
CMST 1103	Interpersonal Communication	3
ENGL 1101	Composition I	3
HC 1151	Body Structure & Function	3
HC 1180	Medical Terminology	2
HC 1290	Health Care and Society	1

**Telecommunications, A.A.S.**

**Location: Granite Falls and Jackson**

The Telecommunications AAS degree includes all of the course work of the Telecommunications Certificate. This degree expands on the knowledge learned in the Telecom certificate program and is designed to be completed in four semesters. It covers advanced routing and wide area network concepts and advanced Telecommunication concepts and field experience. In addition, students will complete 15 credits of general education in the Minnesota Transfer Curriculum and will be awarded an AAS or Associate of Applied Science degree. Telecommunications Technicians are responsible for high-speed communication networks and digital communication through fiber optic cables and wireless network access. Telecommunications Technicians install, maintain and repair telecommunications equipment.

CST 1101	IT Exploration	2
CST 1112	CLI/PowerShell	1
CST 1125	Operating Systems	3
CST 1190	Introduction to Networking	4
CST 1400	Telecommunications I	3
CST 1410	Broadband Technology	3
CST 1420	Convergence Technologies	3
CST 1440	Advanced Telecommunications	3
CST 1500	Routers and Switches	3
CST 2108	Structured Communications Systems	3
CST 2110	PC Maintenance & Repair Hardware	3
CST 2150	Advanced Routing	4
CST 2310	Info Technology Customer Service	2
CST 2600	Fundamentals of Wireless Networking	3
ELCO 1110	ACDC Circuits	3
ENGL 1101	Composition Technical Electives	3
	General Education (Advisor Approval Needed)	12
	<b>Total Credits</b>	<b>60</b>

**Telecommunications, Diploma**

**Location: Granite Falls and Jackson**

The Telecommunications diploma includes all of the course work of the Telecommunications certificate. This degree expands on the knowledge learned in the Telecom certificate program and is designed to be completed in two semesters. It covers networking and routing concepts. Telecommunication technology includes broadband, VOIP and the Internet of things. Telecommunications Technicians are responsible for high-speed communication networks and digital communication through fiber optic cables and wireless network access. Telecommunication Technicians install, maintain, and repair telecommunications equipment.

CST	1101	IT Exploration	2
CST	1112	Command Line Interface (CLI)	1
CST	1125	Operating Systems	3
CST	1190	Introduction to Networking	4
CST	1400	Telecommunications I	3
CST	1410	Broadband Technology	3
CST	1420	Convergence Technology	3
CST	1500	Routers and Switches	3
CST	2110	PC Maintenance & Repair Hardware	3
CST	2310	Info Technology Customer Service	2
CST	2600	Fundamentals of Wireless Networking	3
ELCO	1110	AC/DC Circuits	3
<b>Total Credits</b>			<b>33</b>

### Telecommunications, Certificate

#### Location: Granite Falls and Jackson

The Telecommunications certificate includes the basic course work to become a telecommunications technician. This certificate is 17 credits and is designed to be completed in one semester. It covers the basics of computer technology and careers, computer networking telecommunications and customer service, Telecommunications Technicians are responsible for high-speed communication networks and digital communication through fiber optic cables and wireless network access. Telecommunications Technicians install, maintain and repair telecommunications equipment.

CST	1101	IT Exploration	2
CST	1125	Operating Systems	3
CST	1190	Introduction to Networking	4
CST	1400	Telecommunications I	3
CST	2110	PC Maintenance & Repair Hardware	3
CST	2310	Info Technology Customer Service	2
<b>Total Credits</b>			<b>17</b>

### Welding, Diploma

#### Location: Jackson

Program description: In this two semester program students gain technical knowledge and hands-on welding skills for Shielded Metal Arc, Gas Metal Arc and Gas Tungsten Arc, Pipe Welding, Plasma and Oxy-Fuel cutting processes. Students will learn to recognize welding symbols, read and interpret welding blueprints, and practice shop safety. Welds will be made to industry standards using the American Welding Society D1.1 Structural Code. Upon completion of the program, students are

prepared for a high demand welding career in advanced manufacturing, production, maintenance and repair, and construction.

WELD	1190	Welding Principles	3
WELD	1200	Blueprint Reading for Welders	3
WELD	1210	Oxy-Fuel/Plasma Arc Cutting	2
WELD	1220	Shielded Metal Arc Welding	3
WELD	1230	Gas Metal Arc Welding	3
WELD	1240	Gas Tungsten Arc Welding	2
WELD	1260	Metallurgy and Materials	2
WELD	1270	Testing/Codes and Inspection	2
WELD	1280	Intermediate Shielded Metal Arc Welding	2
WELD	1300	Intermediate Gas Metal Arc Welding	3
WELD	1340	Welding Qualification Lab	3
WELD	1350	Pipe Welding Processes	4
<b>Total Credits</b>			<b>32</b>

### Welding, Certificate

#### Location: Granite Falls and Jackson

The Welding Certificate is a one semester program providing technical knowledge and hands-on welding skills for Shield Metal Arc, Gas Metal Arc, Plasma and Oxy-Fuel cutting processes. Students will learn to recognize welding symbols, read and interpret welding blueprints, and practice weld shop safety protocols. Welds will be made to industry standards using the American Welding Society D1.1 Structural Code. Upon completion students are prepared for an entry level welding position in advanced manufacturing, production, maintenance and repair, and construction.

WELD	1190	Welding Principles	3
WELD	1200	Blue Print Reading	3
WELD	1210	Oxy-Fuel/Plasma Arc Cutting	2
WELD	1220	Shielded Metal Arc Welding	3
WELD	1230	Gas Metal Arc Welding	3
WELD	1240	Gas Tungsten Arc Welding	2
WELD	1260	Metallurgy & Materials	2
<b>Total Credits</b>			<b>16</b>

# Management Programs

More information on Minnesota Management programs is available at <http://www.mnwest.edu/training-management>

## Computerizing Small Business Management, Diploma

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington**

Computerizing Small Business is a program designed to assist the small business owner in maximizing the effectiveness of office computerization and accounting applications. Good management requires a sound knowledge of economic principles because they are the framework for small business operation and organization. Management must understand various alternatives that can be used in decision making. This program strives to develop an entrepreneur's knowledge of economic principles and enable entrepreneurs to meet their business and family goals. A structured program is used to analyze current systems, evaluate business applications for the computer, identify the advantages of computerized systems, and examine software & hardware currently available. This program may use a combination of individualized instruction, tailored to the specific business needs, and classroom delivery. The mission of the Computerizing Small Business program is to encourage more businesses to take advantage of the cost savings and productivity improvement opportunities available through efficient office automation. This is accomplished through instruction that helps the business owner better understand and thus simplify the computerization process and use of application software.

### Prerequisites:

To be eligible for enrollment in Computerized Small Business Management courses, the student must be a small business operator or must secure the consent of the instructor.

CSBM 1100	Disk Operating Systems	1
CSCM 1110	General Ledger	3
CSBM 1120	Bank Reconciliation	2
CSBM 1130	Accounts Receivable	3
CSBM 1140	Accounts Payable	3
CSBM 1150	Payroll	3
CSBM 1160	Government Payroll Reporting	2
	Electives	15
	<b>Total Credits</b>	<b>32</b>

## Farm Business Management, Diploma

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and southwestern Minnesota**

The primary emphasis of the Farm Business Management Program is to assist farm families in meeting their business and personal goals through quality farm records and sound business decisions. This program is primarily taught at the student's place of business, but classroom and group instruction are also very important. Individualized instruction is used to the fullest extent. Students are enrolled in the program on a continuous, part-time basis. Normal credit load is 10 credits per year, for the equivalent of 1/3 of a full-time college student. The instructor visits the farm on a regular basis and understands the strengths and weaknesses of each student's business. Developing a set of sound farm records is the basis for the program. Primarily, computerized accounting is used to handle the complex records, which must be kept in an efficient farm business. At the close of the calendar year, these records

are summarized by the instructor and a computerized business analysis is prepared for each student to show how well his/her business did financially during the year. Each student also receives an area Farm Business Analysis Summary, which allows them to compare their information with averages of other Farm Business Management students (farmers) in their local area and around the state. The Farm Business Management Program offering consists of four certificate programs. The first three certificate programs are 30 credits in length. These three programs include Essentials of Farm Business Management, Applications in Farm Business Management, and Advanced Farm Business Management. The fourth certificate option is the Marketing Certificate, consisting of 25 credits.

**Prerequisites:** To be eligible for enrollment in Farm Business Management courses, the student must be a farm business operator or manager or must secure the consent of the instructor.

General Education and/or General Studies		10
FBMT 1112	Foundation for FBM	4
FBMT 1121	Preparation for Farm Business Analysis	4
FBMT 1122	Implementing the System Management Plan	4
FBMT 1131	Managing & Modifying Farm System Data	4
FBMT 1132	Interpreting & Using Farm System Data	4
FBMT 1211	Introduction to FBM	4
FBMT 1223	Using System Analysis in Total Farm Planning	2
FBMT 2141	Interpreting & Evaluating Financial Data	4
FBMT 2142	Interpreting Trends	4
FBMT 2151	Strategies Data Management	4
FBMT 2152	Financial Planning	4
FBMT 2161	Examination of the Context of Farm System Management	4
FBMT 2162	Refining Farm System Mgt.	4
	<b>Total Credits</b>	<b>60</b>

## Farm Business Management – Current Issues, Certificate

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and southwestern Minnesota**

FBMT 2210	Current Issues in Farm Business Management	1-5
FBMA 2220	Directed Studies – Current Issues in Farm Business Management	1-5
FBMA 2211	Current Issues in Farm Business Mgt.	1-5
FBMA 2221	Directed Studies – Current Issues In Farm Business Management	1-5
FBMA 2212	Current Issues in Farm Business Mgt.	1-5
FBMA 2222	Directed Studies – Current Issues In Farm Business Management	1-5
	Farm Business Mgt. Electives	12
	<b>Total Credits</b>	<b>30</b>

**Agricultural Commodities Marketing, Certificate**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and southwestern Minnesota**

FBMT	1170	Intro to Farm Commodities Marketing	3
FBMT	1173	Directed Study – Introduction to Farm Commodity Marketing	2
FBMT	1180	Applying Commodity Marketing Fundamentals	3
FBMT	1183	Directed Study – Applying Commodity Marketing	2
FBMT	1190	Evaluating Farm Commodity Marketing Tools	3
FBMT	1193	Directed Study – Evaluating Farm Commodity Marketing Tools	2
FBMT	2170	Monitoring Farm Commodity Marketing Plans	3
FBMT	2173	Directed Study – Monitoring Farm Commodity Marketing Plans	2
FBMT	2180	Strategies in Farm Commodity Marketing	3
FBMT	2183	Directed Studies – Strategies in Farm Commodity Marketing	2
		<b>Total Credits</b>	<b>25</b>

**Advanced Farm Business Management, Certificate**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and southwestern Minnesota**

This certificate program is designed to provide instruction for students who have completed the other programs in the Farm Business Management curriculum. Students in this program will learn about key factors in business management for the long term: Risk Management, Strategic Planning, and Business Plan development. Prior instruction in Farm Business Management lays the groundwork for continued enhancement of financial management skills for the students in this program. Students will focus on using financial trends in their business to fine-tune the focus and strategize opportunities for the long-term profitability of their business.

FBMA	2930	Fundamentals of Financial Management as it relates to Risk Management	3
FBMA	2931	Applied Financial Management as it Relates to Risk Management	3
FBMA	3932	Fundamentals of Financial Management/Strategic Planning Emphasis	3
FBMA	2933	Applied Financial Management/ Strategic Planning Emphasis	3
FBMA	2934	Fundamentals of Financial Management/Business Plan Emphasis	3
FBMA	2935	Applications in Financial Management/Business Plans	3
FBMA	2130	Directed Study-Decision Making	2
FBMA	2131	Directed Study-Communications	2
FBMA	2132	Directed Studies in Modern Agricultural Technology	2
FBMA	2133	Directed Studies in Farm Business and/or Family Transition	2

FBMA	2134	Directed Study-Personnel Management	2
FBMA	2135	Directed Study-Enterprise Alternatives	2
		<b>Total Credits</b>	<b>30</b>

**Applications in Farm Business Management, Certificate**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and southwestern Minnesota**

This certificate program is designed to provide instruction that will expand on the foundation for financial management which was learned in the Essentials of Farm Business Management certificate. Students in this program will use accounting skills to record and evaluate data related to the profitability and longevity of their business. Education is primarily delivered in an individualized setting at the student's business or the student's preferred location. Students will use data management, planning strategies, and a business analysis to successfully manage their farm business.

FBMT	2141	Interpreting and Evaluating Financial Data	4
FBMT	2151	Strategies in Farm System Data Management	4
FBMT	2161	Examination of the Context of Farm System Management	4
FBMT	2142	Interpreting Trends in Business Planning	4
FBMT	2152	Integrating System Information for Financial Planning	4
FBMT	2162	Refining Farm System Management Suggested Farm Business Management Electives	6
		<b>Total Credits</b>	<b>30</b>

**Essentials of Farm Business Management, Certificate**

**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and southwestern Minnesota**

This certificate program is designed to provide instruction that will help to build a foundation for successful financial management of the farm business. Students in this program will use basic accounting practices and goal setting to provide benchmarking information and a direction for the business. Education is primarily delivered in an individualized setting at the student's business or the students preferred location. Students use business records to provide information for completing a business analysis and initiate a financial trend analysis for sound decision-making.

FBMT	1211	Introduction to Farm Business Management	4
FBMT	1112	Foundations for Farm Business Management	4
FBMT	1121	Preparation for Farm Business Analysis	4
FBMT	1122	Implementing the System Management Plan	4
FBMT	1131	Managing and Modifying Farm System Data	4

FBMT 1132	Interpreting and Using Farm System Data	4
	Suggested Farm Business Management Electives	6
	<b>Total Credits</b>	<b>30</b>

### **Lamb and Wool Management, Diploma**

#### **Location: Pipestone**

The Lamb and Wool Management Program is concerned with developing the sheep enterprise operator's ability to organize and manage resources to meet family and business goals. Good management requires a sound knowledge of economic and scientific principles because they are the framework for a profitable sheep enterprise. Good management provides a perspective that considers the relationship of all parts to the whole farm business. Good sheep management requires knowledge of sheep production practices and animal science, as well as new technology developments in the field. The Lamb and Wool Management Program is concerned with the development of a person's knowledge of economic, management, and scientific principles and using them in a profit oriented decision making process that enables them to meet their goals.

**Prerequisites:** To be eligible for enrollment in Lamb and Wool Management courses, a student must be a sheep producer or must secure the consent of the instructor.

**Program Delivery:** Curriculum is delivered through a combination of classroom, lab, on-farm instruction and individual instruction. This option is available only for students within 125 miles of Pipestone, Minnesota or through permission of the instructor.

LWMP 1001	Introduction to Sheep Management	1
LWMP 1002	Sheep Management Concepts	2
LWMP 1003	Pasture & Grazing Management	1
LWMP 1004	Predator Control Methods	2
LWMP 1101	Sheep Genetic Concepts	2
LWMP 1102	Genetic Selection Methods	1
LWMP 1201	Sheep Behavior & Handling Methods	1
LWMP 1202	Equipment and Facilities	2
LWMP 1301	Sheep Diseases	3
LWMP 1302	Preventative Health Programs	1
LWMP 1304	Basic Lamb Care Skills	1
LWMP 1305	Basic Sheep Care Skills	1
LWMP 1401	Lamb Marketing	2
LWMP 1402	Sheep Quality Assurance	1
LWMP 1501	Nutrition Requirements	2
LWMP 1502	Ewe Ration Formulation	1
LWMP 1601	Sheep Reproduction	2
LWMP 1602	Reproductive Management	1
LWMP 1701	Wool Characteristics	2
LWMP 1702	Wool Harvesting, Marketing, and Processing	1
	<b>Total Credits</b>	<b>30</b>

### **Small Business Management, Diploma**

#### **Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and southwestern Minnesota**

The Minnesota Small Business Management education program is concerned with the organization of an entrepreneur's resources in such a way as to assist the family in meeting their family and business goals. Often these goals involve generating new profit. Good management requires a sound knowledge of economic principles because they are the framework for small business operation and organization. Good management ties all perspective, showing the relationship of all parts to one another, and to the whole small business. Management must understand various alternatives that can be used in decision making. Small business management instruction is concerned with the development of an entrepreneur's knowledge of economic principles and with the decision-making process.

**Prerequisites:** To be eligible for enrollment in Small Business Management courses, the student must be a small business operator or must secure the consent of the instructor.

SBMT 1110	Organization Planning	2
SBMT 1120	Business Systems	3
SBMT 1210	Financial Systems	3
SBMT 1220	Financial Management	3
SBMT 1230	Financial Analysis	3
SBMT 1312	Marketing Systems	3
SBMT 1321	Marketing Management	2
	Electives	20
	<b>Total Credits</b>	<b>39</b>

# Career and Workplace Solutions

## CAREER AND WORKPLACE SOLUTIONS

provides workplace training solutions for individuals, businesses, non-profit and government organizations to enhance workplace skills, improve performance, and maintain competitiveness in a global economy.

### We offer:

- Comprehensive training and curriculum development
- Continuing Education & Customized Training Programs
- Credit and Non-credit courses
- Convenient locations & flexible scheduling
- Cost effective training delivery
- Mobile training simulators and equipment
- Online and on-site training delivery

### Types of training/education provided:

- Training for new employees
- Retraining for existing employees
- Technical assistance
- Research and development for new training programs
- Continuing education for individuals and professional licensure

### Career and Workplace Solutions Program Areas include:

- Health Care
- Management and Professional Development
- Manufacturing and Trades
- Public Safety
- Transportation
- Workplace Safety

## HEALTHCARE:

Today's health care personnel are challenged by increased technology and expanded levels of accountability. Programs are customized to meet the training and continuing education needs of all members of the health care team to assist in meeting these challenges.

**Healthcare Continuing Education and Training** offers professional healthcare skills training and continuing education programming for all members of the healthcare team to maintain compliance with Minnesota State and Federal licensing and regulatory agencies. Minnesota West CTC is an approved test site for the MN State Registry Test for Nursing Assistant and/or Home Health Aide.

**Dental Continuing Education** provides continuing dental education for Dentists, Hygienists and Dental Assistants. Minnesota West is an approved sponsor for dental continuing education for the Minnesota Board of Dentistry and Dental Assisting National Board.

## MANAGEMENT AND PROFESSIONAL DEVELOPMENT:

Developing the capacity to enhance the performance of others through personal and professional growth is essential to effective leadership for managers, management trainees, and skilled employees. Enhancing computer skills enables an organization to maximize productivity through the use of computers and technology.

Career and Workplace Solutions provides the training foundation for:

- Leadership and Workforce Development
- Supervisory and Human Resource Management
- EEOC Compliance Certified Harassment Training
- Customer Service
- Organizational Development
- Performance Management
- Computer & Technology Training

## TRANSPORTATION:

The transportation industry is one of the largest industries in the State impacting all industry sectors and individuals while employing a diverse workforce. Safety and proper training is critical for everyone involved. Customized Training Services provides driver training, safety, and certifications including:

- Commercial Driver License Training & Test Preparation
- Pilot Car Certification
- Commercial Vehicle Recertification

## MANUFACTURING AND TRADES:

Today's manufacturing industry is a fast-paced environment requiring efficient operations and a highly skilled workforce. Career and Workplace Solutions offers specialized skills training by industry professionals designed to meet the needs of the manufacturer's operation and workforce needs. Manufacturing process and skills training topics include:

- Automation Skills
- Process Improvement/Lean Manufacturing
- Industrial Maintenance
- Mechanical Power Transmission
- Six Sigma Certification
- Steam & Hot Water Boiler Training
- Welding Credit & Non-Credit

## PUBLIC SAFETY:

Public safety is vital to safe and healthy communities. Career and Workplace Solutions specializes in training fire and rescue professionals, law enforcement officers and personnel, and emergency response professionals within the service area.

- **Fire Safety and Rescue** training provides National Fire Protection Association 1001 Fire Fighter I & II and Haz-Mat Operations and Fire Fighter continuing education courses to the fire departments and fire safety professionals in the region. Training courses and curriculum meet the NFPA and Minnesota Fire Service Certification Board standards. Minnesota West instructors certified through the Minnesota Fire Service Certification Board meeting the qualifications of the NFPA 1001. Training delivery is highly mobile supported by classroom and hands-on learning using mobile training simulators including Confined Space,

Live Burn, and Ventilation and is designed to meet specific needs of each department.

- **Law Enforcement and Personal Safety:** Minnesota West is a POST Board accredited educational institution for Law Enforcement continuing education. We take training seriously because we know training can make the difference between life and death. Law Enforcement training programs are flexible and designed to assist peace officers and other law enforcement personnel with their work. The courses and curriculum are developed in collaboration with the Minnesota POST learning objectives, are Minnesota POST Board approved and delivered by POST Board approved instructors. Training may be customized for Law Enforcement Agencies, Security Organizations, and Business and Industry.

### **WORKPLACE SAFETY:**

**Maintaining a safe workplace is important** for every business. Workplace safety education and training programs are an integral part of assuring safe practices in the workplace by minimizing the possibility of injury occurrence and limiting the exposure to liabilities. Training is provided by OSHA authorized, National Safety Council Advanced Safety Certified, and American Heart Association certified instructors. Courses meet the standards of the American Heart Association and Occupational Safety & Health Administration. Real-world safety and compliance training areas include:

- Construction Safety
- OSHA Safety for Business & General Industry

- Industrial Safety
- Hazardous Materials Emergency Response
- Electrical Safety
- First Aid/CPR/AED/Blood Borne Pathogens
- Employee Right to Know
- Industrial Truck (Fork Lift)
- Cosmetology

### **MINNESOTA WEST MARSHALL CENTER/MERIT CENTER:**

Minnesota Emergency Response & Industrial Training Center is located at 1001 Erie Road, Marshall, MN. Minnesota West partners with the City of Marshall to provide highly specialized skills training and continuing education at the MERIT Center.

The MERIT Center provides a site and state of the art equipment for training emergency responders including fire fighters, city and county law enforcement personnel, emergency medical service personnel, regional emergency managers, and business and industry personnel. The MERIT Center is fully staffed with Minnesota West personnel for convenient programming delivery. For more information about the training possibilities offered through Minnesota West Career and Workplace Solutions, call the Marshall Center at 507-537-7530 or 1-800-658-2330. **Check out our web site at:**

**[www.mnwest.edu/training](http://www.mnwest.edu/training)**

# COURSE DESCRIPTIONS

## ACCOUNTANT (ACCT)

<b>ACCT 1104</b> <b>Special Projects</b> This course encourages students to identify, analyze and record transactions by the completion of a business simulation project. Topics covered include the accounting cycle, accounting for a merchandising business, accounting system design, special journals, subsidiary ledgers and work ethics. Concurrent enrollment in BUS 2201.	1
<b>ACCT 1110</b> <b>Payroll Accounting</b> This course covers the various state and federal laws pertaining to the computation of payment of salaries and wages.	3
<b>ACCT 1115</b> <b>Computerized Accounting Applications I</b> Introduces the use of computers and related software used in the accounting function of the business environment. Topics include the accounting function of the business environment. Topics include general ledger accounting, payroll procedures, accounts receivable, and accounts payable. Prerequisite: BUS 2201 or high school/college bookkeeping or accounting coursework.	2
<b>ACCT 1120</b> <b>Spreadsheet Concepts and Applications</b> The use of a computerized spreadsheet system for business applications. Topics include document creation, storage and retrieval, editing, printing, and file distribution.	2
<b>ACCT 1122</b> <b>Database Concepts and Applications</b> The use of a database system for business applications. Topics include electronic files, file creation and flexible stored procedures.	2
<b>ACCT 2100</b> <b>Intermediate Accounting I</b> This course is a comprehensive study of accounting theory and concepts with an analysis of the influence on financial accounting by various boards, associations, and governmental agencies. Prerequisite: BUS 2202.	4
<b>ACCT 2101</b> <b>Intermediate Accounting II</b> A continuation of the comprehensive study of accounting theory and concepts. Prerequisite: ACCT 2100.	2
<b>ACCT 2105</b> <b>Auditing</b> A study of the methods and procedures used to verify the completeness and accuracy of accounting records. Topics include professional ethics, the audit process, nature of evidence, internal control, audit sampling techniques, the audit examination, and audit reports.	3
<b>ACCT 2110</b> <b>Income Tax I</b> This course is an explanation and interpretation of the Internal Revenue Code as applied to individual and business returns. Computerized software will be used to prepare actual income tax returns.	4
<b>ACCT 2115</b> <b>Cost Accounting I</b> This course is a study of cost accounting as a management tool for planning, organizing, and controlling costs associated with the manufacturing process, whether using job costing or process accounting. Prerequisite: BUS 2202.	4

<b>ACCT 2120</b> <b>Fund/Nonprofit Accounting</b> This course focuses on the application of generally accepted accounting principles for state and local governmental units. Prerequisite: BUS 2202.	3
<b>ACCT 2125</b> <b>Computerized Accounting Applications II</b> This course is a continuation in the use of computers and related software used in the accounting function of a business. Prerequisite: BUS 2202.	2
<b>ACCT 2130</b> <b>Intermediate Accounting III</b> This course is a comprehensive study of accounting theory and concepts with an analysis of the influence of financial accounting by various boards, associations, and governmental agencies. Prerequisite: ACCT 2101.	2
<b>ACCT 2135</b> <b>Internship</b> Provides practical experience with a business utilizing skills/knowledge learned in accounting programs.	2

## ADMINISTRATIVE ASSISTANT (ADSA)

<b>ADSA 1100</b> <b>College Keyboarding I</b> This course covers basic skill development and the use of word processing software to produce various personal and business correspondence including letters, envelopes and labels, memos, reports, tables, and employment documents. Focus will also be placed on the development of touch control keyboarding technique, accuracy, speed, and proofreading skills.	3
<b>ADSA 1105</b> <b>College Keyboarding II</b> This course emphasizes the use of advanced word processing skills and formatting techniques to produce business correspondence including multi-page letters, memos, and reports, complex tables, forms, and office-related publications. Focus will continue to be placed on the improvement of keyboarding accuracy, speed, and proofreading skills. Prerequisite: ADSA 1100.	3
<b>ADSA 1111</b> <b>Office Management</b> This course covers general office principles and procedures with practical application. Topics covered include the roles and responsibilities of the administrative professional, professionalism, self-management and organizational strategies, ethics, teams, customer service, leadership, communication skills, common tasks and procedures performed in the office environment, and job seeking skills.	3
<b>ADSA 1122</b> <b>Word Processing I</b> This course is designed to introduce students to the concepts, terminology, features, and applications of word processing software. Topics covered include the preparation, management, formatting, editing, enhancing, and customization of documents.	2
<b>ADSA 1123</b> <b>Word Processing II</b> This course is designed to build on the concepts and applications learned in Word Processing I and to introduce more advanced word processing software features. Topics covered include proofing and navigation of documents, charts, references, specialized tables, building blocks, shared documents, macros, forms, outlines, master documents, and sub documents. Prerequisite: ADSA 1122	2



**ADSA 1126** 2  
**Advanced Office Applications**  
 Advanced Office Applications is a capstone course designed to integrate and reinforce the skills and knowledge learned in previous business courses in the Administrative Assistant program. Computer applications will be utilized in projects that simulate those used in an office environment. Projects will emphasize quality and meeting deadlines. Prerequisites: ADSA 1100, ADSA 1122 or instructor approval and successful completion of, or concurrent enrollment in, ACCT 1120 and ACCT 1122.

**ADSA 1130** 3  
**Office Accounting Concepts**  
 This course provides a basic knowledge of accounting concepts and procedures. The accounting cycle for a service business will be covered including analyzing, journalizing, posting business transactions, and preparing a ten-column worksheet and financial statements. Accounting for cash and payroll will also be covered in the course.

**ADSA 1131** 2  
**Office Accounting Concepts II**  
 This course provides the opportunity to apply and reinforce basic knowledge of accounting concepts and procedures through the use of simulation and computerized accounting software. Prerequisite: ADSA 1130.

**ADSA 1132** 1  
**10-Key Operations**  
 This course focuses on the development of touch control technique on a 10-key number pad for accuracy and speed applicable to business situations.

**ADSA 1136** 2  
**Desktop Publishing**  
 This class is designed to introduce student to the concepts, terminology, techniques, and applications of desktop publishing. The student will integrate text and graphics to produce professional-quality publications.

**ADSA 1141** 2  
**Customer Service for the Office Professional**  
 This course covers the basic skills necessary to work effectively with customers. Basic customer service communication skills including telephone, technology and writing are covered. Also included are customer retention, motivation, leadership and problem solving strategies.

**ADSA 1145** 3  
**Supervisory Management**  
 This course enhances participants to learn the skills required to effectively direct the work of others in the business world by working through people to develop and empower them. Important supervisory management concepts are stressed as well as how to apply the principles of management in the real world.

**ADSA 1190** 2  
**Presentation Graphics**  
 This course covers the concepts of developing electronic slide shows using a computer application program. The keys to effective presentations are covered along with various printing techniques. This course covers more advanced presentation techniques including animation and sound. The basics of scanning and manipulation graphics are also covered.

## **MEDICAL ADMINISTRATIVE ASSISTANT (ADSM)**

**ADSM 1115** 2  
**Anatomy & Physiology/Disease Conditions II**  
 This course is a continuation of human anatomy and disease with emphasis on terminology, abbreviations, and disease process. The study of diseases follows anatomical systems. Prerequisite: ADSM 1110.

**ADSM 1120** 3  
**Medical Office Procedures**  
 Introduces medical office career information with an emphasis on medical ethics and professional liability, medical receptionist tasks, working with medical records, work processing, and bookkeeping/billing.

**ADSM 1190** 4  
**Healthcare Documentation**  
 Introduces medical formatting and transcription skills for medical documentation. Dictation is transcribed from various specialties. The basics of voice technology will be explored. Students will build his/her voice profile and learn how to use voice commands to create, edit, and print documents. Emphasis will be in developing and improving editing and proof reading skills.

## **AGRICULTURE (AGRI)**

**AGRI 1101** 3  
**Introduction to Animal Science**  
 Provides students with an introduction to animal science with an emphasis on the fundamental concepts of physiology, nutrition, animal breeding and management as applied to beef cattle, dairy cattle, poultry, sheep and swine production.

**AGRI 1102** 3  
**Principles of Agronomy**  
 Explores the principles and practices of plant and related sciences as applied to increasing productivity and improvement of field crops. Emphasis is on crop selection and improvement through the breeding of crop varieties, seeds and seedlings, crop growth and development, crop production hazards, and the harvest and storage of field crops.

**AGRI 1103** 3  
**Introduction to Soil Science**  
 Introduces students to the origin, formation, and classification of soils. This includes the physical, chemical, and biological properties of soils, soils as a medium for plant growth, elements, water, air, organic matter, and plant and animal life in the soil.

**AGRI 1110** 3  
**Introduction to Horticulture**  
 Emphasizes the growth process in production of fruits, vegetables, flowers, lawns, trees, and shrubs. Studies include planning, preparation and care of home grounds. Fundamental concepts in plant identification, growth, culture, landscape and design are also studied.

**AGRI 1115** 4  
**Introduction to Shrimp Production**  
 Provides students with an introduction to shrimp production with an emphasis on fundamental concepts of physiology, nutrition, life cycle, and management in various production methods along with history, processing, and marketing of shrimp.

**AGRI 1125** 2  
**Custom Application**  
 The Custom Application course is designed for the student pursuing a career in crop production or agronomy services area. The student will receive hands-on instruction in the safe operation and calibration of custom sprayers and spreaders. The student will be prepared for and issued the Minnesota State Custom Application exams for categories A, C, & D, leading to licensure in those areas.

**AGRI 1151** 4  
**Farm Records & Business Analysis**  
 Emphasizes the maintenance and analysis of farm records. Special attention is given to the analysis procedure. Topics include calculation of earnings, efficiency factors, total business and enterprise analysis, and the use of records to aid in the financial decision-making aspect of credit utilization in agricultural business and production.

**AGRI 1152** **3**  
**Agricultural Marketing and Prices**  
 Explores the economics of agricultural marketing, organization of markets and marketing enterprises, marketing policy, and price trends of agricultural commodities.

**AGRI 2201** **3**  
**Principles of Animal Nutrition**  
 Covers the classification and function of nutrients, digestion, and utilization of feeds. This includes nutrient requirements for livestock and poultry, nutrient composition, and feeding standards. Prerequisite: AGRI 1101 or consent of instructor.

**AGRI 2202** **3**  
**Weed Science**  
 Surveys the principles and methods of weed control and the modes of action of herbicides.

**AGRI 2203** **3**  
**Soil Fertility and Fertilizer**  
 Explores the chemical elements in the soil and plants, soil testing and tissue testing, fertilizer and lime recommendations, and fertilizer nutrients.

**AGRI 2204** **3**  
**Introduction to Precision Agriculture**  
 Intended to serve as an introduction to GPS (Global Positioning Systems) and GIS (Geographical Information Systems) with an emphasis on agricultural uses and precision farming.

**AGRI 2205** **3**  
**Introduction to Precision Management Software**  
 This course is intended to serve as an introduction to several precision management software packages that are used to manage farming decisions and implement site specific crop management.

**AGRI 2212** **3**  
**Corn and Soybean Production**  
 Explores practices used in corn and soybean production, variety and hybrid selection, seed bed preparation and planting, fertilizer programs, water management, weed control, harvesting, storage and maintenance of agricultural equipment.

**AGRI 2214** **3**  
**Machinery Principles and Management**  
 This course will cover the utilization of farm equipment from the purchasing of equipment and managing the costs to the operation and maintenance of agricultural equipment.

**AGRI 2216** **3**  
**Introduction to Meat Science**  
 Evaluates the principles of conformation, quality, and finish of animal carcasses. A comprehensive look at the meat industry. Studies include composition of meat animals, product identification, nutrient values, pricing and marketing.

**AGRI 2220** **3**  
**Building Construction Technology**  
 Introduces instructional and laboratory exercises in light frame building construction. The course provides competence in skill areas including site layout, foundations, plumbing, insulating, sheathing, roofing and electrical wiring. The units are arranged in a logical sequence as to the order in which the various phases of construction are performed. Special emphasis is placed on safety and the use of modern tools, materials, and prefabricated components.

**AGRI 2222** **3**  
**Current Technical Competencies**  
 Introduces instructional and laboratory experiences to learners that are preparing for a career as an Agricultural Education teacher. The course will include laboratory experiences in basic mechanical and technical competence for manufacturing and workshop mechanics. Competency will be expected in a wide variety of skills including, but not limited to welding, small engines, fluid power, hydraulics and pneumatics. Teaching and learning strategies will demonstrate research based best

practices that are proven effective in teaching manufacturing and mechanical technologies to high school students.

**AGRI 2235** **1-3**  
**Special Topics in Agriculture**  
 Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies.

**AGRI 2251** **4**  
**Principles of Farm and Ranch Management**  
 Emphasizes utilization of land, labor, capital and management in the organization and operation of a farm. Includes the organization of a farm and the decision-making processes involved in establishing a farm business. Analyzing, budgeting, and using principles of economics are considered in the decision making process.

**AGRI 2297** **2-8**  
**Agriculture Production Management Internship**  
 Places students on a farm operation to gain further experience in agricultural production management under the supervision of the agriculture department staff.

**AGRI 2299** **2-8**  
**Agri-Business Internship**  
 Places students in an area agri-business for one semester to gain practical experience in agricultural sales and service and agricultural business management.

## ART (ART)

**ART 1101** **3**  
**Beginning Drawing** Meets Goal Area: 06  
 Introduces a wide range of basic drawing approaches and materials. Students will experiment with traditional and contemporary styles to complete tasks in perspective and composition.

**ART 1103** **1**  
**Display and Exhibition** Meets Goal Area: 06  
 Exposes the student to the organization, management and design and hanging of gallery displays. Students will be responsible for the pre-organization and arrangement of exhibitions. The course will cover both theoretical and practical experience with gallery management.

**ART 1114** **3**  
**Foundations of Art 2D** Meets Goal Area: 06  
 Introduces a visual vocabulary and tools essential for two-dimensional representation. Students will investigate the basic principles of composition, realism, and abstract expressionism through a variety of techniques and media.

**ART 1115** **3**  
**Beginning Painting** Meets Goal Area: 06  
 Introduces traditional and contemporary painting techniques and materials. Students will explore formal and abstract elements to compose their own visual style.

**ART 1118** **3**  
**Foundations of Art 3D** Meets Goal Area: 06  
 Introduces a visual vocabulary and tools essential for three-dimensional representation. Students will utilize a variety of media and studio production methods to develop creative thinking and investigate the basic principles of art.

**ART 1120** **3**  
**Art Appreciation** Meets Goal Area: 06  
 Offers an investigation into the creative process as it exists for the artist, the art historian, and the art viewer. Students will be exposed to the history of art, the technical aspects of art, and to the creative mental process which takes place in both the making and viewing of art. This course is also offered on demand. Prerequisite: STSK 0090 or placement by multiple measures.

<b>ART 1124</b>	<b>3</b>
<b>Introduction to Ceramics</b>	Meets Goal Area: 06
Creating clay objects using the potter's wheel and hand building techniques. Students also learn to operate a kiln and apply glaze finishes.	
<b>ART 1224</b>	<b>3</b>
<b>Investigations in Raku</b>	Meets Goal Area: 06
Investigates the history and methods of Raku ceramics. There is an emphasis on glazes and firing techniques.	
<b>ART 2201</b>	<b>3</b>
<b>Intermediate Drawing</b>	Meets Goal Area: 06
Deepens understanding of a wide range of drawing approaches and materials. Students will refine their application of traditional and contemporary styles to complete tasks in perspective and composition. Prerequisite: ART 1101.	
<b>ART 2215</b>	<b>3</b>
<b>Intermediate Painting</b>	Meets Goal Area: 06
Deepens understanding of traditional and contemporary painting techniques and materials. Students will utilize formal and abstract elements to refine their own visual style. Prerequisite: ART 1115	
<b>ART 2224</b>	<b>3</b>
<b>Intermediate Ceramics</b>	
Reinforces beginning design experiences by combining methods of construction. Greater emphasis will be placed on glazing and finishing. Prerequisite: ART 1124.	
<b>ART 2230</b>	<b>3</b>
<b>Computer Graphics</b>	Meets Goal Area: 06
Exposes students to photographic manipulation and applied illustrative techniques using Photoshop. Some topics to be covered are: raster vs. vector images, scanning and editing photographs, using a digital camera, designing and manipulating text to communicate ideas, and drawing basic objects for the purposes of illustration.	
<b>ART 2232</b>	<b>3</b>
<b>Advanced Computer Graphics</b>	
Explores the creative Photoshop techniques of image blending, shadows, image enhancement, type, and background effects. We will also focus on Web applications such as: interface design, slicing, rollovers, animations and optimization.	
<b>ART 2235</b>	<b>1-3</b>
<b>Special Topics</b>	Meets Goal Area: 06
Covers a wide range of art topics and media. Topics will be chosen to meet the needs of art students. The class may be retaken for credit if the topic varies.	
<b>ART 2240</b>	<b>3</b>
<b>Art History</b>	Meets Goal Areas: 06, 08
Includes the study of painting, sculpture and architecture from the Paleolithic (Stone Age) era through the Early Renaissance era.	
<b>ART 2245</b>	<b>3</b>
<b>Art History II</b>	Meets Goal Areas: 06, 08
Includes the study of painting, sculpture and architecture from Renaissance through the Post Modern Era: Art since 1980.	

**AUTOMOTIVE TECHNOLOGY (AUTO ALSO SEE TRAN)**

<b>AUTO 1120</b>	<b>3</b>
<b>Air Conditioning</b>	
Students will learn to identify and define the theory, principles, diagnosis, testing, and repairs of the air conditioning and heater systems operations.	
<b>AUTO 1126</b>	<b>3</b>
<b>Steering/Suspension/Alignment</b>	
Students will identify the necessary skills to diagnose and repair steering and suspension systems. This course teaches suspension systems using leaf springs, coil springs, MacPherson struts, torsion	

bars and wheel balance. The course also covers the principles of operation, disassembly, checks and adjustments of power and manual steering gears, and manual and power rack and pinion systems. The procedures required for checking and adjusting wheel alignment will also be covered.

<b>AUTO 1131</b>	<b>3</b>
<b>Brakes</b>	
This course enables the student to properly service automotive brake systems. Included will be diagnosis of problems, system theory and repair, machine procedures, customer satisfaction and safety.	

<b>AUTO 1136</b>	<b>4</b>
<b>Engine Technology and Lab</b>	
The theory of engine cooling and lubrication systems will be explained and demonstrated in this course. Students will inspect, repair, and/or adjust the following engine components and systems: valves, cylinder heads, blocks, crank shafts, cooling and lubrication systems. Students will also learn to identify the basic operation, nomenclature and function of engines.	

<b>AUTO 1194</b>	<b>2</b>
<b>Commercial Drivers License Learner Permit Preparation</b>	
This course prepares the students to take the Commercial Drivers License Learner Permit written knowledge test in compliance with the Federal Motor Carrier Safety Administration entry level driver training requirements. There is no behind the wheel driving training in this course.	

<b>AUTO 1195</b>	<b>2</b>
<b>Commercial Drivers License</b>	
This course will allow students to learn the proper driving techniques associated with interstate, highway and city driving along with parking and DOT requirements. Prerequisite: Students must have a current Minnesota Class A permit.	

<b>AUTO 2107</b>	<b>3</b>
<b>Automatic Transmissions</b>	
This course teaches the theory of operation of automatic transmissions and transaxles and related components. The fundamentals of service of the components of the transmissions will be introduced and practiced in this course. Students will perform the necessary skills to diagnose and repair automatic transmissions and transaxles.	

<b>AUTO 2108</b>	<b>3</b>
<b>Introduction to Hybrid Electric Vehicle</b>	
This course provides basic hybrid electric vehicle safety procedures, common hybrid electric component fundamentals, current hybrid vehicle design, an introduction to hybrid electric vehicle maintenance and troubleshooting, and an introduction to hybrid electric vehicle test equipment and procedures. Prerequisite(s): AUTO 1100 and AUTO 1111.	

<b>AUTO 2113</b>	<b>3</b>
<b>Manual Drivetrain and Axles</b>	
This course provides the fundamentals of conventional and light truck manual transmission and clutches. Contents will include power flow, design, adjustment, overhaul procedures, diagnosis, and repairs.	

<b>AUTO 2121</b>	<b>5</b>
<b>Engine Performance II</b>	
This course teaches the theory and repair of automotive engine systems including ignition systems, emission systems, electronic engine controls, and engine performance diagnosis. Students will learn to diagnose and repair all systems related to engine performance.	

<b>AUTO 2135</b>	<b>3</b>
<b>Ford Computer Controls and Fuel Injection</b>	
Covers the theory and operation of the Ford Electronic Engine Controls(EEC) and Ford CFI, EFI, and SEFI fuel injections systems. Diagnosis and repair will include EEC I, II, III, IV, and MCU systems with main emphasis on the EEC IV system, including self-test, pin-point testing and intermittent diagnosis.	

**AUTO 2146** 4  
**Body Computer Controlled Electrical Systems**  
Describe the theory of operation, diagnosing and repair of electrical components such as power windows, power seats, ABS brakes, power steering, automatic computer control transmission, A/C climate control, theft deterrent systems, and chassis electronics control systems.

**AUTO 2155** 4  
**Intro to Diesel Electronics**  
Introduces the computer system used in the diagnostics of today's electronic controlled engines, and transmissions. Students will develop reports from the programs and store them for future reference and use this information to diagnose and make repairs to the unit being tested. The course will cover basic Windows operations and scanner diagnostics needed to operate the computerized systems.

**AUTO 2160** 6  
**Special Projects**  
Intended to provide training in servicing and maintaining of vehicles. The class will stress shop safety and the proper use of personal safety equipment. The student will work on a number of specialized projects relating to the auto industry.

**AUTO 2190** 4-6  
**Summer Internship**  
The automotive summer internship class provides a good overview of what has been covered in the classroom by seeing the way these principles are put to work in the dealership. Hands-on experiences allow the student to disassemble, inspect, evaluate, repair and adjust, and reassemble key elements of the automobile systems.

## **BIOLOGY (BIOL)**

**BIOL 1100** 3  
**Survey of Biological Science** Meets Goal Area: 03  
Introduces major concepts of biology which include cell biology, patterns of inheritance, classification, evolution, and diversity of life. Special emphasis will be placed upon understanding of the science of biology and its significance to everyday life. BIOL 1100 is intended for non-majors.

**BIOL 1110** 4  
**Principles of Biology I** Meets Goal Area: 03  
Investigates fundamental principles of biology with special emphasis on the composition of living things and living systems, the chemistry of living things, natural selection, cell biology, metabolism emphasizing bioenergetics and biosynthesis, the cell cycle, and genetics. Prerequisite: STSK 0090 or placement by multiple measures.

**BIOL 1111** 4  
**Principles of Biology II** Meets Goal Area: 03  
Examines biological diversity and the basic mechanisms and concepts in organismal biology including a survey of life forms (viruses, bacteria, protists, fungi, plants and animals.) Additional topics will include taxonomy, classification, structure and function of the major groups of plants and animals. Prerequisite: BIOL 1110.

**BIOL 1115** 3  
**Human Biology** Meets Goal Area: 03  
Covers some of the fundamental topics in biology, emphasizing the human. Students will explore the structure and function of healthy human body systems and investigate numerous abnormalities and disease states. Additional topics will include human development, aging, human genetics, DNA technology, genetic engineering, biotechnology, and ecological interactions. Prerequisite: STSK 0090 or placement by multiple measures.

**BIOL 2100** 3  
**Ecology** Meets Goal Area: 03  
Introduces the student to the study of inter-relationships between organisms and their environment. Topics include fundamental principles of ecology at the levels of individual, population, community, and ecosystem, as well as flow of energy, organism-level interactions, and community ecology with an emphasis on applied ecology. Field and

laboratory activities will support selected lecture topics. Prerequisite: BIOL 1110.

**BIOL 2201** 4  
**Human Anatomy** Meets Goal Area: 03  
Covers structures of the human body from the cellular to organ system level. This course includes study of the human body organization, cellular structure, tissues and the following human organ systems: integumentary, skeletal, muscular, nervous, endocrine, circulatory, lymphatic, respiratory, urinary, digestive, and reproductive. Laboratory exercises are designed to reinforce and support the lecture and include hands-on dissections that coincide with the organ systems covered in the lecture topics. Prerequisite: Biology 1110 or Biology 1115.

**BIOL 2202** 4  
**Human Physiology** Meets Goal Area: 03  
Covers an applied and systematic approach the physiology of the cells, tissues, organs and organ systems of the human body. Laboratory exercises support the lecture and include hands-on exercises that coincide with the systems covered in the lecture topics. Prerequisite: BIOL 2201.

**BIOL 2220** 4  
**Animal Biology** Meets Goal Area: 03  
Investigates animal taxonomy, morphology, physiology, evolution and ecology. Laboratory exercises emphasize the structure and function of animals representing the major animal phyla. Prerequisite: BIOL 1110.

**BIOL 2230** 4  
**Plant Biology** Meets Goal Area: 03  
Covers the fundamental concepts of botany, including plant diversity, taxonomy, morphology, physiology, development, and reproduction. Other topics which will be covered include: viruses, bacteria, and fungi. Laboratory exercises deal with plant, bacteria, and fungi structure and function. Prerequisite: BIOL 1110.

**BIOL 2235** 1-3  
**Special Topics in Biology**  
Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies.

**BIOL 2240** 3  
**Genetics** Meets Goal Area: 03  
Covers the fundamentals of plant and animal genetics and includes the study of modes of inheritance, mechanisms of gene action, human genetics, and the behavior of genes in populations. Lecture and lab included. Prerequisite: BIOL 1110.

**BIOL 2245** 2  
**Medical Terminology** Meets Goal Area: 03  
Biology 2245 provides students in any of the health science disciplines or pre-professional studies with working knowledge of the terminology used in the health professions and/or biology. Prerequisite: STSK 0090 or placement by multiple measures.

**BIOL 2270** 4  
**Microbiology** Meets Goal Area: 03  
Covers the fundamentals of the science of microbiology, microscopy, structure and function of cells, metabolism, microbial growth and control, genetics, and recombinant DNA technology. Also covered is a survey of the microbial world including bacteria, viruses, and pathogenic fungi, protozoa and multi-cellular organisms. The interaction between the microbe and its host is covered as well as environmental and applied or industrial microbiology. Laboratory exercises are designed to reinforce lecture material and provide an opportunity for students to (1) master microbiological techniques, (2) develop critical thinking skills, and (3) learn to analyze and present data. Prerequisite: One of these courses: BIOL 1110, CHEM 1101 or CHEM 1150 is recommended.

## BIOTECHNOLOGY (BIOT)

<b>BIOT 1101</b> <b>Introduction to Biotechnology</b> Introduces the field of biotechnology and its applications in industry and agriculture. Components will consist of lectures coordinated to labs, which demonstrate the application of this science to this emerging field.	3
<b>BIOT 2201</b> <b>Organic and Biological Chemistry</b> Covers organic functional groups - physical and chemical properties, various specific organic molecules and their role in industry and/or the environment, lipids, proteins, enzymes, nucleic acids, protein synthesis and metabolism. Prerequisites: CHEM 1100 or CHEM 1101.	3
<b>BIOT 2205</b> <b>Molecular and Cellular Biology</b> Covers the cellular functions and molecular structures of both prokaryotic and eukaryotic organisms. Topics will include DNA, RNA and protein synthesis, DNA replication, recombination and insertion methods, isolation and purification methods of biological molecules, principles of immunology and virology, and DNA technology.	3
<b>BIOT 2210</b> <b>Biotechnology Methods I</b> Introduces the student to the equipment commonly used to support a modern biologics lab. Topics will include instrument care and calibration, laboratory records and statistics, media and product preparation, GMP/GLP regulations, governmental regulations and methods for isolating and purifying targeted biological molecules.	4
<b>BIOT 2220</b> <b>Biotechnology Methods II</b> Extends the concepts and theories from Biotechnology I and applies these techniques to small and large scale production. Areas covered will include cell culture, immunoassays, fermenters, inventory control and quality control. Prerequisite: BIOT 2210.	4
<b>BIOT 2225</b> <b>Analytical and Investigative Lab Techniques</b> Introduces the student to quantitative analysis of biological components and products. Students will have to process raw samples, identify which assay is appropriate for the sample, and report assay results. Topics include cell fractionation, chromatography, electrophoretic techniques, fluorescence, spectrophotometry, and microscopy among others. Prerequisite: BIOT 1101.	4
<b>BIOT 2297</b> <b>Biotech Internship</b> Provides the student with on the job experience in the field of biotechnology.	2-8

## BUSINESS (BUS)

<b>BUS 1101</b> <b>Introduction to Business</b> Provides students with vital exposure to the major business functions in a dynamic free enterprise environment. The course offers students relevant exposure to background information necessary to execute decision-making in a multitude of business specialties. Fundamentals are emphasized in areas as management, marketing, financing, and information systems.	4
<b>BUS 1104</b> <b>Business Mathematics</b> This course emphasizes mathematical concepts through practical applications in business situations covering percentages in business (mark-ups and discounts), payroll and taxes, finance charges, inventory and depreciation.	3

<b>BUS 1105</b> <b>Introduction to Entrepreneurship</b> Presents information on starting a new business, developing a business plan, buying an existing business, and understanding the realities of the entrepreneurial lifestyle. Entrepreneurial issues involved in managing and growing an entrepreneurial venture will be covered in a separate class. This course is intended for all students at Minnesota West regardless of their major.	2
<b>BUS 2105</b> <b>Introduction to Entrepreneurship</b> Presents information on starting a new business, developing a business plan, buying an existing business, and understanding the realities of the entrepreneurial lifestyle. Entrepreneurial issues involved in managing and growing an entrepreneurial venture will be covered in a separate class. This course is intended for all students at Minnesota West regardless of their major.	2
<b>BUS 2200</b> <b>Introduction to Management Information Systems</b> Develops a broad understanding of MIS concepts by studying the basic principles and techniques of developing computer-based information systems for management decision-making and problem solving. The fundamental concepts of organization, management information and decision systems will be presented and discussed in class. Advanced spreadsheet commands and functions will be used for case studies. Prerequisite: CSCI 1102. Recommend CSCI 2220 or consent of instructor.	3
<b>BUS 2201</b> <b>Principles of Accounting I</b> Teaches the basic concepts that are the prerequisites for all other courses in accounting. Included is an introduction to the accounting system; the processing of accounting data, the purposes and construction of different types of financial statements, and the development of financial accounting.	4
<b>BUS 2202</b> <b>Principles of Accounting II</b> Develops accounting as a planning, analysis, and control tool facilitating the decision-making process of management. The course examines cost and managerial accounting principles and practices, including cost accounting, budgeting, performance measurement, and cost-volume-profit analysis. Prerequisite: BUS 2201.	4
<b>BUS 2221</b> <b>Principles of Management</b> Studies the general principles of management planning, organizing, staffing, directing and controlling the establishment. Course emphasis is placed on the development of goals, policies, and systems necessary to coordinate all resources of an organization to achieve objectives. The importance of adequate managerial communication and motivation in accomplishing specific purposes, and the decision-making and the problem-solving process are emphasized.	3
<b>BUS 2230</b> <b>Principles of Marketing</b> Analyzes the role and importance of marketing as a directing force in a business organization and its relationship to our society. Emphasis is placed on principles, methods, and problems involved in the marketing operations of the firm, including development, pricing, marketing channels, and promotion.	3
<b>BUS 2232</b> <b>Professional Selling</b> This course emphasizes the role and nature of professional selling and the total marketing and promotional effort in accomplishing the objectives of a business enterprise. The principles, practices, and psychology of salesmanship are stressed with a study of customer buying/behavior/motivational theories.	3
<b>BUS 2233</b> <b>Advertising</b> Studies the role of advertising and its relationship to the total promotional and marketing efforts of any organization selling goods/services/ideas. Emphasis is placed on selecting the right	3

appeals, layout, and media in reaching the target market. The total communication process is studied in light of various consumer psychology/behavioral theories.

**BUS 2241** **3**  
**Business Law**

This course will provide a basic understanding of the American legal system and its processes, and an enhanced understanding of the modern global business environment. It examines the legal framework within which business is transacted, not only by business and professional people but also by consumers. Topics include origin of law, ethics, contracts, sales, bailments, negotiable instruments, secured transactions, bankruptcy, real and personal property, product liability, dispute resolution, principal and agent relationships, and business organizational structures.

**BUS 2242** **3**  
**Business Communications**

This course covers theory and offers practice in the fundamentals of good business communications. Emphasis is placed on the construction of effective (and positive) business letter writing. Resume writing, cover letters, interviewing techniques, memos and reports are also integral parts of the course.

**BUS 2275** **3**  
**Human Resources Management**

Provides an analysis of the importance of personnel management in accomplishing the established objectives of a business. Utilization of human resources is emphasized. Management of proper relationships with labor unions, government authorities, and the total community is studied.

**BUS 2297** **2-8**  
**Internship**

Offers students paid or unpaid work experience closely related to their academic and career pursuits. Activities are closely supervised by college instructors and on-the-job supervisors.

**CHILD DEVELOPMENT (CDEV)**

**CDEV 1200** **3**  
**Professional Relations**

Explores career opportunities for working with children in a variety of child development programs. This course also examines job requirements, duties, regulations, and issues, skills, and personal characteristics for becoming successful professionals in early childhood settings.

**CDEV 1240** **3**  
**Family and Community Relations**

This course will guide students in learning how to develop positive relationships with families of varied racial, economic, and cultural backgrounds. Students will examine the importance of the family/early childhood staff relationship and study methods of effectively communicating. Community organizations and networks which support families will be studied.

**CDEV 1262** **4**  
**Creative Activities**

Students will explore varied means of developing children's creativity in art, music, drama. Students learn to design age-appropriate activities with paints, paper, sculpture, wood, chalk, recyclables, song, dance, instruments, puppets, and related materials. The course includes lab and field experience.

**CDEV 1265** **2**  
**Foundations of Child Development**

Teaches how to design and use developmentally appropriate language and cognitive-growth activities, including how to encourage curiosity, exploration and problem-solving; to develop sensory and story-telling skills; how to teach concepts such as time, shape and quantity, how to provide opportunities to organize and group materials; and to verbalize their experiences. Prerequisite: STSK 0090 or placement by multiple measures.

**CDEV 1266** **1**  
**Foundations of Child Development I Lab**

This course provides an overview of typical and atypical child development from prenatal to school age including physical, social, emotional, and cognitive development. It integrates theory with appropriate practice in a variety of early childhood settings. The Minnesota Department of Human Services will check the background of each applicant to ensure that there is no record of child maltreatment. Must be taken concurrently with HSER 1266.

**CDEV 1267** **2**  
**Children's Health, Safety, and Nutrition**

Teaches how to promote good health, physical fitness and nutrition and to provide a safe environment for children. Topics include motor development, methods of teaching health and safety to children, recognizing symptoms of abuse, neglect, and common children's illnesses. Prerequisite: STSK 0095 or placement by multiple measures.

**CDEV 1268** **1**  
**Children's Health, Nutrition and Safety Lab**

This course examines how to provide a healthy and safe environment and provide proper nutrition to young children. It sets high-quality expectations regarding policies, procedures, healthful environments, sanitation standards, and preventative care. The emphasis is on application of theory in a variety of early childhood settings. This course also examines the responsibilities of a mandated reporter of child abuse and neglect. Must be taken concurrently with HSER 1268.

**CDEV 1269** **1**  
**Guidance, Managing the Physical & Social Environment Lab**

This course provides an exploration of the physical and social environments that promote learning and development for young children. It includes child guidance techniques for individual and group situations. Emphasis is placed on problem-prevention strategies, positive child guidance methods, and strategies to help children develop self-control. Emphasis is on the application of guidance methods in a variety of early childhood settings. Must be taken concurrently with HSER 1269.

**CDEV 1270** **2**  
**Guidance: Managing the Physical and Social Environment**

Teaches how to provide a secure, supportive environment for communicating both thoughts and feelings, and for fostering developmentally appropriate behavior. Emphasis is given to providing nurturing and developing realistic expectations for children's behavior, setting limits and developing self-control. Prerequisite: STSK 0095 or placement by multiple measures.

**CDEV 1340** **4**  
**Planning and Implementing**

This course examines the role of the teacher in early childhood settings for children ages 3-7. It applies knowledge of child development as it relates to individual children, communities, curriculum, and communication activities. The course work includes lab and field experience.

**CDEV 1510** **2-4**  
**Internship**

Provides an opportunity to apply knowledge and skills in a child development setting. Students will observe and assess children's development and behavior, implement a variety of learning experiences that are developmentally appropriate, and maintain professional relationships.

**CDEV 2200** **4**  
**Infant and Toddler Development and Learning Experiences**

This course provides an overview of infant and toddler development (ages birth to three years). Students will integrate knowledge of developmental needs, developmentally appropriate environments, effective observations/assessments, and planning and teaching strategies. The course work includes lab and field experience. Prerequisite: Department of Human Services background study will be conducted.

**CDEV 2235** 1-4  
**Special Topics in Child Development**  
Explores specific areas of the Child Development field to meet specialized student needs or interests. This class may be retaken for credit if the topic varies.

**CDEV 2300** 3  
**Childhood Poverty, Exploring the Issues**  
This course will increase understanding of the impact poverty has on children and families, examines unique inherent issues, and promotes respect for family strengths. Emphasis is upon providing tools to work productively and in partnership with children and families.

**CDEV 2560** 3  
**Language & Literature Learning Experiences**  
This course provides an overview of language and literacy learning experiences in either home or center-based settings. Students integrate knowledge of child development, learning environments, and teaching methods to promote whole language, conversation, literature, literacy, and bi-lingualism.

## CHEMISTRY (CHEM)

**CHEM 1100** 3  
**Introduction to Chemistry** Meets Goal Area: 03  
Introduces fundamental theories and applications of chemistry including measurement, atomic theory, bonding theory, nomenclature, chemical quantities, chemical reactions, states of matter, solutions, acids and bases, and nuclear chemistry. This course is for students with no recent background in chemistry and is intended for non-science majors and students preparing for General Inorganic Chemistry I. This course includes a lab. Prerequisite: High school algebra or MATH 0099 or placement by multiple measures.

**CHEM 1101** 4  
**General Inorganic Chemistry I** Meets Goal Area: 03  
Provides an in-depth introduction to fundamental theories and applications of chemistry including measurements, matter, chemical quantities, thermochemistry, atomic theory, bonding theory, and gases. This course is for students considering a major in science, pre-engineering, or pre-health (medicine, pharmacy, veterinary medicine, four-year nursing). This course is the first semester in a two-semester general chemistry sequence. This course includes a lab. Prerequisite: High school chemistry or CHEM 1100 or CHEM 1150, High school algebra, MATH 0099 or placement by multiple measures.

**CHEM 1102** 4  
**General Inorganic Chemistry II** Meets Goal Area: 03  
Continues CHEM 1101 with emphasis on liquids, solids, solutions and solubility, kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry, coordination compounds, and nuclear chemistry. This course is for students considering a major in science, pre-engineering, or pre-health (medicine, pharmacy, veterinary medicine, four-year nursing). This course includes a lab. Prerequisite: CHEM 1101.

**CHEM 1150** 4  
**Survey of Chemistry** Meets Goal Area: 03  
Introduces key concepts of general, organic, and biological chemistry including measurement, matter, nomenclature, chemical quantities, chemical reactions, solutions, acids and bases, organic compound families and reactions, and macromolecules or biological importance such as carbohydrates, lipids, proteins, and nucleic acids. This course is for pre-health, medical science, and liberal arts students, and no recent background in chemistry is required. This course includes a lab. Prerequisite: High school algebra or MATH 0099 or placement by multiple measures.

**CHEM 2201** 5  
**Organic Chemistry I** Meets Goal Area: 03  
Covers the structure, classification, and fundamental reactions of carbon compounds. Specific topics include molecular structure, nomenclature, isomerism, reaction mechanisms, and reaction classes including proton transfer, nucleophilic substitution, elimination, and alkene addition. This course is for students majoring in science, pre-engineering, or pre-health (medicine, pharmacy, veterinary medicine).

This course is the first semester in a two-semester organic chemistry sequence. This course includes a lab. Prerequisite: CHEM 1101.

**CHEM 2202** 5  
**Organic Chemistry II** Meets Goal Area: 03  
Continues CHEM 2201 with emphasis on multistep organic synthesis, orbital interactions, structure determination, and reaction classes including addition, nucleophilic addition-elimination, aromatic substitution, pericyclic reactions, free radical reactions, and polymerization. This course is for students majoring in science, pre-engineering, or pre-health (medicine, pharmacy, veterinary medicine). This course includes a lab. Prerequisite: CHEM 2201.

## CRIMINAL JUSTICE (CJS)

**CJS 1101** 3  
**Introduction to Criminal Justice** Meets Goal Area: 05  
Introduces students to the criminal justice system. The primary goal of this course is to develop a general understanding of the criminal justice system and its response to crime in society today. Students will consider crime in the U.S., explore the key elements of the criminal justice system (policing, courts, and corrections), and examine a number of special issues relevant to criminal justice today.

## COMMUNITY HEALTH WORKER (CMHW)

**CMAE 1514** 2  
**Safety Awareness**  
Introduces OSHA standards relating to personal protective equipment, lock out/tag out, Hazardous materials, Hazard Communication, tool safety, confined spaces, electrical safety, emergency response, and others. This course is designed to align with the National Skills assessment and certification system for Maintenance Awareness. The course curriculum is based upon federally-endorsed national standards for production workers.

**CMAE 1518** 2  
**Manufacturing Process and Production**  
Emphasizes manufacturing principles, basic supply chain management, communication skills, and customer service. This course is designed to align with the National Skills assessment and certification system for Maintenance Awareness. The course curriculum is based upon federally-endorsed national standards for production workers.

**CMAE 1522** 2  
**Quality Practices**  
Introduces quality management systems and its components. This course is designed to align with the National Skills assessment and certification system for Maintenance Awareness. The course curriculum is based upon federally-endorsed national standards for production workers.

**CMAE 1526** 2  
**Maintenance Awareness**  
Introduces the concepts of Total Productive Maintenance and preventative maintenance. This course is designed to align with the National Skills assessment and certification system for Maintenance Awareness. The course curriculum is based upon federally-endorsed national standards for production workers.

**CMHW 1000** 3  
**Advocacy and Outreach**  
Focuses on the Community Health Worker's (CHW) personal safety, self-care and personal wellness. Course also includes the promotion of health and disease prevention for clients. Prerequisite: Student should have experience and trust within diverse communities. Co-Requisite: CMHW 1100.

**CMHW 1100** 3  
**Community, Capacity Building, and Teaching**  
Focuses on the Community Health Worker's (CHW) knowledge of the community and the ability to prioritize and organize work. Emphasis will be on the use of and critical analysis of resources and problem solving. This course also focuses on the CHW's role as a teacher in order to

increase the capacity of the community and the client to access the health care system. Course materials will emphasize establishing healthy lifestyles as well as empowering clients to take responsibility for achieving personal health goals. Students learn about and practice methods for planning, developing and implementing plans with clients to promote wellness. Prerequisite: Student should have experience and trust within diverse communities. Co-requisite: CMHW 1000

**CMHW 1200 3**  
**Communication, Competence, and Legal/Ethical Implications of the CHW**

Focuses on the legal and ethical dimensions of the Community Health Worker's (CHW) role. Included are boundaries of the CHW position, agency policies, confidentiality, liability, mandatory reporting and cultural issues that can influence legal and ethical responsibilities. This course also focuses on the importance and ability of the CHW to gather, document and report on client visits and other activities. The emphasis is on appropriate, accurate, and clear documentation with consideration of legal and agency requirements. This course will concentrate on the verbal and non-verbal communication skills required for the CHW in effectively interacting with clients, their families and a range of healthcare providers. Students learn about skills such as active listening, interviewing, networking, rapport building and team work. Students practice communication skills in the context of a community's culture and the cultural implications that can affect client communication. Prerequisite: Students should have experience and trust within diverse communities. CMHW 1000 and CMHW 1100. Co-Requisite: CMHW 1300.

**CMHW 1250 2**  
**Introduction to Trauma Informed Care**

Explore how trauma impacts the role of the CHW with a focus on specific populations to include American Indian, African American and Refugees. The CHW student will gain an overview of Trauma, its impact among various populations, the scientific basis of Trauma and how this connects to Chronic Disease, what is Trauma informed care, define historical trauma, secondary trauma, barriers related to healing related to trauma and the role CHW's play in healing and self-care. Prerequisites: CMHW 1000, CMHW 1100, and CMHW 1200.

**CMHW 1300 3**  
**Health Promotion Competencies**

Explores healthy lifestyles, heart disease and stroke, maternal, child and teen health issues, diabetes, cancer, oral health and mental health issues and focuses on the knowledge and skills a CHW needs to successfully assist clients in managing and incorporating health into their daily living. Prerequisite: Student should have experience and trust within diverse communities. CMHW 1000 and CMHW 1100. Co-Requisite: CMHW 1200.

**CMHW 1400 2**  
**Community Health Worker Internship**

Supervised practical experience (72-80 hours) allowing the CHW student to explore opportunities for independent work in the Community Health Worker role. The student may choose to do all internship hours at one organization (All sites and supervisors must be approved by the instructor prior to student participation). Prerequisite: Students should have experience and trust within diverse communities.

**COMMUNICATIONS (CMST)**

**CMST 1101 3**  
**Public Speaking** Meets Goal Area: 01  
 Develops students experience in the basic fundamentals of effective public speaking. Students will prepare and deliver a variety of speeches as well as critique them.

**CMST 1103 3**  
**Interpersonal Communication** Meets Goal Area: 01  
 Develops students understanding in becoming a more competent interpersonal communicator. Students will gain valuable skills and learn communication strategies to develop and manage relationships more effectively.

**CMST 1120 3**  
**Intercultural Communication** Meets Goal Areas: 07, 08

Develops an awareness about the importance of intercultural communication and how our own unique cultural experiences affect our communication choices. Listening, nonverbal communication, and other topics relating to intercultural communication like culture shock and communication competency will be explored.

**CMST 1130 3**  
**Small Group Communication** Meets Goal Area: 01  
 Develops student's understanding of how the group communication process works. Students will also develop knowledge on specific group communication terms and skills while participating in small groups.

**CMST 1140 3**  
**Topics in Communication: Puerto Rico Culture** Meets Goal Areas: 07, 08

Students will learn how to be effective intercultural communicators by learning about various aspects of communicating across cultures. After completing the classroom portion of the course, students will have the opportunity to travel to Puerto Rico to experience another culture first hand and apply the intercultural communication skills that they have learned in the course. Students will experience the vibrant local heritage of Puerto Rico as they explore and celebrate traditional customs with locals.

**CMST 1150 3**  
**Exploring Mass Media** Meets Goal Areas: 05, 09  
 Develop media-literate citizens through the examination of various aspects of mass communication. Emphasis will be placed on developing a critical awareness of mass media, convergence, strategic communication, media ethics, and the societal impact of media.

**CMST 2210 3**  
**Oral Interpretation** Meets Goal Area: 06  
 Focuses on interpretation of short fiction, poetry, drama, and children's literature for oral presentation. The student will examine selected texts and incorporate body and voice control techniques in performance.

**COSMETOLOGY (COSM)**

**COSM 1100 4**  
**Preclinic Introduction**  
 Examine the field of Cosmetology which includes hair, nail and skin care. Areas of study will include professional image, Minnesota laws and rules, safety, cleaning and disinfection, anatomy, eyelash extension application and chemistry as related to the profession. This course will contribute 96 hours towards licensure. Prerequisite: Completion of, or concurrent enrollment of COSM 1105, 1110, 1115, 1120, for Cosmetologist; COSM 1110 for Nail techs; COSM 1120 for Estheticians.

**COSM 1105 4**  
**Preclinic Hair Care**  
 Examine the basic elements of all hair care services. Topics will include trichology, shampooing, conditioning, cutting, and hair design. Students will demonstrate hairstyling skills that meet the needs of a varied clientele. This course will contribute 96 hours towards licensure. Prerequisite: Completion of, or concurrent enrollment of COSM 1100, 1110, 1115, 1120.

**COSM 1110 4**  
**Preclinic Nail Care**  
 Examine nail care theory and practical experiences involving manicures, pedicures, and artificial enhancements. This course will contribute 112 hours towards licensure. Prerequisite: Completion of, or concurrent enrollment of COSM 1110, 1160, 1181 for Nail techs and COSM 1100, 1105, 1115, 1120 for Cosmetologist.

**COSM 1115 4**  
**Preclinic Color and Texture**  
 Examine coloring and chemical texture services. Provides an understanding of temporary, semi-permanent, demi-permanent, and permanent color as well as lightening and corrective coloring techniques. Texture services, such as permanent waving, soft-curl perm, and hair relaxing will also be performed. This course will contribute 112 hours towards licensure. Prerequisite: Completion of, or concurrent enrollment in COSM 1100, 1105, 1110, and 1120.



**COSM 1120** 4  
**Preclinic Skin Care**

Examine dermatology and skin care services which include skin analysis, facial massage, makeup application, eyelash extension application and hair removal using both hard and soft wax. This course will contribute 112 hours towards licensure. Prerequisite: Completion of, or concurrent enrollment in COSM 1100.

**COSM 1130** 3  
**Advanced Hair Care**

Examine opportunities to develop the practical skills necessary for entry-level salon work concentrating on chemical hair control, safety procedures and sanitation, hair shaping, hairstyling, hair coloring, thermal curling, shampooing, scalp and hair conditioning, manicuring, artificial nails and skin care facials and makeup. This course will also provide lecture hours concentrating on salon management, Minnesota Cosmetology Laws and Rules, communications skills and retail operations. This course will contribute 80 hours toward licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.

**COSM 1135** 3  
**Salon Preparation**

Develop practical skills necessary for entry-level salon work concentrating on safety procedures and sanitation, retail operations and the required skill readiness to perform salon services. This course will contribute 80 hours toward licensure. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.

**COSM 1140** 4  
**Clinic I**

Develop the practical skills necessary for entry-level salon work concentrating on chemical hair control, safety procedures and sanitation, hair shaping, hairstyling, hair coloring, thermal curling, shampooing, scalp and hair conditioning, manicuring, artificial nails and skin care facials and makeup. This course will also provide lecture hours concentrating on salon management, Minnesota Cosmetology Laws and Rules, communications skills and retail operations. This course will contribute 112 hours toward licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1145** 4  
**Clinic II**

Develop practical skills necessary for entry-level salon work. This course will also provide lecture hours concentrating on salon management, Minnesota Cosmetology Laws and Rules, communications skills and retail operations. This course will contribute 112 hours towards licensure. Prerequisite: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1150** 4  
**Clinic III**

Develop the practical skills necessary for entry-level salon work concentrating on chemical hair control, safety procedures and sanitation, hair shaping, hairstyling, hair coloring, thermal curling, shampooing, scalp and hair conditioning, manicuring, artificial nails and skin care facials and makeup. This course will also provide lecture hours concentrating on salon management, Minnesota Cosmetology Laws and Rules, communications skills and retail operations. This course will contribute 112 hours toward licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1155** 3  
**Clinic IV**

Apply practical skills necessary for entry-level salon work. Cosmetologists will concentrate on chemical hair control, safety procedures and sanitation, hair shaping, hairstyling, hair coloring, thermal curling, shampooing, scalp and hair conditioning, manicuring, artificial nails and skin care facials and makeup. Estheticians will focus on the completion of the quotas needed to complete their MN requirements. Also review for the esthetician's state board written and

practical exam. This course will contribute 80 hours toward licensure. Prerequisite: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1160** 4  
**Clinic V**

Develop practical skills necessary for entry-level salon work concentrating on manicuring, pedicuring, artificial nails, safety procedures and sanitation. This course will also provide lecture hours concentrating on nail theory and salon management, Minnesota Cosmetology Laws and Rules, communications skills and retail operations. This course will contribute 96 hours toward licensure. Prerequisite: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1165** 3  
**Clinic VI**

Develop the practical skills necessary for entry-level salon work. This course will also provide lecture hours concentrating on salon management, Minnesota Cosmetology Laws and Rules, communications skills and retail operations. This course will contribute 80 hours toward licensure. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.

**COSM 1170** 3  
**Clinic VII**

Develop the practical skills necessary for entry-level salon work concentrating on chemical hair control, safety procedures and sanitation, hair shaping, hairstyling, hair coloring, thermal curling, shampooing, scalp and hair conditioning, manicuring, artificial nails and skin care facials and makeup. This course will also provide lecture hours concentrating on salon management, Minnesota Cosmetology Laws and Rules, communications skills and retail operations. This course will contribute 96 hours toward licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1175** 3  
**Clinic VIII**

Develop the practical skills necessary for entry-level salon work concentrating on chemical hair control, safety procedures and sanitation, hair coloring, hair shaping, hairstyling, thermal curling, shampooing, scalp and hair conditioning, manicuring, artificial nails and skin care facials and makeup. This course will also provide lecture hours concentrating on salon management, Minnesota Cosmetology Laws and Rules, communications skills and retail operations. This course will contribute 80 hours toward licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1181** 2  
**License Preparation for Cosmetology I**

Prepares the student for both their MN State Board Written and Practical exams. Students will review MN Statutes and Rules in preparation for the required skills readiness test and salon experience. Lecture hours will also concentrate on salon management and retail operations. This course will contribute 48 hours toward licensure. Prerequisite: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1182** 2  
**License Preparation for Cosmetology II**

Prepare the student for both their MN state board written and practical exams. Students will review MN Statutes and Rules in preparation for the required skills readiness tests and salon experience. This course will provide students with an opportunity to develop the practical skills necessary for entry-level salon work concentrating on safety procedures and sanitation. This course will also provide lecture hours concentrating on salon management, communications skills and retail operations. This course will contribute 48 hours toward licensure. Prerequisite: Successful completion of, or concurrent enrollment in Preclinic courses.

**COSM 1220** 1-18  
**Salon Operations VIII**  
 Provides additional hours for licensure in other states along with additional hours needed to complete the Nail Technician program and prepare for licensure. This course may also be used to fulfill the hour requirements for the Cosmetology and Esthetics programs. Students will apply and practice safety/sanitation procedures along with operational requirements. Students will have an opportunity to develop the practical skills necessary for entry level salon work pertaining to the program area of study, whether it is Cosmetology, Nail Tech or Esthetics.

**COSR 1100** 2  
**40 Hour Refresher Course**  
 Provides students with the Minnesota 40 hour refresher course requirements needed for license renewal. Prerequisites: Previous Minnesota cosmetology license.

**COSR 1105** 4  
**155 Hour Reactivation Course Theory**  
 Provides students with the theory portion of the Minnesota 155 hour reactivation course requirements for reactivating a license. Prerequisite: Previous Minnesota cosmetology license.

**COSR 1110** 3  
**155 Hour Reactivation Course Practical**  
 Provides students with the practical portion of the Minnesota 155 hour reactivation course requirements for reactivation of a license. Prerequisites: Previous Minnesota cosmetology license.

**COSR 1115** 1  
**155 Hour Reactivation Course License Preparation**  
 Prepares students for their written and practical examinations required for reactivating a license. Prerequisite: Previous Minnesota cosmetology license.. Prerequisite: Previous Minnesota cosmetology license.

**CARPENTRY (CRPT)**

**CRPT 1101** 2  
**Tool Safety, Construction Terms & Materials**  
 The purpose of this course is to learn the different types of materials and terms used on all construction sites and how to maintain and use all hand and power tools.

**CRPT 1105** 4  
**Floor and Wall Framing**  
 Students gain hands-on experience laying out, building, straightening, bracing and leveling walls and floors. During lab activities they will layout and erect the supporting structures for residential floor and wall components.

**CRPT 1110** 2  
**Roof Framing Part I**  
 The basics of roof framing are covered in this course. Students will learn theory behind trusses, stick framing and roof loads. They will be taught how to use a framing square and roof terminology. Students completing this class will be able to build a simple gable roof system.

**CRPT 1115** 2  
**Insulation, Ventilation, Vapor Barriers and Dry Wall**  
 Insulation and improved construction methods provide an important measure of energy conservation. Students will learn insulation types and values, the importance of vapor barrier and its proper placement, drywall application, taping and texture.

**CRPT 1118** 2  
**Roof Framing**  
 The basics of roof framing are covered in this course. Students will learn theory behind trusses, stick framing, and roof loads. They will be taught how to use a framing square and roof terminology. Students completing this class will be able to build a gable roof system, layout and cut hip and valley rafters, and identify various types of roof trusses.

**CRPT 1120** 2  
**Roof Framing Part II**  
 This course is a continuation of Roof Framing I. Students will learn more complex roof systems of today's houses. Subjects covered will be layout of hip rafters, construction of both cut-in valleys and blind valleys, intersecting roofs as well as unequal pitched roofs.

**CRPT 1125** 3  
**Estimating and Blueprint Reading**  
 Students will learn how to estimate the cost of a house and gain in-depth knowledge of carpentry math. They will learn the basic principles of interpreting blueprint reading and transferring the knowledge into a complete project.

**CRPT 1130** 2  
**Stairway Construction**  
 Stairway construction is considered one of the more highly skilled areas of carpentry work. Students will learn stair terminology, layout and construction by building a straight stairway and a quarter turn stairway.

**CRPT 1132** 4  
**Interior Finish I**  
 This course covers the identification of various interior finish materials and their appropriate application and proper installation. This includes insulation, drywall, interior doors, and all interior trim components, including closet shelving. Students will also learn stairway terminology, layout, and construction and gain hands-on experience by building various types of stairs.

**CRPT 1135** 2  
**Exterior Finishing Wall and Roof Covering**  
 The exterior finish of a building includes the door and window units and all the materials that cover the roof and exterior. They must also give weather-tight protection to the roof and exterior walls.

**CRPT 1140** 4  
**Project Planning, Estimating, Layout**  
 Estimate all material for house project and award bid for materials. Meet with sub-contractors, go over specifications and award bids. Students will locate boundary stakes, establish building corners and build batter boards. They will identify sewer elevations and establish all elevations necessary for excavation. Supervise excavation, build forms and pour footings for a house project.

**CRPT 1142** 4  
**Blueprint Reading, Estimating & Project Planning**  
 In this course, students will learn to read and interpret residential blueprints and do an accurate "take-off" or estimate of materials needed for a residential structure. Students will also learn site layout and establishing building elevations necessary prior to the excavation of a building site.

**CRPT 1145** 2  
**Interior Trim**  
 Interior finish work is the final stage in the construction of a building. It should not begin until the building is completely enclosed and all windows and exterior doors have been installed. Interior finish includes all the surface materials placed on the walls, floors and ceilings.

**CRPT 1150** 3  
**Site Layout and Foundations**  
 Introduce students to the tools and skills necessary to lay out a building site and construction methods used to form and pour concrete footings for a building.

**CRPT 1155** 2  
**Building Science**  
 Students in this course will learn about the house as a system and will include advanced topics in building shell components, air sealing, insulation air quality and health and safety.

**CRPT 1160** 4  
**Roof Framing**  
 Learn theory behind trusses, stick framing, and roof loads. Students will be taught how to use a framing square and roof terminology.

Students completing this class will be able to build a gable roof system, layout and cut hip and valley rafters, and identify various types of roof trusses. Students will install roof truss systems, hand frame roof sections of various styles, including ceiling vaults and trays, and install roof sheathing. Prerequisite: CRPT 1101.

**CRPT 1170** 3

**Applied Carpentry Calculations and Estimating**

This course covers the mathematical skills necessary for estimating materials, performing necessary calculations and conversions necessary for interior and exterior work. Application on linear, square and cubic measurements and their relationship to the construction trades process will be studied.

**CRPT 2205** 3

**Foundations and Floors**

Designed to give the student hands-on experience with laying out and squaring up foundation walls, and actual construction of various types of foundation structures for a residential home. Concrete mixtures, estimating, pouring consistencies, placement and finishing techniques for vertical and flatwork concrete pours are also included.

**CRPT 2215** 2

**Concrete Technology**

Covers designing concrete mixes for specific uses, preparing sub-base areas and building forms, handling and placement of concrete mixes and finishing techniques.

**CRPT 2220** 5

**Advanced Concrete Technology**

This course is designed to give the student hands-on experience with laying out and squaring up foundation walls and actual construction of various types of foundation structures for a residential home. Also this course covers designing concrete mixtures for specific uses, estimating, pouring consistencies, preparing sub-bases areas and building forms, handling, placement and finishing techniques for vertical and flatwork concrete pours are also included.

**CRPT 2235** 3

**Wall and Roof Framing**

Designed for identification and assembly of all components in Western Platform framing construction in accordance with all state and local codes. Students will perform horizontal and vertical layout of interior and exterior wall assemblies. Erect, plumb and brace walls, fasten components together, and install exterior wall sheathing. Students will install roof truss systems, hand frame roof sections of various styles, including ceiling vaults and trays, install roof sheathing and apply shingles and flashings.

**CRPT 2237** 4

**Exterior Finish and Shingling**

Covers identification and application of all types of siding, shingles, soffit and fascia covers and rain gutters. Also covers attic ventilation equipment installation. These skills will be developed by the construction of an on-site built residential home.

**CRPT 2240** 4

**Framing II**

This course is designed for identification and assembly of all components in Western Platform framing construction in accordance with all state and local codes. Students will perform horizontal and vertical layout of interior and exterior wall assemblies. Erect, plumb and brace walls, fasten components together, and install exterior wall sheathing. Also students will get experience in various types of floor systems such as webbing trusses and I joists systems. Students will install roof truss systems, hand frame roof sections of various styles, including ceiling vaults and trays, and install roof sheathing. This course also covers construction of a variety of decks, porches, and patios, the materials used in their construction and the methods of handling a variety of materials.

**CRPT 2242** 2

**Deck and Porch Construction**

Students in this course will learn about the construction of decks, porches, and patios, the materials used in their construction, and the methods of handling a variety of materials.

**CRPT 2245** 1

**Cabinet Layout and Design**

Provides training to analyze cabinet needs and available spaces and design cabinets for specific uses. Drawing up of basic construction plans is an integral part of this course.

**CRPT 2249** 4

**Cabinet Installation**

This course takes the students through the process of cabinet installation methods, countertop construction and installation, and finishing of areas such as kitchens and bathrooms.

**CRPT 2250** 5

**Cabinet Construction**

Explore the construction of a variety of kitchen, bathroom, utility, and specialty cabinets and countertops.

**CRPT 2255** 5

**Cabinet Making**

In this course the student will be trained to analyze cabinet needs and available spaces and design cabinets for specific uses. Drawing up of basic construction plans is an integral part of this course. Also, this course includes the construction of a variety of cabinets including kitchen units, linen closets, vanity cabinets, and built-in work stations. Lastly, the students will go through the process of cabinet installation methods, counter top construction and installation, and finishing areas such as kitchens and bathrooms.

**CRPT 2260** 3

**Interior Finish and Staircase Construction**

This course covers identification of all types of interior finish materials, installation of such materials, and finishing techniques. A variety of types of staircases will be studied and at least one or two stairways constructed.

**CRPT 2265** 3

**Interior Finish II**

This course will cover a variety of insulation materials, applications and insulating methods, and ventilation requirements. The student will install interior wall and ceiling coverings and apply finishing materials. This course will also cover identification of all types of interior finish materials, installation of such materials and finishing techniques. A variety of types of staircases will be studied and at least one or two stairways constructed.

**CRPT 2270** 2

**Construction Business Management**

This course covers the basic principles of construction business accounting, organization of business structure, employee management, business licensing requirements, and trade knowledge, for the purpose of starting your own small business.

**CRPT 2271** 3

**Construction Drafting, Design, and Blueprint Reading**

Introduce the students to the basic principles of mechanical drafting, architectural drafting, and the design of floor plans. Auxiliary views, cross sections, and elevation views will also be studied and drawn. Students will have the opportunity to learn both hand drafting methods and computer aid drafting. The student will be taught the skills needed to accurately read and interpret a complete set of working drawings for residential and light commercial construction projects.

**CRPT 2280** 3

**Insulation and Interior Wall Covering**

Covers a variety of insulation materials and applications and insulating methods, and ventilation requirements. The student will install interior wall and ceiling coverings and apply finishing materials.

**COMPUTERIZED SMALL BUSINESS (CSBM)**

**CSBM 1100** 1

**Disk Operating Systems for Small Business**

This course covers DOS and hard drive concepts. The emphasis is on concepts and commands that will enable the student to better understand and maintain their own microcomputer system.

<b>CSBM 1110</b>	<b>3</b>	<b>CSBM 1210</b>	<b>2</b>
<b>General Ledger for Small Business</b>		<b>Desktop Publishing for Small Business</b>	
This course covers the process of computerizing business records using General Ledger software. The student will be able to produce financial statements using the selected software package.		This course covers desktop publishing techniques and applications used to design professional looking documents. The student will be able to create, edit, manipulate and print documents using selected software.	
<b>CSBM 1120</b>	<b>2</b>	<b>CSBM 1212</b>	<b>1</b>
<b>Bank Reconciliation for Small Business</b>		<b>Introduction to Recordkeeping for Small Business</b>	
This course covers the application of computerized bank account/General Ledger reconciliation. The student will be able to prove bank account cash balances using the selected software package.		This course introduces the principles and systems of accounting in a small business. Accounting records and reports are critical in management of a small business.	
<b>CSBM 1130</b>	<b>3</b>	<b>CSBM 1214</b>	<b>2</b>
<b>Accounts Receivable for Small Business</b>		<b>Sales Order Entry for Small Business</b>	
This course covers the process of computerizing business records using Accounts Receivable software. The student will be able to produce customer invoices, statements and reports using the selected software package.		This course teaches the proper method of gathering and entering sales data. The student will know the difference between the sale that needs to interact with perpetual inventory, and which do not. The student will learn how sales tax affects all types of sales. Customers will be setup properly to reflect the discount, chart of account number, sales and use taxes, and pricing levels that apply, as well as customer categories for statement purposes.	
<b>CSBM 1140</b>	<b>3</b>	<b>CSBM 1216</b>	<b>3</b>
<b>Accounts Payable for Small Business</b>		<b>Inventory Control for Small Business</b>	
This course covers the process of computerizing business records using Accounts Payable software. The student will be able to track purchases, pay bills, manage cash flow and print reports using the selected software.		This course teaches the correct type of inventory method that the company needs to use, FIFO, LIFO, Average Cost, or Standard Method. The student will learn to enter each inventory item, vendor product code, proper department, current cost, selling price categories, as well as the product code. The student will learn how to enter, and process purchase orders. The student will fill out, receive, post, update inventory, and convert purchase orders to accounts payable invoices. The student will learn how to utilize all aspects of manufacturing assemblies, if it applies to their company. The student will understand physical inventory, and maintain the perpetual inventory based on actual amounts, and correct prices for each item.	
<b>CSBM 1150</b>	<b>3</b>	<b>CSBM 1218</b>	<b>1</b>
<b>Payroll in Small Business</b>		<b>Payroll Year End Close for Small Business</b>	
This course covers the process of computerizing business records using Payroll software. The student will be able to calculate payroll, print payroll checks, track tax liabilities and print reports using the selected software package.		This course covers the process required to close the Payroll system at the end of a calendar year. The student will be able to reconcile payroll records, print the required tax reports and prepare the system for the next year using the selected software package.	
<b>CSBM 1160</b>	<b>2</b>	<b>CSBM 1220</b>	<b>1</b>
<b>Governmental Payroll Reporting for Small Business</b>		<b>Accounting Year End Close for Small Business</b>	
This course covers the fundamentals of employment forms and payroll tax reports that apply to small business. The student will be able to identify and complete forms as required by agencies of Federal and State government.		This course covers the process required to close the Accounting system at the end of a fiscal year. The student will be able to reconcile accounting records, post year-end journal entries and prepare the system for the new year using the selected software package.	
<b>CSBM 1200</b>	<b>2</b>	<b>CSBM 1222</b>	<b>2</b>
<b>Introduction to Computers for Small Business</b>		<b>Network Administration for Small Business</b>	
This course covers the basics of microcomputer systems. The student will gain an overview of DOS, Word-Processing, Database file management and Spreadsheets. This will provide a good foundation for further computer training.		This course introduces the student to network operating procedures. The student will be able to operate their implemented system in a multi-user environment.	
<b>CSBM 1202</b>	<b>1</b>	<b>CSBM 1224</b>	<b>1</b>
<b>Windows Operating Systems in Small Business</b>		<b>Software Upgrade for Small Business</b>	
This course covers Windows as an operating system. The emphasis is on concepts and commands that will enable the student to better understand and maintain their own microcomputer system.		This course covers the process required to evaluate software upgrades. The student will develop a software efficiency model and will evaluate that model against vendor documentation to decide on the proposed upgrade.	
<b>CSBM 1204</b>	<b>3</b>	<b>CSBM 1226</b>	<b>1</b>
<b>Word-Processing for Small Business</b>		<b>Software Analysis for Small Business</b>	
This course covers the use of word-processing software for business applications. The student will be able to create, edit, manipulate and print documents using selected software.		This course covers the process required to evaluate software products. The student will develop a software selection model, review appropriate software products and implement a decision process.	
<b>CSBM 1206</b>	<b>3</b>	<b>CSBM 1228</b>	<b>1</b>
<b>Spreadsheets for Small Business</b>		<b>Hardware Analysis for Small Business</b>	
This course covers the use of Spreadsheet software for business applications. The student will be able to create, edit, manipulate and print documents using selected software.		This course covers the process required to evaluate computer hardware products. The student will develop a hardware selection model, review appropriate hardware products and implement a decision process.	
<b>CSBM 1208</b>	<b>3</b>		
<b>Data Base Management for Small Business</b>			
This course covers the use of data base management software for business applications. The student will be able to create, edit, manipulate and print documents using selected software.			

**CSBM 1230** 1  
**Operations Manual for Small Business**  
 This course covers the process of documenting the system operating procedures implemented during the installation and configuration and data entry phases. The student will assemble all documentation into an operations manual.

**CSBM 1232** 3  
**Asset Management for Small Business**  
 This course teaches the concept of asset valuation as it relates to actual and depreciated value. The student will learn how to use standard depreciation methods to determine the current months depreciation expense, and correct offsetting accumulated depreciation for each class of fixed assets. The student will enter all company assets in the fixed asset module, when the balance sheet is setup and enter each asset properly as it is purchased during the ongoing business cycle.

**CSBM 1234** 3  
**Financial Statement Analysis for Small Business**  
 This course teaches the generally accepted business ratios that apply to performance when compared to generally accepted industry standards. The student will learn which ratios apply, how to compute the ratios, and the importance of each ratio. The student will use company data that comes from very accurate accrual financial statement. After computing these ratios, the student will display knowledge of the importance of these trends, as they relate to the success of the business.

**CSBM 1236** 1  
**System Evaluation for Small Business**  
 This course covers the process used to evaluate the completed system against the original project plan. The student will develop a document outlining the projects strengths, weakness, needed improvements and a future system growth path.

**COMPUTER SCIENCE (CSCI)**

**CSCI 1100** 2  
**Microcomputer Keyboarding**  
 Provides basic instruction on the use of the electronic keyboard. Basic touch keying is taught to develop the student's skill in rapidly and efficiently entering information into a microcomputer via the keyboard. Includes both alpha and numeric entries. The course also teaches basic document formatting for various styles of personal and business documents such as letters, memorandums and compositions.

**CSCI 1102** 3  
**Introduction to Microcomputers**  
 Provides an overview of computer information processing with the primary emphasis on the microcomputer. Students learn and apply the basic elements of word processing, spreadsheets, and document integration. Also introduces the basic concepts of graphics, telecommunications, the Internet and computer programming. Prerequisite: CSCI 1100 or prior keyboarding experience or placement by multiple measures.

**CSCI 1110** 2  
**Concepts of Coding**  
 Exposes the student to computer science foundation logic within a friendly, game-like, coding environment using JavaScript to generate immediate interactive results.

**CSCI 1150** 3  
**Presentation Development**  
 The course will present introductory components of design and development using Microsoft PowerPoint. As well as completion of several projects, quizzes and tests per chapter, students will have an in-depth knowledge of how to create an advanced presentation for all types of uses. Prerequisite: CSCI 1102.

**CSCI 2100** 3  
**Advanced Microcomputer Applications**  
 Provides a comprehensive and advanced look at the use of microcomputers in today's society. Emphasis is placed upon the integrated nature of many of today's major applications. Explores the advanced uses of and integration features of word processing documents, database files, spreadsheets and graphic presentations. Prerequisite: CSCI 1102.

**CSCI 2105** 3  
**Advanced Database with SQL**  
 Introduces a comprehensive look at SQL (structured query language) which is a programming language that is used by diverse groups of programmers today. Learning of SQL commands and database design and the many uses of SQL. Prerequisites: CSCI 1102 and ACCT 1122.

**CSCI 2140** 3  
**Electronic Spreadsheets and Graphics**  
 Explores topics of statistical applications, managing database systems, and various graphical capabilities using integrated business simulations. Internal and external program utilities to aid in scanning, importing graphics and combining files will be introduced. Competency in statistical and logical formulas, charting techniques, database manipulation and macro design is expected. Prerequisite: CSCI 1102.

**CSCI 2150** 3  
**Multimedia for the Web**  
 Explores emerging standards and futuristic trends for web site development and maintenance of text, graphics, scanned images, audio, video, dynamic and interactive elements to enhance web pages. Objects of scrolling messages, pop-up windows, applets, reaction to the state of the browser and event/response to user interventions provide dynamic content. Additional actions of the web site hierarchy, security management and maintenance employed through the development of a media-enhanced web site. Prerequisite: CSCI 1102.

**CSCI 2170** 3  
**Python Programming**  
 Provides an introduction to Python, a programming language that allows programs to be written more quickly and with less conceptual overhead. Topics include strings, variables, selection, iteration, functions, graphics, file processing, lists, dictionaries and recursion. Prerequisite: CSCI 1102

**CSCI 2200** 4  
**Visual Basic Programming**  
 This course covers user interface applications through programming in Visual Basic. Topics covered are arithmetic statements, conditional statements, looping structures, data structures, sequential files, random files, design and graphics. Uses DDE, Dynamic Data Exchange, as a way of sharing electronic data between Windows applications and emphasizes problem solving using an OOED, Object-Oriented Event-Driven, approach. Prerequisite: CSCI 1102.

**CSCI 2215** 3  
**Web Programming I**  
 Discusses current and futuristic web page technologies and trends, including responsive web design and mobile-first design strategies, incorporates audio and video into realistic case studies and promotes professional webpage development best practices by applying HTML for structure and CSS for style and layout. Prerequisite: CSCI 1102.

**CSCI 2235** 1-3  
**Special Topics in Computer Science**  
 Introduces students to specialized areas of computer science and computer usage. The class may be retaken for credit if the topic varies. Prerequisite: STSK 0095 or placement by multiple measures.

**CSCI 2240** 4  
**Fundamentals of Programming I**  
 Emphasizes concepts that provide a fundamental background for continued study in the area of computer science. Involves high-level language programming and the use of abstraction in program design. Prerequisite: CSCI 1102.

**CSCI 2245** 4  
**Fundamentals of Programming II**  
 Discusses topics including object-oriented programming techniques, essential data structures such as stacks, queues, trees, sorting, and searching algorithms using a high-level programming language. Prerequisite: CSCI 2240.

**CSCI 2250** 4  
**Java Programming**  
 Provides an overview of the Java programming language and special features of control structures, input/output streams, data structures, and abstraction mechanisms. Concepts include creating complete Java classes, derive new classes with effective use of inheritance, and use Java to create applets. Prerequisite: CSCI 2200.

**CSCI 2255** 4  
**Java Programming II**  
 An intermediate to advanced study of Java as an object oriented programming language. Concepts include abstract data type with a Class, constructors, overloaded constructors, instance variable, final, superclasses, subclasses, inheritance, String class, constructors and methods, StringBuffer class, constructors and methods, Graphic Objects, Swing Components, Event Handling, Layout Managers, Exception Handling, Multithreading, Files and Streams. Prerequisite: CSCI 2250.

**CSCI 2290** 1  
**Technology Capstone Seminar**  
 Studies a variety of current technology dependent business implementations. Examines ethical behavior and consequences related to issues of Internet use, copyright, security, ergonomics, and safety and health. Discusses state-of-the art and futuristic trends within technology development. Prerequisite: CSCI 1102 and either one CSCI application course or one CSCI programming course.

**COMPUTER SUPPORT (CST)**

**CST 1101** 2  
**IT Exploration**  
 Students will gain prerequisite knowledge necessary for a career in the field of information technology. Students will be exposed to opportunities and skills needed for a career in Information Technology. Concepts covered include current business software, internet research, data security concepts, virtualization, networking and social media.

**CST 1111** 2  
**File Structures**  
 Teaches students to use the command line to operate a file server and work with scripts. The class will use the Windows PowerShell to work with and manipulate the file system.

**CST 1112** 1  
**CLI/PowerShell**  
 This course covers the fundamentals of the computer file systems including the command line interface (CLI). Students will use CLI and PowerShell commands to perform operations to manage a directory structure. Emphasis is placed on the use of PowerShell Cmdlets for task automation and PowerShell scripting for system configuration management.

**CST 1115** 1  
**Desktop Virtualization**  
 Virtual desktop computing offers students, as well as professionals, the background in virtualization technology needed to advance in today's technology workplace. It provides an overview of virtualization technology with the latest virtualization products: focus is on using virtualization software in the desktop environment. The student will install and configure virtual operating system software in addition to loading operating systems in a virtual environment. The information presented in this course will be used in most other courses in the Computer Technology programs at the college.

**CST 1125** 3  
**Operating Systems**  
 This course explores various operating systems including Unix, Mac and the various versions of Microsoft Windows. Specific concepts will include installing, configuring, troubleshooting and maintaining efficiency of the operating system to meet end-user needs in a production environment.

**CST 1135** 3  
**Unix Operating Systems**  
 This course is designed to familiarize students with Unix-based operating systems. The student will use the Linux operating system for this course. Basic UNIX system concepts, architecture and administration are covered. Students have the opportunity to use fundamental UNIX commands, explore the UNIX file system, use text editors, process and manipulate files, and use the UNIX shell as a programming language.

**CST 1180** 1  
**Data Security Awareness**  
 This course will introduce the student to the need for information security, including the ethical, legal and professional security issues. The student will develop an awareness of the types of attacks on data, who would perform such attacks, and how to defend against data loss. The student will learn how to protect their home and office computer from misuse and viruses. The student will also be presented with corporate security strategies, including policies, incident response and disaster recovery.

**CST 1182** 1  
**Computer Ethics**  
 Covers the ethical issues relating to computers and technology including social networking, cell phone use, digital copyrights, and legal issues. Current events and topics related to technology and how it has changed our society will be discussed. Policies that address ethical technology issues will be developed.

**CST 1190** 4  
**Introduction to Networking**  
 Introduction to Networks (ITN) covers the architecture, structure, functions and components of the Internet and other computer networks. Students achieve a basic understanding of how networks operate and how to build simple local area networks (LAN), perform basic configurations for routers and switches, and implement Internet Protocol (IP). This course is the 1st course of 3 courses to prepare for CISCO Certified Network Associate (CCNA) certification.

**CST 1195** 2  
**Network Basics**  
 This course introduces the student to networking basics, media, topologies, protocols, architectures, software and the Open Systems Interconnection (OSI) Reference Model. In addition, wide area network (WAN) technologies, security issues, the Internet and Internet tools are introduced.

**CST 1200** 3  
**Introduction to Information Security**  
 This course will introduce the student to the need for information security, including the ethical, legal and professional security issues. The student will assess, identify and control security risks, identify secure network design, plan for disaster recovery, set up security policies and secure employment practices. This is the first in a series of courses designed to understand and manage information security and will touch on most aspects of information security. Prerequisites: CST 1190 or CST 1195.

**CST 1220** 3  
**Information Security Management**  
 In this course the student will continue to explore information security management issues, including authentication, virus attacks and prevention, firewalls, intrusion detection and other security devices and topologies. The student will learn to control security risks, identify secure network design, plan for disaster recovery and setup security policies. This course covers most of the objective in Comptias Security + exam.

**CST 1250** **3**  
**Information Security Administration**  
 In this course the student will continue to explore information security administration issues, including the hands-on setup of secure environment components. This will include securing network hardware and software, intrusion detection and other security devices and topologies. The student will learn information security setup and maintenance, disaster recovery and implementation of security policies.

**CST 1300** **3**  
**Computer Forensics**  
 This is an introductory course in computer forensics, which is the study of a computer that has been compromised and the recovery of evidence or information. In this course the student will concentrate on how to recover information from a computer or network after an attack. The student will look at both disaster recovery after a hacker or virus attack and also how to get information from a system that has been used for illicit activities. The student will use a systematic approach to gather information without destroying evidence. Prerequisites: CST 1125 and CST 1200.

**CST 1400** **3**  
**Telecommunications I**  
 This course provides students with a broad overview of the telecommunications industry. Including knowledge and understanding of telecommunications history, terminology, tools, cable types, wiring components, basic fiber, coaxial cable, connector types, and basic telecommunications networks. This course prepares the student to be able to identify various equipment and technology in the inside and outside telecommunications plant including wireless and cellular networks. Some of the latest technologies, including devices associated with the internet of things are introduced in this course. Students will look at the various careers in telecommunications and future industry trends. Prerequisite: STSK 0090 or placement by multiple measures.

**CST 1410** **3**  
**Broadband Technology**  
 Provides students with basic broadband technologies knowledge and skills. The student develops an understanding for Convergent Technologies and the need for transmitting more than one type of signal simultaneously by way of divided channel. Emphasis is placed on the exploration of the technology of voice and data integration, frame relay, Synchronous Optical Network (SONET), Asynchronous Transfer Mode (ATM)/cell relay, Switched Multi-megabit Digital Service (SMDS), Broadband Integrated Services Digital Network (BISDN), Digital Subscriber Line (DSL), and Virtual Private Network (VPN). This course presents and explains the many and varied techniques, solutions, principles, and challenges both carriers and end users utilize, experience, and overcome in implementing broadband and voice-over IP services. Prerequisite: CST 1400.

**CST 1420** **3**  
**Convergence Technology**  
 A study of telecommunications convergent technologies including telephone, LAN, WAN, wireless, voice, video, and internet protocol. Introduces the student to Voice, Video and Integrated Data (VVID) over IP networks to provide seamless and secure communications solutions to business and home technology needs. This includes discussions on interoperability methods and techniques to integrate disparate systems and technologies, and includes people skills development. This course includes the fundamental concepts of digital media distribution, Digital Video Distribution in Broadband, Television, Mobile, and Converged Networks. Prerequisite: CST 1180.

**CST 1440** **3**  
**Advanced Telecommunications**  
 This course will expand on the theory and topics from the Telecommunications I class including field experience with central office equipment and cabling. Students will work with broadband communications access systems and software and deploy services over fiber and copper-based network architectures. In addition, students will become familiar with federal and state regulations and organizations related to the telecommunications industry. Prerequisite: CST 1400.

**CST 1500** **3**  
**Routers and Switches**  
 This course introduces the student to practical networking experiences within a laboratory environment. Students will study router and switch basics, configure routers, investigate routing protocols, configure switches, develop access lists and troubleshoot routing technologies. Prerequisite: CST 1190.

**CST 2108** **3**  
**Structured Communication Systems**  
 Covers structured communication systems (SCS). Students will gain practical experience in implementing many concepts in SCS by installing and terminating various cabling types, configuring voice/data and fire/alarm systems, and other equipment. The student will be able to install various SCS; select and operate the appropriate test equipment to perform test procedures perform routine maintenance; perform minor troubleshooting procedures and repairs; identify and describe industry standards, protocols and safety procedures relating to structured communication systems.

**CST 2110** **3**  
**PC Maintenance and Repair Hardware**  
 Introduces computer hardware components and explains how they work together to make computers functional. Also includes procedures for disassembling and reassembling different classes of computers, troubleshooting, and repair.

**CST 2120** **4**  
**Computer Integrated Manufacturing**  
 Students have the opportunity to develop skills in designing, wiring, troubleshooting, and operation of electrical control circuits. A supervised time for students to hardwire and program various programmable logic controllers. Provides the student with an understanding of and the ability to use pics in all phases of industrial automation.

**CST 2150** **4**  
**Advanced Routing Technology**  
 This course covers concepts and skills in advanced IP addressing techniques, intermediate routing protocols, Ethernet switching, Virtual LANs, Spanning Tree Protocol and VLAN trunking Protocol. Students will demonstrate the ability to apply competencies from prior networking courses including Intro to Networking and Routers and Switches. The course consists of web-based interactive lessons and hands-on labs. This course is the third of four courses leading to the Cisco Certified Network Associate (CCNA) designation. Prerequisite: CST 1500.

**CST 2160** **3**  
**Wide Area Network Technology**  
 Develops knowledge and skills in the areas of advanced IP addressing techniques, WAN technology and terminology, Frame Relay, network management, and introduction to optical networking. Students will apply knowledge from previous networking courses and be able to explain how and why a particular strategy is employed. In addition, the student will prepare for taking the CCNA Exam. Wide Area Network Technology is the last of four courses leading to the Cisco Certified Network Associate (CCNA) designation. The course consists of web-based, interactive lessons and hands-on labs. This course will be the final course in the Cisco network certificate. Prerequisite: CST 2150.

**CST 2215** **3**  
**PC Maintenance and Repair Software**  
 Provides curriculum to prepare students to become A+ certified. Also covers Windows/DOS components of A+ exam. Students will partake in business-like atmosphere by troubleshooting and repairing assigned computer problems. Students will maintain a portfolio of completed repair projects.

**CST 2224** **4**  
**Windows Client/Server Administration**  
 This course will cover how to set up and support the Windows Server & clients. Course will teach students to implement, administer, and troubleshoot information systems that incorporate Microsoft Windows Server & clients. Hands-on, practical experience, and exercises will be incorporated into this course. This course helps students to prepare for Microsoft certification. Prerequisites: CST 1111 or CST 1190.

**CST 2230** **3**  
**Novell NetWare Administration I**  
 This course will introduce the student to Novell networking theories and practices. Concepts such as planning the network, users, groups, the NDS tree, file and print services, and objects will be covered.

**CST 2240** **2**  
**Home Networking**  
 Prepares students for the CompTIA HTI+ certification exam. This is a practical approach to networking technologies, audio visual systems automation methods, and telecommunication techniques that converge in integrated home technology. Prerequisite: CST 1190.

**CST 2284** **3**  
**Microsoft Exchange Server**  
 The student will develop skills that are needed to update and support a reliable, secure messaging infrastructure. This infrastructure is used for creating, storing and sharing information by using Microsoft Exchange Server in a medium-sized to large-sized (250 to 5,000 users) messaging environment. This course offers a significant number of hands-on practices, discussions and assessments that assist students in becoming proficient in the skills that are needed to update and support Exchange Server. Prerequisite: CST 2223.

**CST 2291** **3**  
**Windows Network Infrastructure I**  
 This course will cover how to plan a network infrastructure around features supported by Windows. Issues such as network protocol and services are introduced. This includes using the Internet work Packet Exchange/Sequences Packet Exchange (IPX/SPX) - compatible protocol to integrate with Novell Netware. Students will learn how to utilize, manage, and configure the TCP/IP protocol and features such as NetBIOS, WINS, DHCP and DNS. Students will learn to configure, manage and troubleshoot networks routing and remote access, including setting up virtual private networks (VPN's). Hands-on, practical experience exercises will incorporate into this course. This course helps students to prepare for Microsoft certification. Prerequisite: CST 1190.

**CST 2293** **3**  
**Windows Network Infrastructure II**  
 This course is designed to prepare students for the corresponding MCSE certification exam and for the challenges they will face as a Microsoft networking professional. Lectures, projects and exercises reinforce skills as they learn. Specific topic coverage includes: Overview of Planning a Windows Server 2003 Network, TCP/IP Architecture, Planning and Managing a TCP/IP Network, Planning and Configuring Routing and Switching, Planning, Configuring and Troubleshooting DHCP, Planning, Configuring and Troubleshooting WINS, Planning a DNS Strategy, Managing and Troubleshooting DNS, Planning and Managing Certificate Services, Planning and Managing IP Security (IPSec), Planning Network Access, Planning and Implementing Server Availability, Planning Server and Network Security, Problem Recovery. Prerequisite: CST 2291.

**CST 2294** **3**  
**Windows Active Directory**  
 This course will cover how to plan, configure and administer an Active Directory infrastructure. The student will learn to configure Domain Name System (DNS) to manage name resolution, schema and replication. The student will also learn how to use Active Directory to centrally manage users, groups, shared folders and network resources and to administer the user environment and software with group policy. This course will show the student how to implement and troubleshoot security directory services infrastructure and monitor and optimize Active Directory performance. Students will deploy Windows remotely using Remote Installation Services (RIS). Hands-on practical experience with exercises will be incorporated into this course. This course helps students to prepare for Microsoft certification. Prerequisite: CST 1190.

**CST 2298** **3**  
**Microsoft Windows Security**  
 This course will prepare students to analyze the business requirements for security and design a security solution that meets business requirements. Securities that this course will cover include: controlling access to resources, auditing access to resources, authentication and

encryption. Completion of this course will help students prepare for Microsoft certification. Prerequisite: CST 1190.

**CST 2310** **2**  
**Information Technology Customer Service**  
 This course covers the basic skills needed to work effectively with customers one-on-one or at a help desk. Basic communication, listening, telephone, writing, and problem solving skills are developed.

**CST 2326** **2**  
**Web Page Concepts**  
 This course covers topics necessary to maintain and support an existing website. Students will be proficient in adding Lists, Hyperlinks, Pictures and task lists to web pages. Publishing a website will also be covered. Prerequisites: CSCI 1102 and CST 1190, or consent of instructor.

**CST 2340** **3**  
**Web Server Concepts**  
 This course will introduce the student to the Internet, including setup, operation and maintenance of an Internet web server. Concepts such as installation, configuration and maintaining the server. Creating and troubleshooting web pages, understanding the Internet protocols and security. We will be working with the Microsoft Internet Information server features and functions.

**CST 2350** **2**  
**Virtual Computing**  
 Introduces information technologies used in an enterprise network environment. Students are introduced to virtualization and storage management concepts using VMware server virtualization products. Prerequisite: CST 1190.

**CST 2500** **3**  
**Incident Response and Disaster Recovery**  
 This course will introduce the student to the complexities involved in responding to intrusions and threats to their information systems structure. The student will prepare portions of a disaster recovery plan for information systems and test the plan in a lab environment. The student will learn the importance of planning for a disaster, what to do during a disaster, when to escalate an incident to a disaster and who needs to be involved in the planning, implementation and recovery. Prerequisite: CST 1250.

**CST 2520** **2**  
**Ethical Hacking**  
 This course is designed for the student to explore the tools that hackers use to gain access to systems in order to better protect their network environment. It will look at software, hardware and social engineering schemes that hackers use. The course will also cover suggestions for protecting your system from unauthorized access. Legal and ethical hacking issues will be discussed. Prerequisites: CST 1200 and CST 1125.

**CST 2600** **3**  
**Fundamentals of Wireless Networking**  
 This course is designed to educate the student in the areas of wireless networking technologies and the implementation of those technologies. Emphasis is placed in the areas of design, planning, implementation, operation and troubleshooting. Prerequisite: CST 1190.

**CST 2900** **2**  
**Computer Technology Capstone**  
 Serves as the Capstone for the Computer Technology Program. Designed to integrate all prior learning and includes studying for and taking the appropriate assessments as determined by the computer division and advisory committees. Students will complete a technology project that can include on the job training, a technology project or technology research. Prerequisite: CST 1500.

**CST 2999** **1-3**  
**Special Topics**  
 Introduces students to specialized areas of computer science and computer usage. The class may be retaken for credit if the topic varies.



<b>Dental Assisting (DEN)</b>		
<b>DEN 1100</b>	<b>3</b>	
<b>Oral Radiology I</b>		
Introduces the student to fundamental principles of dental radiography. An emphasis is placed on x-ray production, radiation safety, exposure techniques, and evaluation of radiographs. Application of principles and techniques will be performed on lab manikins.		
<b>DEN 1105</b>	<b>3</b>	
<b>Oral Radiology II</b>		
This course will give the student the opportunity to develop and apply their skills in exposing and evaluating diagnostic radiographs with minimum exposure to the patient. This course will also cover the laws set forth by the Minnesota Department of Health in relation to exposing radiographs on patients. Prerequisite: DEN 1100.		
<b>DEN 1110</b>	<b>3</b>	
<b>Dental Science</b>		
Describes the anatomy and physiology of the muscular, skeletal, circulatory and nervous systems of the head and neck regions. Specific bones, muscles, arteries, veins and nerves will be identified. The structures, functions and development of the oral cavity will be discussed. The various methods of tooth identification will also be covered. Prerequisites: ENGL 0090 or placement by multiple measures.		
<b>DEN 1115</b>	<b>2</b>	
<b>Dental Health</b>		
This course will assist the student in making practical applications of the concepts and principles associated with diet and nutrition from the standpoint of general health as well as dental health. The course will also emphasize the nature and causes of disease in the oral cavity and the importance of prevention of this disease with practical application in instructing patients.		
<b>DEN 1120</b>	<b>3</b>	
<b>Chairside Dental Assisting I</b>		
This course will assist the student in attaining skills required to be a qualified chairside assistant. It includes instrument identification and transfer, treatment room equipment, charting of the oral structures, utilization of dental practice management software, patient communication, and oral evacuation and isolation. Prerequisites: ENGL 0090 or placement by multiple measures. DEN 1110 may be taken concurrently or with consent of instructor.		
<b>DEN 1125</b>	<b>4</b>	
<b>Chairside Assisting II</b>		
This course is an extension of Chairside Assisting I and will provide working knowledge of general dentistry. This course will also assist the students in understanding the specialties available in dentistry. The student will be taught to identify the materials, instruments and procedures needed in general dentistry and the specialties. The student will also gain skills in assisting the dentist in performing these procedures with minimal discomfort to the patient. The course will assist students through hands on experience in the lab/clinic. Prerequisite: DEN 1110 and DEN 1120.		
<b>DEN 1130</b>	<b>4</b>	
<b>Preclinical Dental Assisting</b>		
This course will allow the student to recognize microorganisms, how they live, cause disease, spread disease, and how humans protect themselves from microorganisms. Special emphasis will be placed on microorganisms that are most dangerous to health care workers. The course will also include infection control and hazardous materials principles and regulations. Additionally, the course will assist the student in understanding pharmacology as it relates to dental procedures. The students will also be prepared to recognize and assist with medical emergencies that may occur in the dental office. Prerequisite: ENGL 0090 or placement by multiple measures.		
<b>DEN 1135</b>	<b>2</b>	
<b>Dental Practice Management</b>		
Assists the student in identifying psychological variables that are significant in interacting and communicating with dental patients and coworkers. It will also include information relating to the function of the business office with emphasis on maintaining patient records,		
bookkeeping, appointment scheduling, filing, and written and oral communication. Both manual and computerized systems will be examined. Prerequisite: ENGL 0090 or placement by multiple measures.		
<b>DEN 1140</b>	<b>3</b>	
<b>Dental Materials</b>		
This course will cover materials used in dentistry. It will include information on properties as well as practical lab applications of the materials. Prerequisite: ENGL 0090 or placement by multiple measures.		
<b>DEN 1145</b>	<b>3</b>	
<b>Expanded Functions A</b>		
Offers the student experience in mechanical polish, rubber dam application, topical applications, sealant application, gingival retraction and endodontic expanded functions. (The Minnesota Dental Practice Act has made it legal for licensed dental assistants and students enrolled in accredited dental assisting programs to perform these functions.) The student will gain Preclinical competence in these duties through the use of typodonts and clinical competence through classmates and outside patients. Prerequisite: Satisfactory progress in the dental assisting program, or special permission from the instructor. Student must be certified in CPR before taking this course.		
<b>DEN 1150</b>	<b>3</b>	
<b>Expanded Functions B</b>		
This course will offer the student experience in taking impressions and related bite registrations, orthodontic skills, cement removal, temporization, placing and removing periodontal dressings, suture removal, and placement and removal of matrix bands. (The Minnesota Dental Practice Act has made it legal for licensed dental assistants and students enrolled in accredited dental assisting programs to perform these functions.) The student will gain Preclinical competence in these duties through the use of typodonts and clinical competence through classmates and outside patients. Prerequisites: Satisfactory progress in the dental assisting program, or special permission from the instructor. Student must be certified in CPR before taking this course.		
<b>DEN 1155</b>	<b>3</b>	
<b>Extramural Clinical Experience I</b>		
This course is designed to assist the student in developing the skills initiated in the classroom, laboratory and clinic. This is accomplished by working under the supervision of the dentist and his/her staff as well as the dental assisting faculty. Prerequisite: Satisfactory progression in the Dental Assistant Program or permission from instructor.		
<b>DEN 1160</b>	<b>3</b>	
<b>Extramural Clinical Experience II</b>		
This course is designed to assist the student in developing the skills initiated in the classroom, laboratory and clinic. This is accomplished by working under the supervision of the dentist and his/her staff as well as the dental assisting faculty. Prerequisite: Satisfactory progression in the Dental Assistant Program or permission from instructor.		
<b>DEN 1180</b>	<b>1</b>	
<b>Ethics and Jurisprudence</b>		
Covers the ethical and legal aspects of working in a dental office. With emphasis on the Minnesota Board of Dentistry rules, as well as the various professional organizations that dental assistants find beneficial.		
<b>DEN 1185</b>	<b>1</b>	
<b>Nitrous Oxide Inhalation Administration</b>		
This course will provide the student with skills and knowledge needed for safe and effective administration of nitrous oxide inhalation analgesia and the management of associated complications. The course will provide didactic and supervised clinical experiences as required by the Minnesota Board of Dentistry. During the clinical portion of the course, students will administer and undergo nitrous oxide/oxygen inhalation sedation as a patient. Prerequisite: Student must be certified in CPR before taking this course.		

## DIESEL TECHNOLOGY (DSL)

<p><b>DSL 1100</b> <span style="float: right;"><b>3</b></span>  <b>Diesel Engine Theory</b>  Explains the function of the diesel combustion, chamber designs, valve train operation, rings, cylinders, pistons, crankshafts, connecting rods, and components that compliment each other.</p> <p><b>DSL 1104</b> <span style="float: right;"><b>4</b></span>  <b>Introduction to Diesel Technology</b>  Provides an overview of the Diesel Technology industry. Its hands-on shop experiences allow the student to disassemble, inspect, evaluate, repair and adjust, and reassemble key elements of diesel technology including fuel injection, electrical basics, engines, hydraulics, and other system components.</p> <p><b>DSL 1105</b> <span style="float: right;"><b>4</b></span>  <b>Diesel Engine Lab</b>  Provides the student hands-on shop experiences. The student will disassemble, inspect, evaluate, repair and adjust, and reassemble valve, valve train components, cylinder blocks, crank shafts, bearings, sleeves, pistons, rings, and other components that compliment the above.</p> <p><b>DSL 1110</b> <span style="float: right;"><b>2</b></span>  <b>Electrical Theory</b>  Covers circuits, magnetism, wiring diagrams, principles of operation of alternators, regulators, cranking motors, and batteries.</p> <p><b>DSL 1115</b> <span style="float: right;"><b>2</b></span>  <b>Electrical Lab</b>  Requires the students to disassemble, inspect, evaluate, repair and test electrical systems and components. Concurrent enrollment with DSL 1110.</p> <p><b>DSL 1120</b> <span style="float: right;"><b>2</b></span>  <b>Powertrain Principles</b>  Covers theory of clutch, pressure plate assembly, standard transmissions, differentials, power take-off, brakes, axles, and components that compliment powertrain operations.</p> <p><b>DSL 1125</b> <span style="float: right;"><b>3</b></span>  <b>Powertrain Lab</b>  Covers the disassembly, inspection, evaluation, repair and adjustments and reassembly of all components of the powertrain.</p> <p><b>DSL 1130</b> <span style="float: right;"><b>3</b></span>  <b>Hydraulics Theory and Application</b>  Covers principles and fundamentals of hydraulics. The student will work on various components and systems as related to diesel hydraulics within a laboratory environment.</p> <p><b>DSL 1135</b> <span style="float: right;"><b>3</b></span>  <b>Fuel Injection Principles</b>  Entails a study of diesel engine operation with fuel systems, the basic repair and rebuilding of injectors and timing of the fuel system to the engine.</p> <p><b>DSL 1140</b> <span style="float: right;"><b>2</b></span>  <b>Air Conditioning</b>  Covers operation, inspection, repair and diagnostics of air conditioning systems.</p> <p><b>DSL 1141</b> <span style="float: right;"><b>1</b></span>  <b>Air Conditioning Lab</b>  This course covers air conditioning, heating and ventilation systems in the cab, and repair of the climate control systems.</p> <p><b>DSL 1142</b> <span style="float: right;"><b>3</b></span>  <b>Heating and Air Conditioning Systems</b>  Covers cab heating and ventilation systems used in all types of units used in the industry today. The air conditioning servicing and repair of the system for comfort of in cab climate. The environmental concerns</p>
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that need to addressed when making repairs to the air conditioning system.

<p><b>DSL 1145</b> <span style="float: right;"><b>4</b></span>  <b>Introduction to Shop Operations</b>  Allows students to work in a sponsoring automotive, diesel farm equipment or diesel truck service facility. The work will be full time, approximately 40 hours per week for six weeks. The tasks will be consistant with previous required course work.</p> <p><b>DSL 1150</b> <span style="float: right;"><b>4</b></span>  <b>Internship</b>  Allows students to work in a sponsoring automotive, diesel farm equipment or diesel truck service facility. The work will be full time, approximately 40 hours per week for six weeks. The tasks will be consistent with previous required course work.</p> <p><b>DSL 1160</b> <span style="float: right;"><b>2</b></span>  <b>Basic Mechanics</b>  Shop safety and tool usage. Basic electrical - theory of basic electrical circuits. Basic engine operation and tune up. General service - proper maintenance of powertrain.</p> <p><b>DSL 1170</b> <span style="float: right;"><b>3</b></span>  <b>Diesel Welding</b>  The student will learn proper use of oxy/acetylene cutting and using the torch to heat items. Proper welding of oxy/acetylene to join different allows together. Use of a shielded arc welder. Use of a MIG welder.</p> <p><b>DSL 2106</b> <span style="float: right;"><b>3</b></span>  <b>Advanced Powertrain Theory</b>  This course covers the theory of operation of various power shift transmissions, power flow, and terminologies as related to various manufacturers. This course covers the theory of operation of electro hydraulic systems. This program will cover a wide variety of power train systems from Ag equipment, industrial, and truck when and where available. Must be taken concurrently with DSL 2111.</p> <p><b>DSL 2111</b> <span style="float: right;"><b>4</b></span>  <b>Advanced Powertrain Lab</b>  Requires the student to disassemble, inspect, evaluate, repair, reassemble, and test various power shift transmissions and related components. The student will work in the lab environment to disassemble, inspect, evaluate, repair, reassemble, and diagnose these various electro hydraulic systems.</p> <p><b>DSL 2131</b> <span style="float: right;"><b>3</b></span>  <b>Service Department Operations and Procedures</b>  Covers the operation of a service department including customer relations and business operations such as reporting forms, work orders, and warranty claims. Student will each have the opportunity several times during the semester to be in charge of the shop operation and complete the day-to-day responsibilities of a shop foreman or service manager. This program allows students to place advanced theory into practical application in the laboratory setting. Students are assigned projects which will require them to disassemble, inspect, evaluate, repair, reassemble and test diesel farm equipment components.</p> <p><b>DSL 2136</b> <span style="float: right;"><b>5</b></span>  <b>Fuel System Theory</b>  This course covers a study of all distributor pumps used in industry today with inlet metering, sleeve metering, and electronic controlled systems. This course will also examine helix and sleeve metering pumps as well as all types of governor systems used in the industry today by all of the major manufacturers. We will also begin the study of unit type injectors and will move into more of the electronic systems.</p> <p><b>DSL 2137</b> <span style="float: right;"><b>5</b></span>  <b>Fuel Injection Lab</b>  Allows students an opportunity to apply theory in the laboratory environment. Students will disassemble, inspect, evaluate, reassemble and calibrate advanced principles in fuel injection and at least 3 sets of injectors to give them the realization of what a properly operating engine needs to perform. Prerequisites: AUTO 1136 and DSL 1135 or consent of instructor.</p>
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**DSL 2145** 4  
**Advanced Diesel**  
 This course reviews the theory and operation of specialty areas of diesel engine rebuilding. This course will take the students through all facets of repair. This course explains the procedures of various engine-machining processes. This course will also explain the function of the diesel combustion, chamber designs, valve train operation, rings, cylinders, pistons, crankshafts, connecting rods, and components that compliment each other so that the student can properly troubleshoot and diagnose customer complaints.

**DSL 2150** 5  
**Advanced Engine Lab**  
 Covers all facets of engine repair. In the laboratory, the student will practice reconditioning of the larger and more advanced engines, with overhead cams and multiple valve cylinders, and other components like jakebrakes, unit type injectors, and adjusting of these engines. This course allows the student hands-on shop experiences. The student will disassemble, inspect, evaluate, repair and adjust, and reassemble valve, valve train components, cylinder blocks, crankshafts, bearings, sleeves, pistons, rings, and other components that compliment the above.

**DSL 2155** 3  
**Diesel Engine Control Systems**  
 Explains the operation of all the different governors and electronically controlled engines. In the laboratory, the student operates different types of engines with their computer programs. The student will use the laptop computer to check fault codes and follow proper diagnostics for repair of the system in accordance with manufacturers' specifications.

**DSL 2160** 3  
**Truck Braking System**  
 This course covers the design, construction and operation of medium and heavy-duty truck hydraulic and air brake systems and components: air compressors, air lines, valves, controls, brake chambers, linkages, and foundation brakes. In the lab component there will be an overhaul of medium and heavy-duty air brake and ABS systems. Students will test, disassemble, inspect, repair the individual components as need be on customer trucks or on school training units.

**DSL 2165** 3  
**Vehicle Steering and Suspension**  
 This course covers all steering systems used on medium and heavy-duty trucks. Steering axle alignment and repair is covered as well as tire wear troubleshooting; suspension systems found on commercial vehicles; drive axle alignment, frames, spring and air ride suspension repair and adjustment.

**DSL 2170** 2  
**Electronics Diagnoses of Power Train**  
 This course will cover the electronic troubleshooting and diagnoses of the power train. Many transmissions today are mechanical systems that are shifted electrically through the use of an ECM that will communicate with the engine controller. The data bus needs to be understood for proper diagnoses and repair. The students will make the proper connections and determine what, if any, problems are present.

**DSL 2175** 2  
**Truck Inspection and Preventative Maintenance**  
 This course will cover preventative maintenance on medium and heavy-duty trucks, inspections for DOT requirements, and continued best performance and safe operation of the vehicle.

**DSL 2180** 2  
**Computerized Diagnostic Systems**  
 Covers the basic Windows operations needed to operate computerized diagnostic systems. Students will need to be able to operate the computer system used in the diagnostics of today's electronic controlled engines and drive trains. They will develop reports from the programs and store them for future reference. From this information, they will learn to diagnose and make repairs to the unit being tested. They will also send information to the factory or service advisors.

**DSL 2190** 2  
**GPS Systems Operation**  
 Provide an understanding of the operation, installation, adjustment, and repair of the GPS in accordance to the system principals.  
 Prerequisites: DSL 1110 and DSL 1115.

**ECONOMICS (ECON)**

**ECON 1101** 3  
**Introduction to Economics** Meets Goal Area: 05  
 Explores the fundamentals of Macroeconomics and Microeconomics and the process of economic analysis. No credit if ECON 2201 or ECON 2202 has been previously completed.

**ECON 2201** 3  
**Principles of Macroeconomics** Meets Goal Area: 05  
 Studies the overall performance of the United States economy and comparative economic systems from the dimensions of full employment, price stability, and economic growth.

**ECON 2202** 3  
**Principles of Microeconomics** Meets Goal Area: 05  
 Analyzes the economic decision-making process of the individual firm. Explores the micro-economic concepts of pricing and resource allocation within different market structures.

**EDUCATION (EDUC)**

**EDUC 1100** 3  
**Introduction to Education**  
 Introduces students to early childhood, elementary and secondary education. Examines career opportunities, requirements, regulations, and professional ethics. The study of historical and social foundations of education, as well as schools in a diverse society will be covered. Includes fifteen (15) hours of field experience. Prerequisite: ENGL 0090 or placement by multiple measures and a Department of Human Services background study will be conducted.

**EDUC 1102** 2  
**Technology: Classroom Applications and Portfolio Development**  
 Introduces the educational uses of technology by exploring computer applications as tools for their own learning as well as the ethics of electronic communications. A Teacher Education portfolio (online) will be developed. Prerequisite: ENGL 0090 or placement by multiple measures.

**EDUC 1131** 3  
**Autism Spectrum Disorders**  
 Focuses on the theory, research, and intervention in Autism Spectrum Disorders (ASD). The history of diagnosis and intervention of ASDs and how it is viewed today is a strong focus of this course. In addition, neurological, psychological, and education theories of ASD; current approaches to intervention; and educational classification are introduced.

**EDUC 1132** 2  
**Behavior Management**  
 Introduces students to the basic principles of behavior management as it relates to behavioral excesses and deficits, maladaptive behavior, and special needs in children. The focus will be on understanding and intervening with behavioral excesses and deficits in the educational environment.

**EDUC 2510** 3  
**Child Growth and Development**  
 Introduction to child growth and development from conception through adolescence with a concentration on the physical, cognitive, and social-emotional domains of development. Emphasis areas of the course include: historical foundations and theories associated with the study of child development, the research process, the implications of teaching and learning, student diversity and pertinent topics associated with the possible effect of environment and behavior on prenatal development through adolescence. Pre-requisites: EDUC 1100 and EDUC 1102.

**EDUC 2900** **3**  
**Introduction to Special Education** Meets Goal Areas: 05, 07  
 Recognize, understand and guide children with special needs. Specific disabilities introduced in this course include Developmental Delay, Developmental Cognitive Delay, Autism, Physical and Sensory Disabilities, Learning and Behavior Disabilities. Introduction to Special Education services including: Federal Mandates (Individuals with Disabilities Education Act) and State Due Process mandates, early intervention, parent involvement, DSM-V diagnostic criteria, assessment methods and instructional methods such as Response to Intervention (RTI). One credit field Experience (15 hours) is included in the course. Pre-requisites: STSK 0090, STSK 0095 or STSK 1100 or placement by multiple measures.

## ELECTRICAL CORE (ELCO)

**ELCO 1100** **3**  
**Electrical Circuits Fundamentals**  
 Describe the basic concepts of electricity from DC to AC. Calculate Ohm's law formulas. Describe series circuits, parallel circuits, capacitance circuits, and inductive circuits. Calculate series circuits, parallel circuits, capacitance circuits, and inductive circuits. Prerequisite: MATH 0092 or placement by multiple measures.

**ELCO 1105** **3**  
**Electrical Circuits Fundamentals Lab**  
 Perform practical problems on both DC and AC circuits in the lab. Calculate series circuits, parallel circuits, capacitance circuits, and inductive circuits. Perform basic meter testing on circuits. Prerequisite: MATH 0092 or placement by multiple measures.

**ELCO 1110** **3**  
**AC/DC I**  
 Introduce students to electrical theory and practical experiences starting with DC electric circuits, electrical safety practices, and familiarization with training equipment using Ohm's law and power. Prerequisite: MATH 0092 or placement by multiple measures.

**ELCO 1120** **3**  
**AC/DC II**  
 Introduces students to the basic concepts of AC circuits, safety practices, basic studies of resistive, inductive, and capacitive circuits, circuit analyzing, oscilloscope operations, capacitance, capacitive reactance, inductance, inductive reactance, RC and RL time constants, transformers, and three-phase circuits. Prerequisite: ELCO 1110.

## ELECTRICIAN (ELEC)

**ELEC 1200** **5**  
**Residential Wiring I**  
 Describe electrical safety, general safety, the use and care of hand tools, the specialty tools, and equipment used for residential wiring. Apply National Electrical Codes related to residential wiring. Discuss wiring methods for residential wiring.

**ELEC 1205** **2**  
**National Electric Code I**  
 This course will provide insight into an understanding of many of the technical rules of the National Electrical Code (NEC). Topics included are Minnesota licensing laws, definitions, requirements and calculations for electrical installations, grounding conductors, branch circuits, feeders and services. Other topics also included are overcurrent protection, grounding and bonding, wiring methods, temporary wiring, and conductors for general wiring.

**ELEC 1210** **5**  
**Residential and Farm Wiring II**  
 Introduces blueprint reading for residential wiring. Describe electrical safety and general safety. Discusses National Electrical Code articles on branch circuits, feeders, grounding, services, and overcurrent protection for residential and farm wiring. Prerequisite: ELEC 1200.

**ELEC 1215** **2**  
**National Electric Code II**  
 This course covers National Electric Code (NEC) requirements for cabling, conduit, raceways and wireways, boxes, gutters, switches, and panelboards. Also included are the requirements for equipment such as cords, cables, fixtures and fixture wire, appliances, fixed space heating, motors and motor circuits, refrigeration equipment and transformers. Prerequisite: ELEC 1205.

**ELEC 1220** **4**  
**Conduit Installation**  
 Describe the raceway types used to conceal wiring. Bend, install, support and calculate raceway size and the number of wires permitted in a conduit. Introduce hand and hydraulic benders. Identify fittings and other material used in installing a raceway system. Prerequisite: ELEC 1200.

**ELEC 1225** **3**  
**Electric Motors**  
 Describe the difference in alternating current (AC) and direct current (DC) motors, generators, and alternators. Compute motor calculations. Determine the load characteristics and connections of AC and DC motors, generators, and alternators. Prerequisite: ELCO 1100 or ELCO 1110.

**ELEC 1230** **1**  
**Safety Principles and OSHA**  
 Describe the various safety and laboratory practices that are common to the electrical trade and present information on how to avoid unsafe practices.

**ELEC 1235** **2**  
**Applied Electrical Calculations**  
 Perform basic math necessary for solving electrical circuits. Read word problems and decide what they are asking for. Calculate math problems. Calculate Ohm's law formulas.

**ELEC 1240** **5**  
**Commercial Wiring**  
 Describe the material and design aspects of commercial wiring. Read commercial blueprints. Perform voltage-drop calculations, motor calculations and service installations. Apply requirements of the N.E.C. as it relates to commercial wiring. Prerequisite: ELEC 1200.

**ELEC 2200** **2**  
**Low Voltage**  
 Investigate low voltage circuits and controls along with data, phone, CATV, fire alarm and home security methods and materials. This course will also cover the rules and regulations of installation and termination of communication wire and components. Prerequisite: ELCO 1100 or ELCO 1110.

**ELEC 2205** **4**  
**Electric Motor Controls I**  
 Instruct students in the use of electrical tools, instruments, safety equipment, electrical symbols, line diagrams, AC manual contactors and motor starters, AC magnetic contactors and motor starters, time delay logic and control devices. Prerequisite: ELCO 1100 or ELCO 1110.

**ELEC 2210** **2**  
**National Electric Code III**  
 Explain the importance of safe, efficient and well-designed systems for industrial, commercial, and residential locations. The course discusses material, methods, and components used in designing electrical systems. Prerequisite: ELEC 1205.

**ELEC 2220** **3**  
**Industrial Wiring**  
 This course covers components for industrial electrical installations and operations. Students will learn to design and calculate electrical loads for an industrial application. Prerequisite: ELEC 1220.

**ELEC 2225** 4  
**Electric Motor Controls II**  
 Describe electromechanical and solid state relays, photoelectric controls, proximity controls, reduced voltage starting, accelerating and decelerating methods and preventive maintenance. Prerequisite: ELEC 2205.

**ELEC 2230** 4  
**Programmable Logic Controllers**  
 Describe how PLC's work and provide practical information about installing, programming and maintaining a PLC system. Students will be given a wide range of generic programming assignments and exercises for practice with the PLC. Prerequisite: ELEC 2205.

**ELEC 2235** 2  
**National Electric Code IV**  
 Examine the National Electrical Code Requirements for Commercial and Industrial installations. Determine grounding and bonding requirements. Examine definitions and installation concerns in hazardous locations. Prerequisite: ELEC 1205.

**ELEC 2240** 3  
**Transformers**  
 Describe basic transformer theory, construction, installation and troubleshooting of single phase and three phase transformers. Examine types of transformers including isolation, autotransformer and instrumentation transformers.

**ELEC 2250** 3  
**Heating and Air Conditioning Controls**  
 Introduces basic heating and cooling system installation, control and troubleshooting.

**ELEC 2265** 3  
**Alternative Energies**  
 This course introduces traditional and alternative energy sources. This class will explore the basic principles of traditional energy with an emphasis on alternative energy. Students will develop a basic understanding of solar, biofuels, wind, geothermal and hydro energy sources.

**POWERLINE TECHNOLOGY (ELPL)**

**ELPL 1100** 3  
**Pole Climbing and Equipment Operation**  
 Covers climbing techniques, free-hand and with a safety strap. Students will also learn installation and removal of pole hardware, setup and safe operation of digger derricks, bucket trucks, hydraulic systems, and truck driving operations. Also included in the course is the operation of elbow and squirt booms, safety checkout and use of the lifting jib.

**ELPL 1102** 4  
**Pole Climbing and Equipment Operations II**  
 Covers two of the techniques used by powerline workers to elevate themselves to a safe working position for the installation, maintenance or removal of electrical equipment on powerlines. The techniques are pole climbing and safe operations of digger and basket trucks. This course is a continuation of Pole Climbing and Equipment Operations. Prerequisite: ELPL 1100.

**ELPL 1106** 4  
**Electrical Distribution of Powerlines I**  
 Covers the care and maintenance of personal tools, nomenclature and use of company tools, nomenclature and installation of pole line hardware, setting and aligning poles, stringing single phase and three phase wires, installation of armor rods, hand ties, and preform ties. The course also covers the change-out of single phase and three phase transformers, overhead secondaries and offers instruction in elementary knots and the use of different types of slings.

**ELPL 1110** 3  
**Reports, Records, and Accident Analysis**  
 Covers types of accidents in the industry and the causes and prevention of accidents. A study of the N.E.S.C. with emphasis on Part

Four, 'Safety of the Electrical Employee and Safe Working Rules of Electric Utilities' will be conducted. The student will learn the means of getting information that tells us what must be corrected so that future accidents may be avoided. The student will be required to be on a safety committee, from which they will be appointed to an accident investigation team. Also covered is preparation and reading of construction staking sheets, retirement staking sheets, equipment installation orders, and system map reading.

**ELPL 1116** 4  
**Electrical Distribution of Powerlines 2**  
 Covers the application, care, and use of rubber goods, insulated coverup use, and the use of bucket trucks. This course also covers pole top insulator change outs, pole replacements, and conductor transfers all simulating the line being 'Hot'.

**ELPL 1121** 4  
**Electrical Distribution of Powerlines 3**  
 Covers the function, operation, and types of fuses, circuit breakers, oil circuit reclosures and sectionalizers. Working with and around electrical equipment, and apparatus in substations will also be covered. Students will learn about the characteristics of transient voltages, types of distribution arrestors and safety. The course will also cover building overhead lines, stringing and sagging conductors, and ties and tying. Students will build OCR banks, capacitor banks, and three-phase transformer banks, work with underground distribution lines, connect sectional cabinets and pad-mounted transformers, and loop-feed URD lines. Chain saw safety, tree trimming, and pole-top and bucket rescue will also be discussed.

**ELPL 1125** 3  
**Three-Phase AC Circuits and Transformer Banking**  
 Covers wye and delta circuit fundamentals, neutral on grounded wye lines, corner grounds on delta lines, and ungrounded delta lines. Also offered is three-phase transformer connections using single phase transformers, angular displacement, phase sequencing, paralleling of power bank secondaries, and trouble shooting transformer banks. The student will also learn how to find problems, how to fix them, and also how to get the different voltages out of a transformer bank that industry needs today. This course will also cover load balancing and the sizing of transformers from single residential use to a large industrial load.

**ELPL 1130** 3  
**'Hot' Sticking**  
 Covers the application, care and use of 'Hot' sticks, and insulated cover up use. It will be done off the pole with belt and hooks. This course will include pole top insulator change outs, crossarm changeouts, replacements, and conductor transfers. The course will be taught simulating the line being 'Hot'.

**ELPL 1140** 2  
**Construction of Underground Powerlines**  
 Covers basic theory and design for the installation and construction of a high voltage underground system. Installing and constructing an actual underground system will be part of a lab project. System protection, sectionalizing, grounding procedures, and basic fault procedures on underground low and high voltage lines.

**ELPL 2235** 2  
**Special Topics: Overhead Safety, Construction & Maintenance**  
 Covers all the elements of overhead installation and maintenance with a strong emphasis on safety.

**ELPL 2236** 2  
**Special Topics: Underground Safety, Construction, and Maintenance**  
 Covers all the elements of underground installation and maintenance with a strong emphasis on safety.

## **ELECTRIC UTILITY SUBSTATION (ELUT)**

<b>ELUT 1101</b> <b>Electrical and Rigging Safety</b> Includes State and Federal OSHA Rules and National Electric Safety Work Rules, regarding safety in the Electrical Field. Emphasis is on personal protective equipment, personal, and company rules of safety. Instruction in elementary knots and the use of different types of slings. Outdoor lab includes pole top rescue, the safe practices of grounding, and the rigging and lowering of a crossarm.	<b>3</b>
<b>ELUT 1105</b> <b>Blueprint, Schematics, and Transit</b> Covers the use and interpretations of blueprints, schematic diagrams, plan and profile maps, and the symbols and abbreviations used in them. This course also covers the fundamentals for set-up, operation and use of a transit mounted on a tripod or other base.	<b>3</b>
<b>ELUT 1110</b> <b>Transformer Banking I</b> This course covers the construction, purpose, uses, and calculations for distribution transformers. Emphasis will be on installation of single or three-phase banking practices that are used in the private and public sector of the electric utility industry.	<b>3</b>
<b>ELUT 1115</b> <b>Generation Transmission and Distribution</b> This course is designed to simulate the Power Industry. Through the use of laboratory projects, the student will receive background in understanding the concepts of generation, transmission and distribution of electric power.	<b>3</b>
<b>ELUT 1120</b> <b>Specification, Testing and Maintenance</b> This course covers the procedures, specifications of testing methods, and maintenance used throughout the electrical industry for new and refurbished equipment.	<b>2</b>
<b>ELUT 2100</b> <b>Electrical Metering</b> Covers single-phase and three-phase metering principles, meter construction, component parts and the installation and testing of single-phase and three-phase electric watt-hour meters. This course also includes the use of a meter test bench, test standards and an electric counter.	<b>3</b>
<b>ELUT 2110</b> <b>Transformer Banking II</b> This course is a continuation of Transformer Banking I. This course will look into single-phase power banks and auto transformers used in the transmission and distribution of small and large blocks of power.	<b>2</b>
<b>ELUT 2116</b> <b>Reclosures and Protective Equipment</b> This course covers reclosures, circuit breakers and protective devices such as fuses, lightening arrests, cut-outs, sectionalizers and the related equipment.	<b>2</b>
<b>ELUT 2121</b> <b>Protective Relays</b> Designed to give a broad understanding of simple and complex relays that are used in the protection of high voltage lines and substations. Emphasis is on understanding design, construction, and application, performing testing, calibrating, cleaning and adjusting relays. The following relays will be studied if time allows: overcurrent induction disc, thermal overcurrent, induction disc voltage, over/under voltage, voltage restraint, percentage differential, and transformer differential relays.	<b>2</b>
<b>ELUT 2126</b> <b>Regulators and Capacitors</b> This course covers the methods used in producing a reliable power source by controlling voltage loss and power factor through the use of capacitors and/or regulators.	<b>2</b>

<b>ELUT 2135</b> <b>Enrichment 1</b> Provides a self study course. The student may select any three of the remaining four topics from Enrichment I and write an article about each selected topic. In each article the student will create and address eight goals.	<b>2</b>
<b>ELUT 2140</b> <b>Enrichment 2</b> Provides a self study course. The student may select any three of the remaining four topics or create a topic that is acceptable with instructor from Enrichment 1 and write an article about each selected topic. In each article the student will create and address eight goals.	<b>2</b>

## **WIND ENERGY TECHNOLOGY (ELWT)**

<b>ELWT 1100</b> <b>Wind Energy Fundamentals</b> Introduce the student to turbine designs, types of development, current status of, and the evolution of current models and sizes offered by existing companies, the operational experience, track record, number of turbines in operation that will be evaluated, and discuss the economic, environmental, and political issues according to American Wind Energy Association (AWEA).	<b>3</b>
<b>ELWT 1104</b> <b>Basic Digital Circuits</b> Introduces students to digital and computerized equipment. This course will provide students with an understanding and application of basic digital inverters, gates and multivibrator devices. Digital codes, computer numbering systems and Boolean Algebra will also be discussed.	<b>2</b>
<b>ELWT 1110</b> <b>Mechanical Systems</b> Provide an understanding of wind turbine drive systems (gearboxes) and associated components, introduced two different types of gearboxes and associated mechanical systems and subsystems of today's wind turbines, focus on lubrication, oil analysis, construction and preventative maintenance techniques for modern wind turbine drive systems.	<b>3</b>
<b>ELWT 1120</b> <b>Air Foils, Blades and Rotors</b> Provides an understanding of wind turbine aerodynamics and the various considerations that are involved when selecting foils for use in blade design. Blade construction, assembly and repair techniques as well as performance, operation and maintenance characteristics will be covered.	<b>1</b>
<b>ELWT 1130</b> <b>Drive Trains, Yaw Systems and Towers</b> Covers turbine drive train, yaw systems and tower systems. Sub-system component attachments, alignment, operating characteristics, dynamics, and maintenance considerations will be presented. Nacelle layout and the interaction between sub-systems will be discussed.	<b>3</b>
<b>ELWT 1140</b> <b>Energy Systems</b> This course will cover the various applications of wind generated power. Stand alone, water pumping and grid connected systems as well as hybrid power systems will be discussed.	<b>3</b>
<b>ELWT 1150</b> <b>Wind Turbines</b> Presented will be turbine types, their development, and their current status. The evolution of current models and sizes offered by existing companies will be traced to earlier models/sizes. The operating experiences, track record and number of turbines in operation will be evaluated for the major players in the industry. Students will be expected to carry out research and present reports on selected turbines companies.	<b>2</b>

**ELWT 1160** 1  
**Wind Energy OSHA Standards**  
 Provides students with an overview of the Occupational Safety and Health Administration (OSHA). The primary focus will be on the OSHA regulations and standards that pertain to the construction and maintenance of wind turbines and the energy industry.

**ELWT 1170** 2  
**Environmental, Health, & Safety Wind Energy & Climb Lab**  
 Instruct students regarding basic safety principles in the wind energy industry with a brief overview of the Occupational Safety and Health Administration (OSHA), focus on OSHA regulations and standards that pertain to the climbing of wind turbines, instruct students on how to properly inspect equipment before climbing and properly store climbing equipment after each use.

**ELWT 1180** 3  
**Wind Transmission/Generation/Distribution**  
 Provides knowledge of the principles, practices and procedures of electrical power systems. Discussed will be the interconnection issues (system interaction and protection), technical challenges, safety issues and metering associated with renewable resource generation. This course will also cover operation and control of wind systems, their management and planning, operation and control, systems management and correction.

**ELWT 1235** 1  
**Electrical Calculations**  
 Covers the applications of the many mathematical problems, principles, and concepts encountered by technicians in the field. This course makes reference to many industrial standards along with the National Electric Code (NEC).

**ELWT 1250** 2  
**Fundamentals of Electric Motors**  
 This course covers alternating (AC) and direct current (DC) motors and generators/alternators. Theory of operation, connections, installation and maintenance will be covered in the lecture portion of the course. The lab will give students an opportunity to determine the load characteristics and connections of AC and DC motors and generators/alternators.

**ELWT 2110** 3  
**Turbine Siting and Construction**  
 Introduces students to the various aspects of wind turbine and wind farm siting, construction and commissioning. Students will be engaged in observation and discussions on the use of heavy equipment such as cranes, rigging and tower assembly. Students will analyze and discuss all the events leading to a Wind Tower Production facility being brought online.

**ELWT 2130** 2  
**Data Acquisition and Communication**  
 Focuses on the practical aspects of designing, installing, testing, and troubleshooting cabling. The course allows students to exercise all combinations of commands from SCADA (Supervisory Control and Data Acquisition).

**EMERGENCY MEDICAL SERVICES (EMS)**

**EMS 1101** 2.5  
**Introduction to Emergency Medical Technician**  
 Develops the initial foundation of emergency care and scene safety. Preparing individuals to evaluate and identify emergencies, employ their knowledge, psychomotor skills and application of those skills to provide basic life support as an Emergency Medical Technician. Including initial patient assessment, comprehensive prehospital care as outlined by most current educational standards identified by the Minnesota EMS Regulatory Board and the National Registry of EMTs.

**EMS 1102** 4.5  
**EMT Completion/Bridge Course**  
 Prepares students with the foundation of emergency care and transportation of patients who activate the emergency medical system. This course provides an introduction into necessary didactic and

cognitive skills to provide basic life support care as an EMT. The EMT completion/bridge meets the requirements outlined by the educational standards of the Minnesota EMS Regulatory Board and the National Registry of Emergency Medical Technicians for direct employment as an Emergency Medical Technician with a basic transport service, emergency room and emergency services within law enforcement or fire departments. Prerequisite: Students must have a current AHA BLS Healthcare provider CPR card meeting the current AHA standards and have one of the following prerequisites for the EMT completion course. \*Successful completion with a C or better EMS 1101 - Introduction to Emergency Medical Technician no longer than two years prior to enrolling in the completion; \*Currently certified as an Emergency Medical Responder; \*Healthcare professionals successfully completing with a C or better and showing competency in courses/skills in Medical/Legal and Ethical Issues, Medical Terminology, Anatomy and Physiology, Airway Management/Oxygen Therapy, Patient Assessment and Vital Signs.

**EMS 1112** 1  
**AHA CPR Healthcare Provider, AED First Aid Certification**  
 Covers the skills necessary for the newest AHA Guidelines for the CPR Healthcare Provider Certification as well as Certification in Automated External Defibrillation and First Aid. The provider will be able to properly and safely assess a patient, as well as how to recognize signs and symptoms and administering the appropriate treatments.

**EMS 2101** 2  
**EMT Refresher**  
 Designed to refresh students at the Emergency Medical Technician-Ambulance (EMT-B). It is recognized that training at all levels of the health care team is necessary for effective patient care. It is also recognized that the majority of prehospital emergency care will be provided by the Emergency Medical Technician Basic. This includes all skills necessary for the individual to provide emergency care at the basic life support level with an ambulance service or other specialized rescue service. This course is a refresher for those EMTs that have successfully completed a basic EMT course and carry a current certification as an EMT-B. Prerequisite: Certified EMT and a current CPR certification.

**EMS 2103** 1  
**First Responder Refresher**  
 Developed to provide refresher training in emergency medical care for those who are apt to be the first persons responding to an accident. In defining course scope and emphasis, it was decided that students should possess the same knowledge of patient care as an EMT, but not the same, equipment skills. While emergency care is not likely to be first responders primary responsibility in the community, this individual can play an active role in the community's emergency medical services system. As the first person at the emergency scene, the first responder must be completely knowledgeable about basic principles of emergency medical care, and must know what should, as well as what should not, be done.

**ENGLISH (ENGL)**

**ENGL 0090** 2  
**Essentials of Writing I: Effective Sentences and Paragraphs**  
 Introduces students to the essentials of the English language: parts of speech, phrases, clauses, types of sentences, common sentence errors, punctuation, capitalization, and spelling. Students write sentences and paragraphs to demonstrate an understanding of contextual grammar and paragraph writing. Prerequisite: Placement by multiple measures.

**ENGL 0095** 2  
**Essentials of Writing II: Effective Essays**  
 Introduces outlining, thesis statements, introductions and conclusions, transitions, direct and indirect discourse, awareness of audience, and levels of formality. Students write brief essays to demonstrate an understanding of these basic skills. Prerequisite: ENGL 0090 or placement by multiple measures.

**ENGL 1101** **3**  
**Composition I** Meets Goal Area: 01  
Reviews and reinforces basic essay writing principles. Emphasis is on rhetorical modes of development and writing as process. Assignments include a short research paper. Prerequisite: English 0095 or placement by multiple measures.

**ENGL 1102** **3**  
**Composition II** Meets Goal Areas: 01, 02, 06  
Emphasizes research, information literacy and synthesis, critical thinking, and style development. The topics covered include research, information analysis and synthesis, advanced mechanics and editing, and argumentative writing. Writing assignments include several essays, syntheses, annotated bibliographies, and a research paper. Prerequisite: ENGL 1101

**ENGL 1103** **1**  
**Research Papers**  
Reviews and reinforces principles of writing research papers. Emphasis is on process, analysis, and formatting. Assignments include an academic research paper. Prerequisite: Instructor consent.

**ENGL 1105** **3**  
**Introduction to Literature** Meets Goal Areas: 02, 06, 07  
Studies the elements, forms, and content of fiction, drama, and poetry. This course aims to introduce students to various genres of literature, with an emphasis on reading strategies and reading analysis. Assignments include readings, literary reflections, and a research-based literary presentation. Prerequisite: STSK 0095 or placement by multiple measures.

**ENGL 1120** **3**  
**Introduction to Women's Literature** Meets Goal Areas: 02, 06, 07  
Introduces students to women's literature and their contributions to the literary canon. The course will examine women's roles and identities within the context of history and society as reflected by women in their literature as well as the consumption of and reactions to their works. Readings will be selected from a variety of genres- including poetry, fiction and nonfiction - and from a variety of women with diverse backgrounds - including race, class, and sexual orientation - throughout different historical periods, with an emphasis on American and British writers. This course will approach texts through gender, cultural, and historical strategies. Assignments include several brief literary analyses as well as a final research project. Prerequisite: ENGL 0095 or placement by multiple measures.

**ENGL 1141** **2**  
**Writing and Reading Poetry** Meets Goal Area: 06  
Introduces students to basic elements of poetry and provides instruction in using these in the students' own writing. The class is conducted in an informal workshop environment where students will participate in offering and receiving constructive criticism about each other's writing. Prerequisite: ENGL 0095 or placement by multiple measures.

**ENGL 1143** **2**  
**Writing and Reading Fiction** Meets Goal Area: 06  
Provides instruction and experience in composing and editing fiction. Covers elements of fiction writing through reading of published and unpublished fiction. Prerequisite: ENGL 1101.

**ENGL 2120** **3**  
**Children's Literature** Meets Goal Areas: 06, 07  
Analyzes and surveys the history of Children's Literature while teaching methods of evaluation and organization criteria for Children's Literature (early literacy, primary, and intermediate children's books). Prerequisite: ENGL 0095, ENGL 1101 or placement by multiple measures.

**ENGL 2201** **3**  
**Early American Literature** Meets Goal Areas: 06, 07  
Introduces prominent American writers and influential literary works that have shaped American cultural identity from the colonial period to 1865. The course takes a broad view of the traditional canon to include writers and works from many areas of America's past. Instructors recommend that students complete ENGL 1105 or placement by multiple measures.

**ENGL 2202** **3**  
**Modern American Literature** Meets Goal Areas: 06, 07  
Introduces prominent American writers and influential literary works that have shaped American cultural identity from 1865 through the present. The course takes a broad view of the traditional canon to include writers and works from many areas of America's past. Instructors recommend that students complete ENGL 1105 or an advanced high school literature class before registering for this course.

**ENGL 2203** **3**  
**Midwest Literature** Meets Goal Area: 06  
This course will introduce students to the rich and diverse body of Midwest literature through the exploration of poetry, fiction, nonfiction, and drama. The course will also address various cultural, historical, and geographical matters relating to Midwest literature, and the significance of Midwest literature, both in particular and general terms. Prerequisite: STSK 0095 or placement by multiple measures.

**ENGL 2221** **3**  
**Early British Literature** Meets Goal Areas: 06, 07  
Studies the principal British writers, their literary forms, and significant currents of thought. Provides both an introduction to early British Literature and a background that will be useful in the study of other literature and cultural history. Includes works from Beowulf through 1800. Instructors recommend that students complete ENGL 1105 or an advanced high school literature class before registering for this course.

**ENGL 2222** **3**  
**Modern British Literature** Meets Goal Areas: 06, 07  
Studies the principal British writers, their literary forms, and significant currents of thought. Provides both the experience of British literary works and background information that will be useful in the study of other literature and cultural history. Includes works from the Romantics (1800) through the present. Instructors recommend that students complete ENGL 1105 or an advanced high school literature class before registering for this course.

**ENGL 2231** **2**  
**Classical Mythology** Meets Goal Area: 06  
Introduces students to Greek mythology through classical texts and contemporary criticism. In addition to studying the myths themselves, lectures will focus on the functions of myths and the continuing importance of Greek mythology.

**ENGL 2235** **1-3**  
**Special Topics in Literature** Meets Goal Area: 06  
Introduces students to specialized areas of literature. Topics may include literature associated with specific regions, historical periods, subcultures, economic groups, business, or social movements. The class may be retaken for credit if the topic varies.

**ENGL 2243** **3**  
**Composition: Creative Writing** Meets Goal Areas: 01, 02, 06  
Gives students the tools to write poems and stories. Students will analyze and evaluate published works as well as the works of their peers. The textbook and lectures will provide strategies for writing and editing poems and stories. The class is conducted in an informal, workshop atmosphere. Students will write a final narrative to be published in Minnesota West's creative journal. This course may be taken as an alternative to ENGL 1102. Prerequisite: ENGL 1101.

**ENGL 2276** **3**  
**Composition: Technical Writing** Meets Goal Area: 01  
Composition: Technical Writing provides instruction and experience in composition and editing various types of professional and technical writing. Assignments include a research paper. This course is an alternative for ENGL 1102 in the Minnesota Transfer Curriculum. Prerequisite: English 1101.



## ENGINEERING (ENGR)

<b>ENGR 1101</b> <b>Introduction to Engineering</b> Introduces the study of engineering. It covers the keys to success in engineering study, a description of the engineering profession, academic success strategies, and an orientation to the engineering education process.	1
<b>ENGR 1110</b> <b>Auto CAD Level I</b> Introduces the student to computer-aided drafting and design utilizing the current version of AutoCAD. The AutoCAD topics covered in this Level 1 course include: an introduction to AutoCAD features, starting and setting up drawings, ergonomics, point coordinate entry methods, creation of basic 2D drawing objects, layer management, linetypes and colors, selection sets, object snap modes, AutoSnap, polar tracking, object snap tracking, construction techniques, creating and managing text objects, editing geometry, display control and drawing inquiry methods. Students completing this course successfully will have the basic AutoCAD knowledge needed to begin a career in Computer-Aided Drafting and Design. This basic knowledge is needed prior to specializing in a certain area of drafting such as mechanical, civil, electrical, architectural or structural.	3
<b>ENGR 2214</b> <b>Engineering Mechanics - Statics</b> Includes vector resultants of force systems in two and three dimensions, equilibrium of forces, analysis of forces acting on structural and machine elements, friction, moments of inertia, and virtual work. Prerequisites: PHYS 2121 and MATH 1122 (or concurrent).	3
<b>ENGR 2215</b> <b>Engineering Mechanics-Dynamics</b> Includes vectorial kinematics and kinetics, absolute and relative motion, force-mass acceleration relations, potential and kinetic energy, work, power, impulse, momentum, conservation of energy and momentum. Application to particles, particle systems, and rigid bodies will be studied. Prerequisite: ENGR 2214.	3
<b>ENGR 2235</b> <b>Special Topics in Engineering</b> Introduces students to specialized topics in the engineering field. Topics cover a wide range of issues of current interest and will be chosen to meet the needs of students. The course may be retaken for credit if the topic changes.	1-4
<b>ENGR 2240</b> <b>Circuit Analysis I</b> Introduces electrical circuit theory, circuit variables, circuit elements, simple resistive circuits, Ohm's and Kirchoff's Laws, mesh and node circuit analysis, the use of circuit theorems, and the operational amplifier. Also emphasized are the topics of inductance, capacitance, mutual inductance, response of first-order RC and RL circuits and natural step responses to RLC circuits. The computer program PSPICE will be used for circuit simulation. Prerequisites: PHYS 2122 and MATH 1122.	3
<b>ENGR 2241</b> <b>Circuit Analysis I - Lab</b> Provides the laboratory to accompany Circuits Analysis I. Circuit analysis concepts are reinforced by laboratory experiments in which the theories are verified. Taught concurrently with Circuit Analysis I: ENGR 2240.	1
<b>ENGR 2250</b> <b>Circuit Analysis II</b> Continues Circuit Analysis I to include special topics in circuit analysis to include sinusoidal analysis, phasors, sinusoidal steady-state response, average power, root-mean square values, polyphase power, complex frequency, frequency response, and two-port networks. Prerequisites: ENGR 2240, ENGR 2241 and MATH 2205.	3

<b>ENGR 2251</b> <b>Circuit Analysis II - Lab</b> Provides the laboratory to accompany Circuits Analysis II. Circuit analysis concepts are reinforced by laboratory experiments in which the theories are verified. Taught concurrently with Circuit Analysis II: ENGR 2250.	1
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## ENGLISH AS A SECOND LANGUAGE (ESL)

<b>ESL 0090</b> <b>Listening and Speaking</b> Provides the ESL student the opportunity to improve listening and speaking skills. The focus is on notetaking, weekly speaking and listening exercises, increasing vocabulary, and comprehension.	3
<b>ESL 0091</b> <b>Reading and Writing</b> Provides the ESL student the opportunity to improve reading and writing skills. Emphasis is on word recognition, vocabulary, pronunciation, and comprehension. Emphasis in writing is on grammar, spelling and structure.	3

**For course descriptions on Farm Business Management courses (FBMA & FBMT) go to:**  
<http://www.mnwest.edu/programs/list/farm-business-management-diploma>

## GEOGRAPHY (GEOG)

<b>GEOG 1100</b> <b>Introduction to Geography</b> Introduces the fundamental themes and concepts in Geography. Emphasis will be given to Cartography, Meteorology, Geomorphology, Cultural Geography, and the interrelationships between humans and their environment. Prerequisite: STSK 0090 or placement by multiple measures.	3	Meets Goal Areas: 05, 08
<b>GEOG 1101</b> <b>Introduction to Physical Geography</b> Studies the geographical distribution of the natural environment, with an emphasis on spatial data analysis, weather, climate, geological formations and the hydrosphere, to examine the relationship of people to their physical surroundings. Prerequisite: STSK 0095 or placement by multiple measures.	4	Meets Goal Area: 10
<b>GEOG 2140</b> <b>Introduction to Meteorology</b> Studies insolation, atmospheric processes, weather systems, weather maps, forecasting, and severe weather. Storm Spotter training also will be addressed. Prerequisite: STSK 0095 or placement by multiple measures. GEOG 1100 or GEOG 1101 recommended.	3	Meets Goal Area: 10
<b>GEOG 2250</b> <b>Minnesota Geography</b> Studies Minnesota's geology, landforms, climate, mineral and rock resources, agriculture, industry and people. Special emphasis will be given to landscape development. Prerequisite: STSK 0095 or placement by multiple measures.	3	

## GENERAL STUDIES (GSCL, GSCM, GSSS)

<b>GSCL 1105</b> <b>Job Seeking Skills</b> Create a personal inventory and a resume, write job application letters, complete a job application form, and prepare for employment interviews. A highly individualized approach to developing the critical actions and attitudes involved in job seeking and keeping.	1
<b>GSCM 1120</b> <b>Technical Writing</b> Covers both internal and external reports used in business and industry such as proposals, abstracts, interoffice communications, and technical reports. Students are exposed to formats, visuals, and documentation	2

methods used in technical report writing. Students study writing as a process while researching and writing technical reports.

**GSSS 1100 2**  
**Human Relations**

Designed to assist students in developing and maintaining healthy relationships within the family, social, and work structures. Self-esteem, assertive behavior, and stress management will be covered.

**HEALTH CORE (HC)**

**HC 1100 1**  
**Nutrition**

Explore the basic concepts of normal nutrition are presented with an emphasis on wellness and maintenance of a balanced state of health. These concepts are applied to human needs throughout the lifespan cycle. The emphasis is on the comprehension and application of these concepts in health care settings.

**HC 1120 3**  
**Introduction to Healthcare Careers**

Provide students the opportunity to explore a wide variety of career options, provide basic knowledge and skills, and develop an awareness of workplace expectations. Students will participate in in-depth study and exposure to medical/health science careers, career planning, employability skills, basic terminology, ethics, wellness, disease and safety.

**HC 1125 3**  
**Trained Medication Aide**

Describe the administration of medication. This course includes the study of legal requirements of medications and medication administration, general information on medications, terminology, abbreviations, applicable terminology, and an overview of body systems and drug classifications related to medication administration while utilizing designated reference sources. Medications will be administered in the classroom lab via the oral, ocular, rectal, and topical routes. The students will study the ten major body systems and how they are involved in the pharmacology of drug use. Upon completion of the course, and meeting federal and state guidelines, the student will receive a Trained Medication Aide Certificate. Pre-requisite: HC 1175.

**HC 1151 3**  
**Body Structure & Function**

Introduces the study of human anatomy and physiology. A study of body organization, chemistry, cells and tissues leads into exploring the normal structure and function of each body system. Emphasis is also placed on terminology and abbreviations.

**HC 1175 3**  
**Nursing Assistant**

Introduces concepts of basic human needs and teaches basic nursing skills that will be demonstrated and practiced in the laboratory setting. This course focuses on personal care, nutrition/feeding, elimination, clean and safe environment, communication, vital signs, body mechanics, death and dying, and principles related to long term care. Upon successful completion of the classroom/lab studies, the student will participate in a clinical experience caring for the geriatric client. Background study checks will be conducted. Successful students will be eligible to take the Nurse Aide Competency Examination for certification and placement on the Minnesota Nursing Assistant Registry. This course meets application requirements for MN West nursing program.

**HC 1180 2**  
**Medical Terminology in Healthcare**

Provides students working knowledge of medical terminology and application of the terminology within the health professions.

**HC 1200 4**  
**HealthCore Curriculum**

Designed to prepare students and incumbent workers to the ever changing healthcare workplace with an emphasis on patient and direct care. These topics are included: legal and ethical issues, communication, self awareness, safety and standard precautions, successful behaviors in the workplace.

**HC 1290 1**  
**Health Care & Society**

Provides a basis for intellectual, practical and ethical decision making. The fundamentals of bioethics, ethical codes and legislation affecting a health professional practice, patient protection issues, professional boundaries, and legal basics are explored. Cultural and spiritual perspectives are discussed.

**HC 2120 3**  
**Disease Conditions**

Introduces basic principles of disease and includes the study of disease by body system. The signs and symptoms, etiology, diagnosis, and treatment of each disease is explored; and prevention of disease is emphasized. Medical terminology and anatomy/physiology knowledge acquired in previous courses is applied. Prerequisite: HC 1151 or consent of instructor.

**HEALTH INFORMATION TECHNOLOGY (HIMC)**

**HIMC 1100 3**  
**CPT-4**

This course provides a study of the Current Procedural Terminology (CPT) and Healthcare Common Procedure Coding System (HCPCS) coding systems. There will be an emphasis on correctly assigning procedure and evaluation management (E/M) codes according to current CPT Guidelines. Students will continue using the principles of coding to ensure proficiency in coding with CPT-4 using records and concepts of coding. Students will adhere to current regulations and established guidelines in code assignment. Interpret clinical information maintained in the health record to assign codes. Understand and demonstrate ethical coding principles in applying codes. Prerequisite(s): HC 1151, HIMC 1160 and HC 1180.

**HIMC 1110 3**  
**ICD-10-CM**

This course will introduce the student to the ICD-10-CM (International Classification of Disease-Tenth Revision-Clinical Modification) system with an emphasis on the correct process of utilizing the tabular list and the alphabetic index for code assignment. Students will learn the correct process of utilizing rules, conventions, and instructions of ICD-10-CM as well as the chapter specific coding guidelines. Interpret clinical information maintained in the health record to assign diagnosis codes. Understand and apply ethical coding principles in applying diagnosis codes. Prerequisite(s): HC 1151, HC 1180, and HIMC 1160.

**HIMC 1120 2**  
**ICD-10-PCS**

This course focuses on the ICD-10-PCS classification system (International Classification of Disease-Tenth Revision-Procedure Coding System with an emphasis on the correct assignment of (ICD-10-PCS) procedure codes according to current guidelines. Interpret clinical information maintained in the health record to assign procedure codes. Understand and apply ethical coding principles in applying (ICD-10-PCS) procedure codes. The course will introduce the student to the professional standards for coding and reporting of inpatient procedure services. Coding characteristics, conventions and guidelines will be applied in identifying and accurately assigning codes to procedures. Prerequisite(S): HC 1151, HC 1180 and HIMC 1160.

**HIMC 1130 3**  
**Advanced Coding**

Students will continue using the principles of CPT/HCPCS, ICD-10-CM and ICD-10-PCS coding skills to accurately code diagnoses and procedures using patient records and advanced concepts of coding. Students will adhere to current regulations and guidelines in code assignment. Students will use electronic applications and work processes to support clinical classification and coding. Prerequisite(s): HIMC 1100, HIMC 1110 and HIMC 1120.

**HIMC 1140 3**  
**Introduction to Health Information and Delivery Systems**

This course will introduce students to the health information and delivery systems concepts common to allied health professionals. Students will understand different types of patient records, including

documentation issues associated with each. The course will introduce legal aspects of health information.

<b>HIMC 1150</b>	<b>2</b>
<b>Reimbursement &amp; Insurance in Healthcare</b>	
This course provides a study of health insurance plans, billing and reimbursement methodologies, and compliance approaches. Included: payor categories, APCs and other prospective payment systems, the revenue cycle, chargemaster, RBRVS, regulatory guidelines, billing processes, etc.	
<b>HIMC 1160</b>	<b>2</b>
<b>Intro to Medical Billing and Coding</b>	
This course will introduce students to the basic concepts of medical coding and billing. Topics to be covered include coding conventions and guidelines for diagnosis and procedure coding. How codes are used for reimbursement and billing.	
<b>HIMC 2100</b>	<b>3</b>
<b>Computer Health Information</b>	
This course will introduce students to the basic concepts of health information delivery. Topics to be covered include but are not limited to electronic data collection, data storage and retrieval and other applications of various health information systems. Students will understand the role that the processing of information plays in the delivery of health care. Prerequisite: HIMC 1140.	
<b>HIMC 2110</b>	<b>3</b>
<b>Management and Supervision of Health Information</b>	
This course will introduce students to the basic principles of management, communication and relationships that are crucial to creating a positive and respectful work environment with an emphasis in healthcare facilities. Students will learn to manage and deal with coworkers, patients and health care facility personnel. Prerequisite: HIMC 1141.	
<b>HIMC 2120</b>	<b>2</b>
<b>Quality and Performance Improvement in Healthcare</b>	
Explore the theory, practice and management of quality performance and improvement through examination of peer review processes, applying quality tools, data analysis and reporting systems.	
<b>HIMC 2125</b>	<b>1</b>
<b>Medical Coding Board Review</b>	
This course is the online board review for the certified coding specialist (CCS) and the certified professional coder (CPC) national examinations by AHIMA and AAPC. This course offers you a study plan, review of all major examination topics, mock pretest and post-test, guidance to good computer test-taking skills. Prerequisite(s): HIMC 1100, HIMC 1110, HIMC 1120 and instructor permission.	
<b>HIMC 2130</b>	<b>2</b>
<b>HIT Capstone</b>	
This course will provide students with practical real-life applications of theories learned in their health information technology courses. Students will work under the supervision of a certified health information technician professional to gain professional practices experiences. Students will be required to undergo evaluations and meet the goals and objectives of the course. Prerequisites: Must have instructor approval to register for this course.	
<b>HIMC 2135</b>	<b>1</b>
<b>HIT Seminar</b>	
Prepare students on how to study for the RHIT examination; review content material for AHIMA RHIT examination; and complete an RHIT mock examination. Prerequisite: Instructor approval required.	
<b>HIMC 2140</b>	<b>2</b>
<b>Calculating and Reporting Statistics in Healthcare</b>	
Evaluate and manage medical data for statistical purposes including collecting, analyzing, interpreting numerical data and presenting data to personnel in healthcare services and facilities.	

## HISTORY (HIST)

<b>HIST 1101</b>	<b>4</b>
<b>United States History I</b>	
Meets Goal Areas: 05, 07 Surveys United States history from early human habitation of the North American continent through the Civil War (1865), including political, economic, social and cultural developments.	
<b>HIST 1102</b>	<b>4</b>
<b>United States History II</b>	
Meets Goal Areas: 05, 07 Survey of United States history from the Civil War (1865) to the present, including political, economic, social and cultural developments. Prerequisite: STSK 0095 or placement by multiple measures.	
<b>HIST 1105</b>	<b>3</b>
<b>Minnesota History</b>	
Meets Goal Areas: 05, 07 Surveys of Minnesota history beginning with the earliest human habitation to the present, including political, economic, social, and cultural developments. Major emphasis is on the nineteenth and twentieth centuries.	
<b>HIST 1111</b>	<b>3</b>
<b>Western Civilization I</b>	
Meets Goal Areas: 06, 08 Surveys Western history from ancient times to the 1500s, encompassing political, economic, socio-cultural, intellectual and artistic developments. Examines the history of ancient civilizations including Egypt & Mesopotamia, Greek & Roman, Byzantine Empire, Islamic Civilization, and Medieval Europe. The course includes a consideration of the emergence of the major Western religions of Judaism, Christianity and Islam. Prerequisite: STSK 0095 or placement by multiple measures.	
<b>HIST 1112</b>	<b>3</b>
<b>Western Civilization II</b>	
Meets Goal Areas: 06, 08 History 1112 surveys European history from the 1500s to the present and encompasses political, economic, social, intellectual and cultural developments. Examines the history of the French Revolution, history of the British Empire, history of the World Wars, and the history of the Cold War. The course may be taken for either Global Perspective or Humanities credit. Prerequisite: STSK 0095 or placement by multiple measures.	
<b>HIST 1121</b>	<b>3</b>
<b>World History I</b>	
Meets Goal Areas: 05, 08 Includes a global and cross-cultural study of the early period of world history. Empires and regions examined include ancient India, China, Greece, Egypt, Rome, the Americas, Africa, Japan and Europe. The course includes the emergence of major world religions and considers their influence in world cultures and civilizations. Prerequisite: STSK 0095 or placement by multiple measures.	
<b>HIST 1122</b>	<b>3</b>
<b>World History II</b>	
Meets Goal Areas: 07, 08 Includes a global and cross-cultural study of the modern period of world history from 1500 to the present. Topics include the influence of European expansionism and colonialism, interaction of nations and peoples, reform and change in religious pattern, and the development and spread of the Industrial revolution, Marxism, Communism, Constitutional monarchies, Representative democracies, global rearrangements or the twentieth century, decline of European colonialism, and contemporary conditions. Prerequisite: STSK 0095 or placement by multiple measures.	
<b>HIST 2202</b>	<b>3</b>
<b>Modern American Wars</b>	
Meets Goal Areas: 08, 09 History 2202 begins with the history and ethics of the Spanish American War, when the United States turned away from isolationism and toward global interaction. The course then examines the history and ethics of World Wars I and II, the history, causes and peace settlements of each, and the significance of each conflict. The course moves on to the history and ethics of the Cold War era and its associated conflicts, and concludes with an analysis of the history and ethics of American involvement in the Middle East and the War on Terror. Additionally, the course addresses certain social, political, economic, and intellectual questions from an ethics perspective, including genocide and disease. Emphasis is placed on the viewpoints of each nation involved in conflict and why it chose war instead of peace. This history course may be	

taken for either Global Perspective or Ethics credit. Prerequisite: STSK 0095 or placement by multiple measures.

**HIST 2235** **1-3**  
**Special Topics**

Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies. Prerequisite: STSK 0095 or placement by multiple measures.

**HEALTH (HLTH)**

**HLTH 1101** **3**  
**Personal Wellness**

Focuses on individual wellness from a holistic perspective. Surveys personal health concerns within each of the five human health dimensions - physical, social, intellectual, emotional, and spiritual. Emphasizes the knowledge, attitudes, and behaviors of a positive lifestyle. Designed for anyone interested in enhancing their well-being. Often a required component of programs in health, human service, and education careers. Prerequisite: STSK 0090 or placement by multiple measures.

**HLTH 1110** **3**  
**Dimensions of Community/Public Health**

Introduces the field of community/public health. Acquaints students with the variety of health agencies in the public and private sectors and surveys current social health issues. Examines public health policy, health care systems in the US and abroad, epidemiology and disease prevention in communities, and health promotion in various settings/populations. A foundation course for careers in allied health, community health, and other service professions. Prerequisite: STSK 0095 or placement by multiple measures.

**HLTH 1130** **3**  
**Stress Management and Relaxation**

Provides a foundation for understanding the role of stress in the modern human condition. Mind/Body/Spirit interrelationships and the emerging sciences of psychoneuroimmunology and subtle anatomy will be introduced. Experiential exploration of numerous coping skills and relaxation techniques is emphasized. Prerequisite: STSK 0095 or placement by multiple measures.

**HLTH 2210** **3**  
**Human Sexuality**

Explores the diverse physical, social and psychological aspects of human sexuality at all life stages within the framework of solid scientific research and critical thinking. Topics include sexual anatomy and physiology, attraction and intimate relationships, gender issues, forms of healthy sexual expression and behaviors, fertility management, STIs, sexual dysfunction, atypical sexual behaviors, sexual coercion, and commercial sex. Opportunities to clarify personal values and decisions regarding one's sexual health are woven throughout. Prerequisite: STSK 0095 or placement by multiple measures.

**HLTH 2220** **3**  
**Drugs, Society, and the Individual**

Explores relationships between drugs, sociocultural influences, and individual attitudes and behaviors. With an emphasis on psychoactive chemicals, this course surveys the physiological effects and psychosocial impact of a wide array of drugs. Investigates patterns of drug use; drug laws, consequences of drug abuse; addiction, intervention, treatment, recovery, and prevention strategies from both individual and social perspectives. Prerequisite: College level reading or placement by multiple measures.

**HLTH 2235** **1-3**  
**Special Topics**

Explores a single health topic or current health issue; offerings based on student interest and demand. Course may be repeated as topic changes.

**HLTH 2240** **3**  
**Basic Nutrition**

Introduces the study of food and human dietary patterns. Examines sources of nutrients, how they are processed in the body, body

composition, current dietary guidelines and nutritional issues, the impact of socio-cultural factors on diet, and the impact of dietary choices on health. Prerequisite: STSK 0095 or placement by multiple measures.

**HUMAN SERVICES (HSER)**

**HSER 1121** **3**  
**American Sign Language I**

Teaches basic ASL communication strategies used by the Deaf. Course includes: expressive and receptive sign activities, sign vocabulary, fingerspelling and numbers, and aspects of Deaf culture. ASL Levels One - Four are designed for students interested in becoming certified Sign Language interpreters. This course is offered online only.

**HSER 1122** **3**  
**American Sign Language II**

Continues to teach basic ASL, grammatical structure, fingerspelling and numbers, conversational strategies, and Deaf history and culture. ASL Levels One - Four are designed for students interested in becoming certified sign language interpreters. This course is offered online only.

**HSER 1262** **2**  
**Creative Activities for Young Children**

Explores means of developing children's creativity in art, music, drama. Students learn to design age-appropriate activities with paints, chalk, wood, paper, dough, song, dance, instrument, puppets and related material. Required course for Human Services - Child Development Track majors. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

**HSER 1269** **2**  
**Guidance: Managing the Physical and Social Environments**

Teaches how to provide a secure, supportive environment for communicating both thoughts and feelings, and for fostering developmentally appropriate behavior. Emphasis is given to providing nurture, developing realistic expectations for children's behavior, setting limits and developing self-control. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

**HSER 2221** **3**  
**American Sign Language III**

Teaches to communicate abstract concepts related to ASL. Emphasis in this course is placed on grammatical structure, sign selection and vocabulary, use of fingerspelling in conversation, and Deaf culture. ASL Levels One - Four are designed for students interested in becoming certified sign language interpreters. This course is offered online only.

**HSER 2222** **3**  
**American Sign Language IV**

Continues to develop skills and strategies necessary for communicating ASL concepts. The course will focus on building students' sign vocabulary, sign fluency and receptive skills. ASL Levels One - Four are designed for students interested in becoming certified sign language interpreters. This course is offered online only.

**HSER 2235** **1-4**  
**Special Topics**

Covers a wide range of issues and skill development. Topics will be chosen to meet the needs of Human Services students. The class may be retaken for credit if the topic varies. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

**HSER 2297** **6**  
**Human Services Generalist Internship**

Provides supervised work experience for students in the generalist track in one or more human services agencies. Students and supervisors design the experiences to meet students' educational and career goals. Prerequisites: Internships are available only to students who have an overall GPA of 2.00 ("C"), a 2.50 in career courses, have completed the

outlined courses in their first three terms, have completed a four-hour seminar in the fall semester of the second year; have completed a formal application process and have been approved following an interview with the Human Services Coordinator.

**HSER 2298 8**  
**Human Services Child Development Internship**

Provides supervised work experience with children in settings such as day care, preschool, and elementary schools. Students and supervisors design the experiences to meet students' educational and career goals. Prerequisites: Internships are available only to students who have an overall GPA of 2.00 ("C"), a 2.50 in career courses, have completed the outlined courses in their first three terms, have completed a four-hour seminar in the fall semester of the second year; have completed a formal application process and have been approved following an interview with the Human Services Coordinator.

**HUMANITIES (HUM)**

**HUM 2121 4**  
**The Turbulent Sixties** Meets Goal Areas: 06, 07

Presents an interdisciplinary (history, literature, film) and topical survey of the 1960's. Topics will include the civil rights movement, war on poverty, Vietnam, feminism, the environmental movement and the counterculture. The course also counts as a Human Diversity course. Prerequisite: ENGL 1101.

**HUM 2201 2**  
**The Many Faces of Mexico** Meets Goal Areas: 06, 07

Explores the cultural, historical and social realities which together form contemporary Mexico. By studying about the economic and political situation, one can understand why many Mexicans are seeking work and moving their families north. Special attention is given to the impact on Minnesota communities and the challenge to welcome and to meet the needs of the growing Latino population.

**HUM 2235 1-3**  
**Special Topics in Humanities**

Covers a wide range of humanities topics. Topics will be chosen to meet the needs of students. The class may be retaken on demand for credit if the topic varies. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

**LAW ENFORCEMENT (LAWE)**

**LAWE 1111 3**  
**Criminal-Constitutional Law**

Criminal Constitutional Law provides learners an appreciation and understanding of the United States Constitution and the role it plays in democracy. The historic basis and development of constitutional concepts are explored. Constitutional limitations on governmental authority over private citizens are discussed and analyzed as interpreted by Federal and State Supreme Court decisions. The 1st, 4th, 5th, 6th, and 14th Amendments are stressed.

**LAWE 1120 2**  
**Physical Fitness for Law Enforcement I**

Introduces students to strategies for physical conditioning, good nutrition and healthy eating habits for peace officers. Students will be required to perform stretching, aerobics and conditioning exercises at the direction of an instructor as part of an overall fitness program to enhance strength, agility, flexibility, speed, and cardiovascular endurance. Students will be introduced to and evaluated on their ability to meet the Minnesota Peace Officer Standards and Training Board approved law enforcement-related physical fitness test.

**LAWE 1125 1**  
**Physical Fitness for Law Enforcement II**

Continues students' development in performing stretching, aerobics and conditioning exercises at the direction of an instructor as part of an overall fitness program to enhance strength, agility, flexibility, speed, and cardiovascular endurance. Students will need to meet the minimum standard for the Minnesota Peace Officer Standards and

Training Board approved law enforcement-related physical fitness test by the end of the course.

**LAWE 1140 2**  
**Cyber Crimes**

Introduces the field of cyber crimes. Students will learn what different types of cyber crimes are committed including but not limited to identity theft, financial fraud, and the exploitation of children. The students will learn how to go about taking computers as evidence, how to utilize search warrants to aid in an investigation, and what is needed to bring a cyber crime through the criminal justice system.

**LAWE 1150 2**  
**Homeland Security and Terrorism**

Studies terrorism, counterterrorism, terrorist personalities, and terrorist groups, including types, tactics, and trends on a worldwide scale as well as domestically. This course also examines the issues of prevention, civil liberties and the role and responsibilities of entry level police officers.

**LAWE 1170 2**  
**Minnesota Traffic Code**

Covers all of the 169 Minnesota Traffic Statutes. The class includes the application, interpretation, and enforcement of motor vehicle operation, registration, insurance and safety responsibility acts, driver's license laws, rules and regulations.

**LAWE 1200 3**  
**Juvenile Justice**

Examines the history of the juvenile justice system in the United States and Minnesota. Students will be able to distinguish the major differences between the adult and the juvenile justice system in the United States and Minnesota by examining Supreme Court rulings, laws and Minnesota statutes regarding juveniles. Additionally, students will develop an understanding of the responsibilities of federal, state and local law enforcement agencies in dealing with juveniles.

**LAWE 1210 4**  
**Communication Relations**

Synthesizes the concepts of interpersonal communications to allow students to better understand human behavior and verbal communications. The students will develop an understanding of barriers that can occur to effective communication due to the types of situations law enforcement officers work in. Students will examine and relate ways to effectively interpret, comprehend, and deliver verbal communication in order to effectively carry out law enforcement duties.

**LAWE 1220 3**  
**Law Enforcement and Community**

Provides the student with contemporary concepts related to law enforcement interactions with the community including models of community policing, problem-oriented policing, crime prevention and developing community relations. Instruction in professional police conduct related to officer ethics, leadership and interpersonal communication in interactions with culturally diverse populations will be examined. Student will also be introduced to privacy data practices and the expectations during internal affairs investigations.

**LAWE 1230 3**  
**Law Enforcement and Human Behaviors**

Provides the student with contemporary concepts of impact of human behavior on the interactions between law enforcement and individuals and how that interaction affects these relationships. Students will be introduced to techniques for dealing with individuals in crisis and victimization of individuals including: domestic abuse, sexual assault, individuals with disabilities, and crimes motivated by bias or hatred. Concepts of addressing issues of gangs, drugs, terrorism and homeland security will also be discussed.

**LAWE 1240 3**  
**Police Leadership-Ethics**

Develops the principles of leadership, consensus building, showing respect for the opinions of others, and encourage cooperation, adaptability, and conflict resolution as it relates to carrying out law enforcement duties. Students will examine the day to day ethical choices officers have to make and the consequences of making poor decisions both morally and legally. The students will demonstrate

these leadership and ethical qualities by working with area criminal justice agencies on projects to address current issues in the community and working on solutions to these issues.

**LAWE 2224 2**  
**Police Report Writing**

Develops the students understanding of legal, procedural, and need for factual reports in the criminal justice process. Students will be exposed to a variety of reports and forms used in law enforcement as well as a variety of report writing mediums including computer applications. Students will practice writing police reports in a detailed chronological order using proper formatting. Emphasis will be placed on proper spelling, grammar, punctuation, and the ability to create a clear and concise meaning throughout the report. Prerequisites: Formally accepted into Law Enforcement Program.

**LAWE 2233 4**  
**Firearms-Tactical Management**

Examines the physiological, psychological and emotional effects of stress on law enforcement officers in their careers and during critical incidents to allow students to recognize these effects and develop skills to deal with stress. This course will focus on familiarizing students with the safe handling, nomenclature, and proper shooting of handgun's, shotgun and patrol rifles requiring students to demonstrate proficiency after receiving instruction in the handling and use of handguns, shotgun, and patrol rifles. Students will then examine and complete exercises in critical incident management and different tactical responses to situations which may occur in the course of their duties. Prerequisite: Must be formally accepted into the Law Enforcement Program.

**LAWE 2235 0.25-1.5**  
**Special Topics**

Covers a wide range of issues and topics in law enforcement. The class may be retaken for credit if the topic varies.

**LAWE 2250 4**  
**Accident Investigation-Radar-Radio-DUI Enforcement**

Explains and develops students understanding of how to investigate motor vehicle crashes and driving while impaired offenses. Through instruction students will establish how to fully investigate and document both motor vehicle crashes and driving while impaired offences and will demonstrate through reality based training exercises how to properly complete these investigations including the use of State computer applications. This course will train students how to operate both RADAR/LIDAR units and will require the students to complete the State ARMER radio course. Prerequisites: Must be formally accepted into the Law Enforcement Program.

**LAWE 2295 1**  
**POST Seminar**

Provides a program overview, with opportunities to discuss changes in the field and POST requirements.

**LAWE 2297 1-3**  
**Law Enforcement Internship**

Allows students in the law enforcement program to be involved in the day-to-day operations of a law enforcement or other criminal justice agency. Expose the students to the work that is required to be performed in that agency. These internship/field experience(s) will provide the students an opportunity for practical application of learned academic content in real world settings to help develop long-term academic and career plans.

**LAWE 2300 4**  
**Patrol Operations**

Introduces students to the basic principles of patrol operations. Students will develop an understanding of patrol work including responding to calls, investigations, and enforcement of various laws and the functions needed to carry out these duties by applying knowledge learned in other law enforcement courses. Students will be required to practically apply the knowledge and skills learned throughout the law enforcement program by successfully completing reality based training exercises in a patrol setting. Prerequisites: Must be formally accepted into the Law Enforcement Program.

**LAWE 2310 4**  
**Use of Force**

Identifies and examines current Supreme court cases, case law, and Minnesota State law on the application of force by peace officers while providing a variety of situations where force may or may not be authorized by providing an understanding of the concepts of reasonable use of force and report documentation. This course will focus on familiarizing students through hands on instruction with a variety of verbal commands, escorting principles, pain compliance, countermeasures, restraint, ground fighting, and baton techniques. Specific instruction on electronic control weapon (ECW) and chemical agents will be given during the course. Students will be required to demonstrate proficiency after receiving instruction in these techniques through a variety of static and dynamic testing, including reality based training exercises.

**LAWE 2350 12**  
**Skills Certificate**

Provides students that have completed POST Boards approved Professional Peace Officers Education (PPOE) Academic Program with the skills requirements of the Professional Peace Officers Education Category Three: Performance of Peace Officer Duties and Tasks and Category Four: Tools, Techniques and Tactics for licensing as a police officer. This course meets the transfer pathways requirements.

**LAWE 2400 4**  
**Minnesota Statutes**

Introduces students to Minnesota Traffic Statutes, Criminal Statutes, and Selected Statutes. Students will receive instruction on the interpretation of the State statutes by identifying and analyzing the elements of each statute. Hypothetical situations will be presented to assist students with the understanding and application of State statutes. This course is part of the Minnesota State transfer pathways.

**LAWE 2410 3**  
**Criminal Investigations**

Develops the basic procedural aspects of the criminal investigative process. Through instruction, evaluation of key elements of crimes, and case evaluations students will identify the process of completing a criminal investigation from first arrival on the scene of a crime through the court process. Specific areas that will be identified during the course will be legal and procedural aspects, responsibilities, interviewing and interrogating, document preparation, and court testimony.

**LAWE 2420 3**  
**Criminal Procedures**

Provides the learner with the history of the United States Constitution and Bill of Rights and the constitutional limitations on government authority over private citizens. Key concepts will be analyzed and discussed as interpreted by Federal and State Supreme Court decisions to allow students to become familiar with the procedural handling of individuals in criminal cases, rules of evidence, forfeitures, criminal defense, and civil liability.

**LAWE 2500 2**  
**Traffic Stops**

Introduces the student to basic patrol vehicle operation and examines approaches to conducting low, medium, and high risk vehicle stops. Through instruction and coaching students will develop an understanding of the different vehicle dynamics used during vehicle stops and how to properly write and issue traffic citations. Students will be required to demonstrate proper vehicle stops through reality based training exercises.

**LAWE 2510 2**  
**Crime Scene Processing**

Develops the fundamentals of crime scene investigations. Through instruction and coaching students will develop an understanding of the different phases of crime scene examination, documentation, and evidence identification and collection. Students will be required to demonstrate proper investigation and processing skills through reality based training exercises.

**FOR ADDITIONAL COURSE DESCRIPTIONS ON LAMB MANAGEMENT COURSES (LWMP) GO TO: [HTTP://WWW.MNWEST.EDU/PROGRAMS/LIST/LAMB-AND-WOOL-MANAGEMENT-DIPLOMA](http://www.mnwest.edu/programs/list/lamb-and-wool-management-diploma)**

**LWMP 1202 2**  
**Equipment and Facilities**  
 This course will cover planning for sheep facilities; barn design; lot layout and sheep feeding equipment. Students will become aware of housing and feeding requirements and how to effectively plan for them.

**LWMP 1300 2**  
**Introduction to Sheep Health**  
 Familiarizes students with management practices beneficial to healthy animal production. Sheep health is fundamental to a successful sheep enterprise. Sheep health will be studied in the following categories - Animal Behavior, Handling, Housing and Nutrition; Quality Assurance and Bio-Security; Young Lamb Health Concerns; Metabolic Disorders; Abortion Management; Lameness Issues; Fertility Concerns in Rams; Sheep Eye Health Concerns; and Other General Health Issues.

**LWMP 1502 1**  
**Ewe Ration Formulation**  
 Provides awareness of the methods used to balance rations to meet the sheep nutrient needs for each specific stage of production. The course will also cover least cost ration balancing.

**LWMP 1701 2**  
**Wool Characteristics and Properties**  
 This course will provide an in-depth look at the biological development of wool fiber and the properties that make it a unique clothing fiber. In addition this course will study the factors that determine the value of wool, how these can be improved and methods to measure these qualities.

**PRECISION MACHINING (MACH)**

**MACH 1400 1**  
**Metallurgy & Machining Calculations**  
 Introduces students to metallurgy and material classification as it relates to machining. Students will become familiar with heat treatment terms and procedures. (1/2 semester) Math as it applies to the metal working industry will also be covered. (1/2 semester)

**MACH 1405 4**  
**Machining Fundamentals & Processes I**  
 Provides students with skills to become familiar with manually operated tools and equipment found in machining industry. Areas addressed will be safety, precision measurement, engine lathe, vertical mill, saw and drill press.

**MACH 1410 2**  
**Interpreting Engineering Prints I**  
 Introduces students to engineering drawings & interpretation of information included in current industrial blueprints.

**MACH 1415 4**  
**Machining Fundamentals & Processes II**  
 Provides students with continued skills to manually operate tools and equipment found in the machining industry. Areas addressed will be safety, precision measurement, engine lathe, vertical mill, saw, surface grinder, tool-room lathe and drill press.

**MACH 1420 3**  
**CNC Milling Programming & Operating I**  
 Introduces basic CNC programming and operation of CNC milling machines. Students will be writing G code and conversational programming for CNC milling machines. The students will also setup and operate CNC milling machines.

**MACH 1425 4**  
**CNC Milling Programming & Operation II**  
 Perform more advanced CNC programming and operation of CNC milling machines. Write G-code and conversational programs as well as conduct complex set ups and hold tighter tolerances on parts. Prerequisite: MACH 1420 or consent of instructor for prior industry experience.

**MACH 1430 3**  
**CNC Lathe Programming & Operation I**  
 Introduces programming of 2 axis CNC lathes. It also includes selection of tooling and sequence of operations. Manual G-code programming will be done.

**MACH 1435 4**  
**CNC Lathe Programming & Operation II**  
 Perform more advanced CNC programming and operation of CNC lathes. Write G-code programming and conduct complex set ups as well as hold tighter tolerances on parts.

**MACH 1460 2**  
**Interpreting Engineering Prints II**  
 Advanced training in the use of precision measuring devices including micrometers, calipers, depth micrometers, and dial indicators. The introductory level print reading topics include: interpret title block information, understand basic dimensioning symbols, learn the standard views, learn different line types, and interpret basic GD&T's which they will apply in the shop. The student will become proficient in the reading and interpretation of blueprints and GD&T as they relate to machining. Prerequisite: MACH 1410 or consent of instructor for prior industry experience.

**MACH 1465 2**  
**Swiss Lathe Programming & Operation**  
 Provide students an introduction to swiss type turning centers. Areas addressed will be (G & M) codes, program editing and lathe setup. Prerequisites: MACH 1420, MACH 1430 or consent of instructor for prior industry experience.

**MACH 1480 3**  
**Internship**  
 Complete work at a sponsoring machining company where the student will apply theory along with hands on skills gained from the precision machining program. The internship will be 135 hours spread over the semester.

**MATH (MATH)**

**MATH 0092 2**  
**Essentials of Mathematics-Pre Algebra**  
 Assists students in developing a thorough understanding of basic mathematics. Intuition and sound mathematical techniques are used to analyze and solve problems in fractions, decimals, ratios, proportions, percentages, introductory statistics and basic metric geometry. Some introductory Algebra may also be included. This course is not considered a transfer course. Prerequisite: STSK 0092 or placement by multiple measures.

**MATH 0098 2**  
**Higher Algebra I - Beginning Algebra**  
 Teaches basic algebraic concepts and skills including real number properties, algebraic expressions, solving equations and inequalities, graphs of linear equations, exponents and scientific notation. This course is not considered a transfer course. Prerequisite: MATH 0092 or placement by multiple measures.

**MATH 0099 2**  
**Higher Algebra II**  
 Teaches polynomials, operations with polynomials, factoring polynomials, polynomials with several variables, rational expressions, graphs, functions and their applications. This course is not considered a transfer course. Prerequisite: High school algebra (one year), MATH 0098, or placement by multiple measures.

**MATH 0100** 2  
**Higher Algebra III**

Teaches systems of equations in two and three variables, compound inequalities, absolute value equations and inequalities, radical expressions and equations, quadratic equations, exponential and logarithmic functions. Prerequisite: MATH 0099 or placement by multiple measures.

**MATH 0111** 2  
**Co-requisite with College Algebra**

Supports students who qualify with additional review, just-in-time learning, deeper conceptual development, repetition over time, and learning skills and habits required to be successful with the corresponding college level MATH 1111 College Algebra Math course taken concurrently. Prerequisite: ACT Math score of 19 or placement by multiple measures.

**MATH 0115** 2  
**Co-requisite with Intro to Probability and Statistics**

Supports students who qualify with additional review, just-in-time learning, deeper conceptual development, repetition over time, and learning skills and habits required to be successful with the corresponding college level MATH 1105 Intro to Probability and Statistics course taken concurrently. Prerequisite: ACT Math score of 15 or placement by multiple measures.

**MATH 0117** 2  
**Co-requisite with Concepts in Math**

Supports students who qualify with additional review, just-in-time learning, deeper conceptual development, repetition over time, and learning skills and habits required to be successful with the corresponding college level MATH 1107 Concepts in Math course taken concurrently. Prerequisite: ACT Math score of 11 or placement by multiple measures.

**MATH 1100** 3  
**Integrated Math**

Focuses on using math concepts to solve applied problems in technology. These concepts include topics in algebra, geometry, and trigonometry. Prerequisite: MATH 0092 or placement by multiple measures.

**MATH 1105** 4  
**Introduction to Probability and Statistics** Meets Goal Area: 04

Introduces the measures of central tendency, measures of dispersion, frequency distributions, probability, sampling distributions and the central limit theorem, testing of hypotheses, analysis of variance, linear regression and correlation analysis. Prerequisite: MATH 1107 or NURS 1130 or Co-Req MATH 0115 or placement by multiple measures.

**MATH 1107** 3  
**Concepts in Math** Meets Goal Area: 04

Covers topics from various areas of mathematics showing the scope and power of mathematics and emphasizing the mathematical method. This course is for students who are not mathematics majors and who wish to acquire a basic understanding of mathematics and apply it to a specific area of study. Prerequisite: Two years of high school algebra, MATH 0098, or placement by exam.

**MATH 1109** 3  
**Math Skills for Elementary Education**

Develop mathematical skills required for Elementary Education majors by pairing various skills with a beginning discussion of pedagogy and best-practices in Elementary Math Education. This course fulfills some of the Minnesota Professional Educators Licensing and Standards Board competencies required for Elementary teachers. Prerequisites: Two years of high school Algebra, Math 0092, or placement by multiple measures.

**MATH 1111** 3  
**College Algebra** Meets Goal Area: 04

Math 1111 reviews the fundamentals of math such as: operations of higher algebra integrated with a functions approach. Studies polynomial, exponential, and logarithmic functions, graphs and transformations, systems of equalities and inequalities, matrices and

determinants, problem solving math applications and data modeling techniques. Prerequisite: Two years of high school algebra, MATH 0100, or placement by multiple measures.

**MATH 1113** 4  
**Pre-Calculus** Meets Goal Area: 04

Reviews the concepts of college algebra and then extends those ideas to trigonometry and analytic geometry. Exponential, logarithmic, and polynomial functions are emphasized in the review. The course explores rectangular coordinates and angles, solutions of right triangles, unit circles, radian measure, trigonometric functions and their inverses, trigonometric graphs, trigonometric equations and identities, complex numbers, conic sections and other analytic geometry topics such as polar coordinates, parametric equations, sums and geometric series, and vectors. Prerequisite: MATH 1111 or placement by multiple measures.

**MATH 1118** 4  
**Applied Calculus** Meets Goal Area: 04

Provides a tour of differential and integral calculus in one variable. Emphasizes formulas and their interpretation and use in applications. Students in programs that call for short calculus, brief calculus or applied calculus should take this course. Engineering students should take the Calculus sequence: MATH 1121-1122. Students concerned about which courses to take should contact the instructor. Prerequisite: MATH 1113 or MATH 1111 or placement by multiple measures.

**MATH 1121** 4  
**Calculus I** Meets Goal Area: 04

Introduces the basic ideas of differential and integral calculus: Topics include limits and continuity, differentiation of functions, applications of derivatives, definite and indefinite integrals, numerical integration, and applications of definite integrals. Prerequisite: MATH 1113 or placement by multiple measures.

**MATH 1122** 4  
**Calculus II**

Calculating areas and using definite integrals, this course continues to expand Calculus I concepts. Other topics include the calculus of transcendental functions, techniques of integration, applications of integration, differential equations and modeling, and infinite sequences and series, Taylor polynomials, and the Calculus of polar and parametric equations. Prerequisite: MATH 1121.

**MATH 2201** 4  
**Calculus III**

Extending applications of derivatives and integrals to three-dimensions, this course continues Calculus II. Topics include vectors, vector-valued functions with applications, functions of two or more variables, partial derivatives, multiple integrals, and vector analysis topics including line and surface integrals, Green's Theorem, the Divergence Theorem, and Stoke's Theorem. Prerequisite: MATH 1122.

**MATH 2206** 4  
**Ordinary Differential Equations**

Presents the theory, computations and applications of first and second order ordinary differential equations and two-dimensional systems. Prerequisite: MATH 1122.

**MATH 2235** 1-4  
**Special Topics Mathematics**

Explores specific areas of mathematics to meet specialized student needs or interests. The class may be retaken if the topic varies.

**MEDICAL LABORATORY TECHNICIAN (MDLT)**

**MDLT 1100** 3  
**Introduction to Laboratory Science**

This is an orientation course designed to familiarize the student with a career in the medical laboratory field, medical terminology, certification process, professional organizations, and ethical/legal issues. The course has heavy emphasis on phlebotomy skills. The course also introduces the students to laboratory information system (computers) as they are used in the laboratory.



<b>MDLT 1105 Microbiology I</b>	<b>3</b>	function, toxicology, and hormones. Prerequisites: MDLT 1100, MDLT 1125 and CHEM 1150.
This course introduces the student to the microbial world. The course covers the study of the materials and methods used for identification of pathogenic organisms and the study of these in relation to their disease processes in humans. The course will present microbiology within an epidemiologic, diagnostic, and clinical framework. In the laboratory, the student will learn such techniques as gram staining, microscopy, culturing, identification of microorganisms and anti-microbial susceptibility testing.		
<b>MDLT 1110 Medical Lab Calculations</b>	<b>2</b>	<b>MDLT 2120 Hematology II</b>
Prepares MLT students for calculations used in the medical laboratory. Class content includes dilutions, titers, Levey-Jenny charts and quality control, metric system, and calculations used in the disciplinary departments in the medical laboratory. Instrumentation will be discussed.		This course is a continuation of MDLT 1130 (Hematology I). Student will study the disease processes that occur in the red blood cells of the blood with emphasis on anemias. This course also covers the theory and testing of the coagulation aspects of the blood. Prerequisite: MDLT 1100 and MDLT 1130.
<b>MDLT 1115 Biological Fluids</b>	<b>3</b>	<b>MDLT 2200 Externship</b>
The course introduces the student to the practical aspects of renal physiology and the theory of urine chemical, physical and microscopic tests. In addition, analysis of other body fluids (fecal specimens, cerebral spinal fluid, seminal fluid, amniotic fluid, synovial fluid) are reviewed in the lecture portion of the class. In the laboratory, the student will perform physical, chemical and microscopic analysis on urine specimens. Prerequisite: None. Microscopic usage is helpful.		Consists of 120 contact hours of supervised practice of phlebotomy at an affiliated hospital, private laboratory or clinic. Learning activities are specifically planned and implemented at the clinical affiliated site. Student clinical experience is standardized using a checklist. The student will make arrangements with the Medical Laboratory Technician Program Director regarding their externship time and site. Prerequisite: MDLT 1100.
<b>MDLT 1120 Immunology</b>	<b>3</b>	<b>MDLT 2235 Special Topics</b>
This course introduces the student to a wide array of clinical laboratory techniques that are based on the concepts studied in immunology. The topics range from the very simple to the very complex procedures that are used in all areas of the clinical laboratory. Prerequisite: MDLT 1100.		Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies.
<b>MDLT 1125 Clinical Chemistry I</b>	<b>3</b>	<b>MDLT 2310 Urinalysis and Biological Fluids</b>
Introduces methods used in the quantitative analysis of chemical constituents of blood and other body fluids. Quality control is emphasized as integral to all aspects of laboratory medicine. Specific testing procedures for various organ systems are discussed and practiced.		Allows the students to refine laboratory techniques and apply knowledge learned in the didactic phase in an employment-like setting that offers realistic experiences unavailable in student laboratory sessions. Additionally, students acquire non-technical attributes including, but not limited to, communication, critical thinking, multitasking, and independent work skills. The student will practice and gain experience in basic medical laboratory techniques and procedures required for entry level Medical Laboratory Technicians in an affiliated hospital or clinic laboratory under the direct supervision of a qualified laboratory professional. Prerequisites: MDLT 2106 and MDLT 2120.
<b>MDLT 1130 Hematology I</b>	<b>3</b>	<b>MDLT 2320 Hematology and Hemostasis</b>
Introduces the student to study of cells in the blood. It covers routine procedures performed on patients' blood in a medical laboratory. Emphasis is on the theory and practice of these skills utilizing both manual and automated techniques. Prerequisite: MDLT 1100.		Allows the students to refine laboratory techniques and apply knowledge learned in the didactic phase in an employment-like setting that offers realistic experiences unavailable in student laboratory sessions. Additionally, students acquire non-technical attributes including, but not limited to, communication, critical thinking, multitasking, and independent work skills. The student will practice and gain experience in basic medical laboratory techniques and procedures required for entry level Medical Laboratory Technicians in an affiliated hospital or clinic laboratory under the direct supervision of a qualified laboratory professional. Prerequisites: MDLT 2106 and MDLT 2120.
<b>MDLT 2101 Microbiology II</b>	<b>3</b>	<b>MDLT 2330 Medical Microbiology</b>
Continues Medical Microbiology I. Groups of medically important miscellaneous bacteria, yeast, molds, parasites and viruses are studied and correlated to laboratory practice in identification. Prerequisite: MDLT 1105 or consent of instructor.		Allows the students to refine laboratory techniques and apply knowledge learned in the didactic phase in an employment-like setting that offers realistic experiences unavailable in student laboratory sessions. Additionally, students acquire non-technical attributes including, but not limited to, communication, critical thinking, multitasking, and independent work skills. The student will practice and gain experience in basic medical laboratory techniques and procedures required for entry level Medical Laboratory Technicians in an affiliated hospital or clinic laboratory under the direct supervision of a qualified laboratory professional. Prerequisites: MDLT 2160 and MDLT 2120.
<b>MDLT 2106 Immunohematology</b>	<b>3</b>	<b>MDLT 2340 Clinical Chemistry and Immunology</b>
This course teaches the theory of red cell antigen-antibody interactions as it relates to blood grouping and typing, antibody detection compatibility testing. Blood donor screening component preparation are also discussed. In laboratory the student will perform basic blood banking procedures. Accuracy in procedure interpretation is emphasized. Prerequisites: MDLT 1100 and MDLT 1120.		Allows the students to refine laboratory techniques and apply knowledge learned in the didactic phase in an employment-like setting that offers realistic experiences unavailable in student laboratory sessions. Additionally, students acquire non-technical attributes including, but not limited to, communication, critical thinking, multitasking, and independent work skills. The student will practice and gain experience in basic medical laboratory techniques and procedures required for entry level Medical Laboratory Technicians in an affiliated
<b>MDLT 2110 Clinical Chemistry II</b>	<b>2</b>	
This course is a continuation of MDLT 1125 Clinical Chemistry I. Students continue to develop skills in the performance of the chemical analysis of blood. Lectures continue to correlate laboratory results with clinical findings. Content of the course includes renal, acid/base balance, electrolytes, endocrinology & thyroid, gastric & pancreatic		

hospital or clinic laboratory under the direct supervision of a qualified laboratory professional. Prerequisites: MDLT 2106 and MDLT 2120.

**MDLT 2350** **4**  
**Immunohematology**

Allows the students to refine laboratory techniques and apply knowledge learned in the didactic phase in an employment-like setting that offers realistic experiences unavailable in student laboratory sessions. Additionally, students acquire non-technical attributes including, but not limited to, communication, critical thinking, multitasking, and independent work skills. The student will practice and gain experience in basic medical laboratory techniques and procedures required for entry level Medical Laboratory Technicians in an affiliated hospital or clinic laboratory under the direct supervision of a qualified laboratory professional. Prerequisites: MDLT 2106 and MDLT 2120.

**MDLT 2360** **1**  
**Capstone**

Focuses on further development of critical thinking and problem solving skills in all of the laboratory disciplines, as well as integration of laboratory analyses, interpretation and application. Activities include discussions, case study, interactive activities and assignments, focused reviews, and examinations. Mastery of content will be assessed through a comprehensive examination. Under the direction of faculty, students prepare a written case study and present their findings to laboratory professionals and classmates. Student will also develop a resume and cover letter and discuss job interviewing. Prerequisites: MDLT 2106 and MDLT 2120.

**MECHATRONICS (MECH)**

**MECH 1102** **2**  
**Mechanical Power Transmission**

Introduces students to fundamental industrial mechanical concepts, principles, and equipment.

**MECH 1103** **3**  
**Basic Hydraulics**

Introduces the students to basic concepts, formulas and applications of hydraulic system components. Studies the use of directional, flow and pressure control devices in circuits. Also provides students with the knowledge and understanding of the operation, function, and application of hydraulic pumps and actuators.

**MECH 1105** **3**  
**Hydraulic Lab**

Examines basic equipment and fundamentals of hydraulic valves of fluid power. Focus will also cover various flow controls, pumps and motors. Students will tear down, plumb and operate the various components.

**MECH 1110** **2**  
**Fluid Power Calculations**

Applies math concepts used to calculate basic system parameters such as lifting force, pressures, horsepower, time, velocities, and conductor sizes. Students will calculate efficiencies, flow, pressure, horsepower, speed, torque and displacement for basic fluid power systems.

**MECH 1115** **2**  
**Computer Aided Design**

Introduces the skills needed to design, draw, edit, and publish various industrial schematics using CAD software. Students will demonstrate the ability to edit and design mechanical, electrical, and structural schematics. Course time will include instruction on drawing setup and commands along with hands-on lab time working with and creating drawings.

**MECH 1120** **3**  
**Pneumatic Theory**

Introduces the students to gas laws and principles, and pneumatic component identification, functions and applications.

**MECH 1125** **2**  
**Electrical Controls I**

Introduces basic electrical concepts. Students will be introduced to electrical theory, electrical safety hazards and requirements, and electrical circuit wiring and measurement. Students will learn to identify electrical control components used in an industrial environment and apply the concepts necessary for designing, wiring, troubleshooting, and operation of electrical control circuits.

**MECH 1131** **1**  
**Pneumatic Lab**

Provides students with skills in plumbing, troubleshooting, and operation of basic pneumatic circuits. Concurrent with MECH 1120.

**MECH 1135** **3**  
**Electrical Controls II**

Analyze electrical control circuits used in industrial environments. This course includes the control of electromechanical devices, AC and DC motors, and solid state control devices. Electrical schematics used to interpret logic and circuit function. Students will design, wire, and troubleshoot electromechanical and motor starter circuits using common industrial devices and components.

**MECH 2100** **3**  
**Advanced Systems Calculations**

Provides students with knowledge and skills of sizing systems in both mobile and industrial applications. Prerequisites: Successful completion of year one in the Mechatronics diploma or A.A.S. degree program or equivalent work experience.

**MECH 2105** **4**  
**Advanced Fluid Power System I**

Provides students the opportunity to design, plumb, and operate various advanced hydraulic, pneumatic, and electrical control circuits. Prerequisites: Successful completion of year one in the Mechatronics diploma or A.A.S. degree program or equivalent work experience.

**MECH 2110** **3**  
**Circuit Design and Control Theory**

Provides student instruction in design and function of hydrostatic drives, mobile valves, pump controls, and power steering. Prerequisite: MECH 1110.

**MECH 2120** **5**  
**Automated Systems**

Provides students with an understanding of and the ability to use programmable logic controllers, human machine interfaces, drives, controllers, and other hardware to control and power all phases of industrial automation. Prerequisite: MECH 2136.

**MECH 2125** **3**  
**Motion Control**

Examines components in a motor and motion control systems, including servo systems, motors, feedback devices, controllers, and the software used to control precise motion in industrial automation. Prerequisite: MECH 2136

**MECH 2126** **4**  
**System Analysis**

Provides students with the knowledge of how components interact with each other in systems and what may cause them to malfunction. Prerequisite: Successful completion of year one in the Mechatronics diploma or A.A.S. degree program or equivalent work experience.

**MECH 2130** **4**  
**Advanced Fluid Power System II**

Provides students advanced theory and lab jobs in the following job related areas: sales, air logic, engineering, lab technician, servo/proportional valves, fabrication, and service. Prerequisite: Successful completion of year one in the Mechatronics diploma or A.A.S. degree program or equivalent work experience.

**MECH 2136** 3  
**Programmable Logic Controllers**  
 Demonstrates use of plc and circuits to control and power all phases of industrial automation. Prerequisite: MECH 1135.

**MECH 2141** 2  
**Proportional & Servo Control Theory**  
 Provides students with knowledge and working skills dealing with electronic control of electro-hydraulic proportional and servo controls. Prerequisite: Successful completion of year one in the Mechatronics diploma or A.A.S. degree program or equivalent work experience.

**MEDICAL ASSISTANT (MEDA)**

**MEDA 1105** 3  
**Clinical Procedures I**  
 Teaches the fundamentals of the clinical aspect of medical assisting, and includes learning to perform specific skills. Areas taught include communication and professionalism, basic principles of psychology, medical asepsis, the medical assistant's role in assisting with the medical exam, eye and ear procedures, physical agents that promote tissue healing, care of instruments and documentation. Prerequisite: It is recommended that BIOL 2245 or HC 1180 and HC 1151 be taken before or concurrently with this course.

**MEDA 1135** 3  
**Laboratory Skills**  
 Focuses on the role of the medical assistant in the laboratory setting. CLIA-waived testing is studied and performed in the laboratory areas of urinalysis, immunology, hematology, chemistry, and microbiology. Specimen collection, quality control and documentation of test results are included. Additional topics explored include electrocardiology, respiratory testing and emergency preparedness. Also reinforces the fundamental laboratory skills of infection control, safety and phlebotomy taught in MDLT 1100. Prerequisite: MDLT 1100.

**MEDA 2110** 4  
**Clinical Procedures II**  
 Reinforces the fundamental aspects of clinical medical assisting taught in Clinical Procedures I and expands into surgical asepsis, minor office surgery and wound care. The specialty areas of OB/GYN, pediatrics, colon procedures and male reproductive health are explored. Dosage calculations and medication administration techniques are also taught. Included is the performance of specific skills related to each area of study. Prerequisite: MEDA 1105.

**MEDA 2135** 3  
**Pharmacology**  
 Introduces pharmacological concepts and drug classifications as they apply to the diseases and disorders they are used to prevent and/or treat. Explores the effects of drugs on the different body systems. Prerequisite: HC 1151 or BIOL 2201 and BIOL 2202.

**MEDA 2139** 1  
**Professional Integration**  
 Reinforces key curriculum components for the medical assistant student entering practicum. Provides orientation to the practicum experience and preparation for the medical assistant certification exam.

**MEDA 2140** 6  
**Medical Assistant Practicum**  
 Provides on-the-job experience for the medical assistant student. The student will be assigned to work in a medical office under the supervision of clinic personnel. There they will observe and perform the skills learned in the medical assistant program.

**MEDA 2235** 1-3  
**Special Topics: Medical Assisting**  
 Introduces students to specialized topics in the Medical Assisting field. Topics cover a wide range of issues of current interest and will be chosen to meet the needs of students. The course may be retaken for credit if the topic changes.

**MASSAGE THERAPY (MSTH)**

**MSTH 1100** 3  
**Introduction to Massage**  
 Teaches the importance of self-awareness and self-care. Body mechanics are emphasized. Yoga, Tai Chi, somatic stretches and relaxation techniques are taught. Discussions of stress causing events are discussed. Self-knowledge and self-awareness both physically and mentally are taught. The aim is to facilitate the development of student maturity and self-understanding. Professional behavior and standards, ethical and legal practice as it applies are discussed. Introduction to massage therapy, licensure, national certification, professional organizations, malpractice insurance, and the hospice concept are also taught. Client positioning, with the use of the bolsters, pillows, and special tilt, cut-out and firm massage tables, use of hot packs and cold packs or ice (cryotherapy) is covered. The ability to make professional judgments about the application of the appropriate modality for each client situation is taught and practiced.

**MSTH 1105** 2  
**Kinesiology**  
 Covers the basic structure and function of the joint, muscles, nerves, and other connective tissues that cause movement and control posture in the human body as they apply to massage therapy. General physics principles including levers, planes, and axis are covered. The interaction of the muscle/bone connections and the forces needed to produce movement are taught.

**MSTH 1110** 6  
**Basic Massage I**  
 Covers massage techniques which are applied sequentially to the back, neck, and head, posterior legs, anterior torso, face, and anterior legs. Pathology of each area is discussed including function, positioning, appropriate strokes, ethical situations, and the appropriate draping. Concurrently the students are led to the application of professionalism, legal issues, and documentation. The relationship of the mind's control of muscles and the resulting posture are taught. Instruction in somatic releases for each body section is practiced. The importance of client education is stressed with the responsibility of the client to participate in their well-being. Postural analysis is taught. Students learn definitions, identification and therapeutic interventions of the three major muscular reflexes at stress in humans. Distinguishing chronic muscular pain and postural distortions as caused by structural imbalance vs. functional imbalances is explored.

**MSTH 1115** 6  
**Massage Therapy**  
 Covers the theory, techniques and applications of deep tissue therapy including deep work on the muscles and fascia, methods of tension release, and the injury repair process. Causes of stress are discussed and their relationship to chronic tension as related to neuromuscular therapy (NMT), and stress-tension-pain cycle is taught. Expanded and more detailed interview and assessment techniques are reviewed. The dysfunction theory and formation of trigger points with review of muscle cell activity, joint mobilization and stretching are taught. Students learn in-depth interview skills, working with pressure scales and the importance of client/therapist communication. Development of treatment plans is taught, and how and when to make a referral. This course also covers Swedish Massage, Chair Massage, Mother Massage, Infant Massage, Geriatric (Senior) Massage, and Lymphatic Drainage Massage. The evaluation of special populations is taught. Special massage skills involving positioning, strokes, pathology, documentation, and contraindications and cautions are included.

**MSTH 1120** 3  
**Client Massage**  
 Covers the application of Swedish Massage, Chair Massage, Mother Massage, Infant Massage, Geriatric (Senior) Massage, and Lymphatic Drainage Massage. Special massage skills involving positioning, strokes, pathology, documentation, and contraindications and cautions are included.

**MSTH 1125** 3  
**Massage Therapy Business Practices**  
 Covers the principles of a massage therapy business. The small business successes and record keeping are taught. The differences between contract work, being an employee, and ownership are compared.

**MSTH 1130** 1  
**Spa Techniques**  
 Enables students to effectively incorporate spa services into their business by using a step by step hands-on approach to learning and studying ways to improve their business through marketing. This course is designed for college students as well as persons who are already practicing in the field of massage.

**MUSIC (MUSC)**

**MUSC 1101** 3  
**Fundamentals of Music** Meets Goal Area: 06  
 Covers basic music symbols, vocabulary, rhythm, scale structures, intervals, chords and basic piano skills. This is a required course for all elementary education majors. It is also open to any student who desires a basic introduction to music.

**MUSC 1102** 3  
**Introduction to Music Technology** Meets Goal Areas: 06, 08  
 Introduction to Music Technology explores various music technology applications through hands-on study and creative projects relevant to music and music technology. This course is an introduction to the origins, terminology, and fundamental concepts of music technology. Prerequisite: Basic computer skills.

**MUSC 1104** 3  
**American Popular Music** Meets Goal Area: 06  
 Studies the history of American music including: Native American, African/American, vaudeville, Tin Pan Alley, ragtime, Dixieland, big band, musicals, country-western, folk music, popular song, jazz, rock, and the American Musical Theater.

**MUSC 1105** 3  
**Enjoying Music** Meets Goal Area: 06  
 Enjoying music stresses the art of listening and enjoying music from major musical periods such as the Baroque and Classical as well as jazz. Open to all students who wish to increase their knowledge and enjoyment of music.

**MUSC 1108** 1  
**Concert Band**  
 Prepares students for performance of concert band and wind ensemble literature. Open to all students who play band instruments. Performances are given both on and off campus. One major performance each semester. Prerequisite: Audition.

**MUSC 1110** 3  
**Introduction to Rock Music** Meets Goal Area: 06  
 Explores the history of rock and roll music, its relevant performers, producers, recordings, and cultural identity. This course is an appreciation of the origins, characteristics, and stylistic development of rock and roll music from the early 1950s to the present. Prerequisite: STSK 0095 or placement by multiple measures.

**MUSC 1111** 1  
**Chorale** Meets Goal Area: 06  
 Consists of a mixed chorus practicing and performing a wide range of choral literature from Renaissance motets, small works for chorus and orchestra, to avant garde compositions and pop music. Emphasis is on good vocal production. There is one major performance each semester and some touring. In case of low enrollment, this class may be divided into small ensembles such as octets, sextets, or quartets. Prerequisite: Audition.

**MUSC 1112** 1  
**Chorale** Meets Goal Area: 06  
 Consists of a mixed chorus practicing and performing a wide range of choral literature from Renaissance motets, small works for chorus and orchestra, to avant garde compositions and pop music. Emphasis is on good vocal production. There is one major performance each semester and some touring. In case of low enrollment, this class may be divided into small ensembles such as octets, sextets, or quartets. Prerequisite: Audition.

**MUSC 1131** 1  
**Pop Singers** Meets Goal Area: 06  
 Consists of a mixed vocal ensemble, with accompaniment, performing a wide variety of popular music. At least one major performance and some touring takes place each semester. In case of low enrollment, this class may be divided into small ensembles such as octets, sextets, or quartets. Prerequisite: Audition.

**MUSC 1132** 1  
**Pop Singers** Meets Goal Area: 06  
 Consists of a mixed vocal ensemble with accompaniment performing a wide variety of popular music. At least one major performance and some touring takes place each semester. In case of low enrollment, this class may be divided into small ensembles such as octets, sextets, or quartets. Prerequisite: Audition.

**MUSC 1140** 1  
**Piano Lessons** Meets Goal Area: 06  
 Provides regularly scheduled individualized instruction. Open to interested students at all levels of ability.

**MUSC 1141** 1  
**Piano Lessons** Meets Goal Area: 06  
 Provides regularly scheduled individualized instruction. Open to interested students at all levels of ability.

**MUSC 1145** 1  
**Vocal Lessons** Meets Goal Area: 06  
 Develops singing technique through a regularly scheduled program of individualized instruction.

**MUSC 1146** 1  
**Vocal Lessons** Meets Goal Area: 06  
 Develops singing technique through a regularly scheduled program of individualized instruction.

**MUSC 2108** 1  
**Concert Band**  
 Prepares students for performance of concert band and wind ensemble literature. Open to all students who play band instruments. Performances are given both on and off campus. One major performance each semester. Prerequisite: Audition.

**MUSC 2111** 1  
**Chorale** Meets Goal Area: 06  
 Consists of a mixed chorus practicing and performing a wide range of choral literature from Renaissance motets, small works for chorus and orchestra, to avant garde compositions and pop music. Emphasis is on good vocal production. There is one major performance each semester and some touring. In case of low enrollment, this class may be divided into small ensembles such as octets, sextets, or quartets. Prerequisite: Audition.

**MUSC 2112** 1  
**Chorale** Meets Goal Area: 06  
 Consists of a mixed chorus practicing and performing a wide range of choral literature from Renaissance motets, small works for chorus and orchestra, to avant garde compositions and pop music. Emphasis is on good vocal production. There is one major performance each semester and some touring. In case of low enrollment, this class may be divided into small ensembles such as octets, sextets, or quartets. Prerequisite: Audition.

**MUSC 2131** 1  
**Pop Singers** Meets Goal Area: 06  
 Consists of a mixed vocal ensemble, with accompaniment, performing a wide variety of popular music. At least one major performance and some touring takes place each semester. In case of low enrollment, this class may be divided into small ensembles such as octets, sextets, or quartets. Prerequisite: Audition.

**MUSC 2132** 1  
**Pop Singers** Meets Goal Area: 06  
 Consists of a mixed vocal ensemble, with accompaniment, performing a wide variety of popular music. At least one major performance and

some touring takes place each semester. In case of low enrollment, this class may be divided into small ensembles such as octets, sextets, or quartets. Prerequisite: Audition.

**MUSC 2140** **1**  
**Piano Lessons** Meets Goal Area: 06  
 Provides regularly scheduled individualized instruction. Open to interested students at all levels of ability.

**MUSC 2141** **1**  
**Piano Lessons** Meets Goal Area: 06  
 Provides regularly scheduled individualized instruction. Open to interested students at all levels of ability.

**MUSC 2145** **1**  
**Vocal Lessons** Meets Goal Area: 06  
 Develops singing technique through a regularly scheduled program of individualized instruction.

**MUSC 2146** **1**  
**Vocal Lessons** Meets Goal Area: 06  
 Develops singing technique through a regularly scheduled program of individualized instruction.

**MUSC 2235** **1-3**  
**Special Topics in Music**  
 Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies.

## NATURAL SCIENCE (CRPT)

**NSCI 1100** **3**  
**Issues in the Environment** Meets Goal Areas: 08, 10  
 Takes a broad look at environmental issues and explores in depth certain global, national, and local environmental problems. In addition to lecture, guest speakers, field trips, and videos may be used. Prerequisite: STSK 0090 or placement by multiple measures.

**NSCI 2235** **1-3**  
**Special Topics**  
 Explores various topics relating to the natural and man made world. It is designed to meet student needs or interests relating to their chosen field of study. The course may be retaken when the topic is different.

## NURSING (NURS)

**NURS 1100** **3**  
**Principles and Practices of Nursing**  
 Introduces principles and practices utilized by the beginning nursing student to assist and empower individuals and families across the lifespan with basic needs. Concepts include critical thinking, cultural concepts, confidentiality, professional boundaries, ethical and legal principles, nutrition, communication, nursing process and documentation, fluid and electrolytes, rest and sleep, psychological balance, pain and comfort, elimination, and care on the geriatric client.

**NURS 1120** **3**  
**Nursing of the Adult I**  
 Introduces the students to alterations in functioning, including basic disease processes throughout the adult lifespan including disruptions in the following: cardiovascular, respiratory, skin and sensory systems. Topics of infectious processes, diabetes mellitus, and drug therapy will be addressed. Gerontological and cultural consideration will be included. Critical thinking through the use of the nursing process, health promotion, and standards of care are used to guide the students.

**NURS 1130** **3**  
**Pharmacology I**  
 Introduces pharmacological concepts, drug classifications, and affects of drugs on the client. It prepares the student for dosage calculations and the administration of medications.

**NURS 1140** **2**  
**Nursing Skills Lab**  
 Focuses on achieving safe and competent practice in nursing skills such as catheterization, dressing changes, NG tube insertions, and medication administration skills.

**NURS 1180** **2**  
**Clinical Applications I**  
 Focuses on student demonstration of knowledge and skills learned in the classroom and lab by providing nursing care for selected clients in a long-term care facility. The student demonstrates beginning critical thinking skills in planning and caring for clients and working within an interdisciplinary team implementing standards of care.

**NURS 1220** **3**  
**Nursing of the Adult II**  
 Introduces the students to alterations in functioning, including basic disease processes throughout the adult lifespan including disruptions in the following: renal, reproductive, gastrointestinal, endocrine, neurovascular and musculoskeletal systems. Topics of cancer and surgical client care and mental health will be addressed. Nursing and collaborative interventions and critical thinking skills are reinforced. Pharmacological concepts, gerontological and cultural considerations will be included. Critical thinking through the use of the nursing process, health promotion, and standards of care are used to guide the students.

**NURS 1230** **2**  
**Pharmacology II**  
 Builds on prior knowledge of dosage calculations with emphasis in pediatric medication dosage calculations and intravenous solutions. It builds on the pharmacological concepts, drug classifications, and the effects of drugs on clients experiencing disruptions of endocrine, gastrointestinal, urinary, reproductive, musculoskeletal, and neurological body systems. Medications used to treat cancer, the surgical client, and mental health disorders will also be discussed. Prerequisite: NURS 1130.

**NURS 1250** **3**  
**Family Nursing**  
 Introduces the learner to the childbearing/childrearing family. Concepts included are psychosocial, normal physical, and abnormal conditions of pregnancy, the health and illness of the newborn through the adolescent, and the influence of the community on the family. Application of growth and development theory to direct patient care is emphasized. Prerequisite: NURS 1100 and completion of or concurrent enrollment in PSYC 1150.

**NURS 1280** **6**  
**Clinical Application II**  
 Focuses on student demonstration of knowledge and skills learned in the classroom and lab by providing nursing care to individuals and families across the lifespan. The student demonstrates critical thinking skills in planning and caring for selected clients in a variety of settings and working within an interdisciplinary team.

**NURS 1295** **2**  
**PN Integration**  
 Introduces the first year student to Nurse Practice act, legal and ethical issues and leadership skills in preparation for state licensure. Clinical facilitates the transition role from student to practitioner.

**NURS 2000** **1**  
**Transition to Professional Nursing Education**  
 Facilitates the learner's transition to college and the AS Nursing Program. Emphasis includes the RN scope of practice, introduction to the AS nursing framework at Minnesota West, and strategies for student success in a learner-centered environment. Topics and nursing concepts essential for success in the AS nursing program will be reviewed.

**NURS 2125** **4**  
**Patient Centered Care I**  
 Focuses on nursing process and clinical judgment in the care of patients and their families. Emphasis is placed on professional knowledge, skills, and attitudes integral to the nursing competencies of

patient-centered care, safety, and evidence-based practice. Concepts of therapeutic communication, health promotion, pharmacology, and nutrition are integrated throughout content. Nursing content areas include: mental health, pain, surgery, fluids and electrolytes, acid base balance, cancer, as well as vascular, hematologic, cardiac, respiratory, and musculoskeletal disorders.

**NURS 2130** **2**  
**Pharmacology: A Pathophysiologic Approach**

Provides an opportunity to synthesize pharmacologic, basic pathophysiologic, and nursing concepts to minimize risk of harm for patients. Promotes use of current information to prevent error and support decision making.

**NURS 2145** **2**  
**Principles of Professional Nursing I**

Facilitates transition of the Licensed Practical Nurse into the professional nursing role. Concepts of patient-centered care including holistic assessments, diversity of care, individualized teaching plans, therapeutic communication, safety in care delivery and professional boundaries are emphasized. Evidence-based practice as a foundation for sound clinical reasoning is incorporated.

**NURS 2150** **2**  
**Skills Lab**

Assists the student in developing safe, evidence based nursing skills. Delegated medical functions as well as physical and psychosocial assessment of adults and children are practiced. Safety in medication dosage and medication administration is practiced. Simulation will be used to integrate skills in preparation for the acute care clinical environment.

**NURS 2190** **2**  
**Acute Care Clinical I**

Provides an opportunity to demonstrate safe and effective application of the nursing process with emphasis on patient centered care, and the demonstration of therapeutic and professional communication. Affords an opportunity to demonstrate clinical reasoning and to synthesize newly acquired cognitive and technical skills with prior knowledge, skills, and attitudes. Prerequisite: NURS 2145.

**NURS 2225** **3**  
**Patient Centered Care II**

Focuses on nursing process and clinical judgment in the care of patients and their families with increasing levels of synthesis and application. Emphasis is placed on professional knowledge, skills, and attitudes integral to the nursing competencies of patient-centered care, safety, and evidence-based practice. Concepts of therapeutic communication, health promotion, pharmacology, and nutrition are integrated throughout content. Nursing content areas include: caring for patient with endocrine, neurological, immune, integument, gastrointestinal, and elimination disorders. Care for those with infections, critical illness, and the dying patient is explored. Prerequisites: NURS 2125, NURS 2130, NURS 2145, NURS 2150, and NURS 2190.

**NURS 2235** **1-3**  
**Special Topics in Nursing**

Topics will be chosen to meet the needs of students. The class may be retaken for credits if the topic varies.

**NURS 2245** **2**  
**Health Promotion and Role of the Professional Nurse**

Emphasizes beginning management theory and transition into the graduate nurse role. The learner integrates knowledge, skills and attributes needed to care for groups of clients, nursing team management, effective team communication, effectively resolve conflict, interprofessional collaboration, prioritization of nursing activities, delegation, supervision, and teaching nursing personnel. Preparation for end-of-program requirements and NCLEX-RN exam. Prerequisites: NURS 2125, NURS 2130, NURS 2145, NURS 2150, and NURS 2190.

**NURS 2260** **3**  
**Family-Centered Care**

Integrates understanding of key dimensions of patient and family centered care for children experiencing illness, obstetrical and newborn complications, older adults, care of emergent situations (including

community emergency preparedness), and individuals receiving care in a community setting. Prioritization and delivery of safe, quality care incorporating patient and family preferences, values, and beliefs. Current "best practice" will be examined to validate incorporation of evidence-based empirical research in care for individuals and families. Prerequisites: NURS 2225 and NURS 2245.

**NURS 2275** **1-2**  
**Nursing Preceptorship**

Provides an opportunity for skill refinement and increased confidence in managing patient care for Associate in Science Nursing program students prior to graduation, NCLEX-RN licensing exam, and entry into practice. Student applies the nursing process in a realistic work setting through a preceptor experience. Concepts of clinical-decision making, prioritization, delegation, supervision, accountability, leadership, and professionalism are integrated into the preceptorship experience. Prerequisites: NURS 2190, NURS 2290, and NURS 2390.

**NURS 2290** **2**  
**Acute Care Clinical II**

Builds on the knowledge, skills, and attitudes from NURS 2190. Refinement of assessment, communication, and technical skills is practiced in an acute care setting. The student creates and evaluates patient centered plans of care while utilizing Evidence Based Practice. Prerequisites: NURS 2125, NURS 2130, NURS 2145, NURS 2150, and NURS 2190.

**NURS 2390** **2**  
**Clinical in Alternate Settings**

Application of knowledge, skills, and attitudes from prior nursing courses to patients, families in alternate care settings such as nursing homes, assisted care facilities, and the community. Structured simulation scenarios to promote clinical reasoning and decision making. Prerequisites: NURS 2125, NURS 2130, NURS 2145, NURS 2150, and NURS 2190.

**PHYSICAL EDUCATION (PHED)**

**PHED 1101** **3**  
**Foundations of Health, Physical Education & Recreation**

Provides an introduction to the history, philosophy, objectives, and principles of health, physical education and recreation. Topics included will be career opportunities and preparation; professionalism including attitudes; ethics, and organizations. This is a course designed for persons who plan to major or minor in health, physical education or recreation.

**PHED 1106** **2**  
**Psychology of Winning**

Studies the basic principles of psychology related to success and motivation. Emphasizing positive-winning attitudes, success traits, goal-setting and basic psychology principles. This course is designed to help students recognize the strong relationship that exists between attitudes and success in school, work, sports and life.

**PHED 1110** **3**  
**Prevention and Care of Athletic Injuries I**

Covers the modern principles of athletic training for people involved in the health care of athletes. This course is designed to help individuals involved in coaching, physical education, or recreation, as well as persons interested in athletic training or sports medicine.

**PHED 1114** **2**  
**Physical Agility & Self Defense**

Provides experiential learning in techniques for self-defense as well as general fitness learning. Techniques in handcuffing, searching, joint manipulation pressure points and counters. Only students formally accepted into the AS Law Enforcement Program may register.

**PHED 1120** **1**  
**Beginning Archery**

Offers fundamental instruction in target archery. Safety, choice and care of equipment will also be taught.

<b>PHED 1125</b> <b>Aerobics</b> Teaches a moderately strenuous blend of flexibility, stretch and dance using the large muscle groups. Its aims are improving cardiovascular fitness, promoting a multitude of positive and natural changes in the body, enhancing general health and well being, toning up muscles and having fun.	1	<b>PHED 1172</b> <b>Intercollegiate Men's Basketball</b> Provides credit for first year participants. The course consists of a twenty-game schedule against other community colleges in Minnesota.	1
<b>PHED 1126</b> <b>Beginning Yoga</b> Teaches methods and techniques of hatha yoga with an emphasis on the vinyasa style. Promotes the fitness and health benefits of mind-body awareness.	1	<b>PHED 1173</b> <b>Intercollegiate Women's Basketball</b> Includes participation in intercollegiate competition in women's basketball at the community college level representing Minnesota West Community and Technical College, Worthington Campus in the Minnesota Community College Athletic Conference.	1
<b>PHED 1130</b> <b>Physical Fitness for Life</b> Emphasizes aspects of physical fitness for the student wishing to learn methods and tests of physical fitness. Cardiovascular and respiratory fitness, as well as muscular strength and endurance will be emphasized. The course is self-paced.	1	<b>PHED 1174</b> <b>Intercollegiate Wrestling</b> Provides credit to first year students who report for the wrestling squad and who complete the requirements of the course. This includes participation in Minnesota Community College Athletic Conference competition.	1
<b>PHED 1135</b> <b>Beginning Tennis</b> Introduces the fundamentals of tennis as a leisure time activity. Emphasis is on acquiring technique, knowledge and fitness.	1	<b>PHED 1175</b> <b>Intercollegiate Women's Softball</b> Includes participation in intercollegiate competition in women's softball at the community college level representing Minnesota West Community and Technical College, Worthington Campus in the Minnesota Community College Athletic Conference.	1
<b>PHED 1136</b> <b>Racquet Sports</b> Introduces the fundamentals of different racquet sports and leisure time activities. This course is designed to develop skills, technique, sportsmanship, and knowledge of rules in racquetball, badminton, and other indoor racquet sports.	1	<b>PHED 1176</b> <b>Intercollegiate Baseball</b> Includes participation in intercollegiate competition in men's baseball at the community college level representing Minnesota West Community and Technical College, Worthington Campus in the Minnesota Community College Athletic Conference.	1
<b>PHED 1140</b> <b>Body Conditioning</b> Emphasizes body conditioning through weight training and physical training.	2	<b>PHED 1177</b> <b>Intercollegiate Women's Golf</b> Provides credit to first year students who report for the golf squad and who complete the requirements of the course. Completion includes participation in the Minnesota Community College Athletic Conference.	1
<b>PHED 1145</b> <b>Bowling</b> Provides students with knowledge and practice in the sport of bowling. Students learn bowling rules, skills, techniques, and appreciation.	1	<b>PHED 1178</b> <b>Intercollegiate Men's Golf</b> Provides credit to first year students who report for the golf squad and who complete the requirements of the course. Completion includes participation in the Minnesota Community College Athletic Conference.	1
<b>PHED 1155</b> <b>Cross-Country Skiing</b> Introduces the student to the fundamentals of the sport. Flat-track techniques, downhill and hill climbing techniques are covered. Equipment provided.	1	<b>PHED 1179</b> <b>Intercollegiate Women's Soccer</b> Includes participation in intercollegiate competition in women's soccer at the community college level representing Minnesota West Community and Technical College in the Minnesota Community College Athletic Conference.	1
<b>PHED 1160</b> <b>Beginning Golf</b> Focuses on helping beginning golfers understand the fundamentals of golf as a recreational activity.	1	<b>PHED 1180</b> <b>Principles of Coaching</b> Introduces students to the basic principles, philosophies, and theories associated with effective coaching. This course emphasizes sport pedagogy, enhanced communication and motivational skills, and coaching philosophies to become more effective teachers/coaches. Principles of Coaching will provide knowledge that should improve team relationships, risks, and self-management skills.	3
<b>PHED 1165</b> <b>Fitness for Acceleration</b> Provides a high intensity aerobic program focusing on sport specific movements. It aims to teach proper mechanics to prevent injury in physical activities as well as developing or enhancing ones quickness, plyometrics and coordination. The program also benefits cardiovascular, muscle toning and fitness goals.	1	<b>PHED 1189</b> <b>Intercollegiate Men's Soccer</b> Includes participation in intercollegiate competition in men soccer, that they acquired knowledge at the freshmen intercollegiate level, and represented Minnesota West Community and Technical College in the Minnesota College Athletic Conference and National Junior College Athletic Association.	1
<b>PHED 1170</b> <b>Intercollegiate Football</b> Consists of intercollegiate competition in football at the community college level. Football skills, sportsmanship, competitiveness, and sound athletic principles are taught.	1	<b>PHED 2020</b> <b>Introduction to Event and Facilities Management</b> Introduces students to the study of the principles, guidelines, and recommendations for planning, constructing, using, and maintaining indoor and outdoor sport industry facilities. The introduction to grant writing for the purpose of learning funding mechanisms, when	4
<b>PHED 1171</b> <b>Intercollegiate Volleyball</b> Provides credit to first year students who report for the volleyball squad and who complete the requirements of the course. This includes participation in Minnesota Community College Athletic Conference competition.	1		

designing, maintaining, and growing of sports facilities and programs.  
Prerequisites: PHED 1101 and NSCI 1100.

<b>PHED 2090</b>	<b>3</b>
<b>Sport in Society</b>	
Introduces students to an in-depth study of the major issues in the world of sports and how they relate to society. All primary issues impacting contemporary sports are covered, including performance-enhancing drugs; human growth hormones; gender inequity; race and ethnicity; youth, adolescent, and adult programs; media involvement; economics; management structures; and globalization.	
<b>PHED 2101</b>	<b>2</b>
<b>History of Physical Education and Sports</b>	
Reviews the reciprocal relationship between sport and America's dominant social and cultural themes from the colonial period to the present. Explores the foundations on which modern American sports were laid and the social forces which led to the organization and institutionalization of amateur, intercollegiate, and professional sports. Includes an examination of the ways in which ethnic heritage, race, socio-economic class, and gender intersect with the social institution of American sport.	
<b>PHED 2110</b>	<b>2</b>
<b>Prevention and Care of Athletic Injuries II</b>	
Continues PHED 1110. Emphasizes the anatomy, kinesiology, and care of knee, thigh, and lower leg injuries. Shoulder, elbow, arm, and hand injuries are also studied. Prerequisite: PHED 1110.	
<b>PHED 2111</b>	<b>3</b>
<b>Sports Management</b>	
Examines the history, philosophies and theories of management in recreation and sports. Students will learn the management policies and procedures used in recreational, fitness and sports settings. Prerequisite: ENGL 1101.	
<b>PHED 2135</b>	<b>1</b>
<b>Intermediate Tennis</b>	
Continues PHED 1135. Stresses the fundamentals of tennis as a leisure time activity as well as the competitive aspects of the sport. Emphasis is on acquiring technique, knowledge, fitness, and the strategy of the game.	
<b>PHED 2140</b>	<b>2</b>
<b>Theory and Technique of Body Conditioning</b>	
Teaches methods and techniques of physical conditioning. Includes the use of theory in designing different fitness programs. Prerequisite: PHED 1140 or PHED 1130 or consent of instructor.	
<b>PHED 2170</b>	<b>1</b>
<b>Intercollegiate Football</b>	
Consists of intercollegiate competition in football at the community college level. Football skills, sportsmanship, competitiveness, and sound athletic principles are taught.	
<b>PHED 2171</b>	<b>1</b>
<b>Intercollegiate Volleyball</b>	
Provides credit to second year students who report for the volleyball squad and who complete the requirements of the course. This includes participation in Minnesota Community College Athletic Conference competition.	
<b>PHED 2172</b>	<b>1</b>
<b>Intercollegiate Men's Basketball</b>	
Provides credit for second year participants. The course consists of a twenty-game schedule against other community colleges in Minnesota.	
<b>PHED 2173</b>	<b>1</b>
<b>Intercollegiate Women's Basketball</b>	
Includes participation in intercollegiate competition in women's basketball at the community college level representing Minnesota West Community and Technical College, Worthington Campus in the Minnesota Community College Athletic Conference.	

<b>PHED 2174</b>	<b>1</b>
<b>Intercollegiate Wrestling</b>	
Provides credit to second year students who report for the wrestling squad and who complete the requirements of the course. This includes participation in Minnesota Community College Athletic Conference competition.	
<b>PHED 2175</b>	<b>1</b>
<b>Intercollegiate Women's Softball</b>	
Includes participation in intercollegiate competition in women's softball at the community college level representing Minnesota West Community and Technical College, Worthington Campus in the Minnesota Community College Athletic Conference.	
<b>PHED 2176</b>	<b>1</b>
<b>Intercollegiate Baseball</b>	
Includes participation in intercollegiate competition in men's baseball at the community college level representing Minnesota West Community and Technical College, Worthington Campus in the Minnesota Community College Athletic Conference.	
<b>PHED 2177</b>	<b>1</b>
<b>Intercollegiate Women's Golf</b>	
Provides credit to second year students who report for the golf squad and who complete the requirements of the course. Completion includes participation in the Minnesota Community College Athletic Conference.	
<b>PHED 2178</b>	<b>1</b>
<b>Intercollegiate Men's Golf</b>	
Provides credit to second year students who report for the golf squad and who complete the requirements of the course. Completion includes participation in the Minnesota Community College Athletic Conference.	
<b>PHED 2179</b>	<b>1</b>
<b>Intercollegiate Women's Soccer</b>	
Includes participation in intercollegiate competition in women's soccer at the community college level representing Minnesota West Community and Technical College in the Minnesota Community College Athletic Conference. Prerequisite: PHED 1179.	
<b>PHED 2181</b>	<b>2</b>
<b>Wrestling Coaching and Officiating</b>	
Covers the guidelines of the State and National High School League rules including rules interpretation, match technique, and casebook studies. Course will also cover the coaching aspects of wrestling, match tactics, scouting, recruiting, team goals, methods of conducting practice, student academic concerns, and handling players at both high school and college settings.	
<b>PHED 2183</b>	<b>2</b>
<b>Basketball Coaching and Officiating</b>	
Reviews in detail high school basketball rules and the basic mechanics of officiating basketball. A comparison between high school rules and college basketball rules is made to better enable students to work at and understand both levels.	
<b>PHED 2184</b>	<b>1</b>
<b>Officiating Volleyball</b>	
Reviews high school volleyball rules and the basic mechanics of officiating volleyball. A comparison between high school rules and college volleyball rules is made to better enable students to work at and understand both levels.	
<b>PHED 2185</b>	<b>2</b>
<b>Volleyball Coaching and Officiating</b>	
Reviews in detail high school, club and college level volleyball rules and the basic mechanics of officiating volleyball. A comparison between high school, club and college rules is made to better enable students to understand various levels of coaching. Course also looks at proper training techniques to improve, and teach the game of volleyball. Students will learn all avenues of running a program so they can prepare to be a coach.	



**PHED 2187** **2**  
**Baseball/Softball Coaching and Officiating**  
 Covers the guidelines of the State and National High School League rules including rules interpretation, game technique, and casebook studies. Course will also cover the coaching aspects of baseball and softball, game tactics, scouting, recruiting, team goals, methods of conducting practice, student academic concerns, and handling players at both high school and college settings.

**PHED 2188** **2**  
**Football Coaching and Officiating**  
 Covers the guidelines of the State and National High School League rules, including rules interpretation, field mechanics, and casebook studies. Course will also cover the coaching aspects of football, game tactics, scouting, recruiting, teams, methods of conducting practice, student academic concerns, and handling players at both high school and college settings.

**PHED 2189** **1**  
**Intercollegiate Men's Soccer**  
 Includes participation in intercollegiate competition in men soccer, they acquire knowledge at the sophomore intercollegiate level, and represent Minnesota West Community and Technical College in the Minnesota College Athletic Conference and National Junior College Athletic Association. Prerequisite: PHED 1189.

**PHED 2215** **3**  
**Sport Marketing**  
 Introduces students to an in-depth study of sports marketing and its influence on the accomplishment of objectives in the world of sports. It involves a thorough review of the product, be it tangible or a service, and details bringing the product to market. Topics include advertising, promotions, public relations, location, pricing, sponsorships, licensing, market segmentation, and the role of research.

**PHED 2235** **1-3**  
**Special Topics**  
 Covers a wide range of issues and skill development. Particular topics will be chosen to meet the needs of Physical Education students. The class may be retaken for credit if the topic varies.

## PHILOSOPHY (PHIL)

**PHIL 1101** **3**  
**Introduction to Philosophy** Meets Goal Area: 06  
 Introduction to Philosophy introduces students to five areas of philosophical inquiry and the questions basic to each: ethics (What is the nature of the good?), epistemology (What is the nature of knowledge and truth?), metaphysics (What is the nature of reality?), the philosophy of religion (What are the proofs for God's existence?), and social/political philosophy (What is the nature of a good state?). Using primary texts and class discussion, students will explore the answers philosophers such as Plato, Mill, Kant, Hume, Locke, and Nietzsche have offered. Prerequisite: STSK 0095 or placement by multiple measures.

**PHIL 1102** **2**  
**Philosophy of Religion** Meets Goal Area: 06  
 Covers topics relative to religion and God, including arguments for the existence of God, religious experience, faith and reason, the problem of evil, and immortality. Prerequisite: STSK 0095 or placement by multiple measures.

**PHIL 1200** **3**  
**Logic** Meets Goal Area: 04  
 Logic introduces students to formal and informal logic. Students will learn to identify and outline arguments in classic and contemporary texts, to determine whether an argument is deductive or inductive, and to determine an argument's validity and soundness. Students will learn to diagram categorical syllogisms and to translate propositional statements. Students will also learn to identify and classify logical fallacies. Prerequisite: ENGL 1101. This course counts as a Mathematical/Logical Reasoning course, Area 4.

**PHIL 2101** **3**  
**Ethics Theory and Practice** Meets Goal Areas: 06, 09  
 Introduces classical and contemporary ethical theories and how to apply them in analyzing contemporary ethical issues. Prerequisite: STSK 0095 or placement by multiple measures.

**PHIL 2201** **1**  
**Introduction to Ethical Theory** Meets Goal Areas: 06, 09  
 Introduces students to classical and contemporary ethical theories. The main purpose is to critically examine the various approaches to moral conduct through the reading of primary sources and class discussion. This course is required prior to taking any other ethics course (2202, 2222, 2223). Prerequisite: STSK 0095 or placement by multiple measures.

**PHIL 2202** **1**  
**General Applied Ethics** Meets Goal Areas: 06, 09  
 Examine ethical issues in contemporary society critically. The focus will be on the application of ethical theories and principles to specific contemporary issues. Prerequisite: PHIL 2201.

**PHIL 2205** **2**  
**Business Ethics** Meets Goal Areas: 06, 09  
 Introduces students to ethical problems in businesses and companies or corporations through presentations by local business, community and corporate leaders on moral behavior and ethical dilemmas in areas such as: medicine, international trade, profit and non-profit organizations, and education.

**PHIL 2222** **1**  
**Medical Ethics** Meets Goal Areas: 06, 09  
 Introduces students to how the principles of ethics apply in health care practice. Students will examine two main ethical theories, utilitarian and deontological, as they apply to questions of health care practice. Students will study the ethical principles of autonomy, nonmaleficence, beneficence, and justice. The focus will be on the application of these theories and principles to specific cases. The course is designed for students intending to major in a health care field. Prerequisite: PHIL 2201.

**PHIL 2223** **1**  
**Ethics for Human Services Workers**  
 Introduces students to how the principles of ethics apply in the human services field. Students will examine two main ethical theories, utilitarian and deontological, as they apply to question of ethical practice in human services. Students will study the ethical principles of autonomy, beneficence, nonmaleficence and justice. The focus will be on the application of these theories and principles to specific issues and cases. The course is designed for students intending to major in human services. Prerequisite: PHIL 2201.

**PHIL 2230** **3**  
**World Religions** Meets Goal Areas: 06, 08  
 Explore various world religions through reading about the religions and reading texts from various faith traditions. Prerequisite: STSK 0095 or placement by multiple measures.

**PHIL 2235** **1-3**  
**Special Topics in Philosophy**  
 Explores specific issues and topics in philosophy. The class may be retaken if the topics vary. Prerequisite: STSK 0095 or placement by multiple measures.

## PHARMACY TECHNOLOGY (PHRM)

**PHRM 1100** **5**  
**Pharmacy Principles and Practices I**  
 Explore the principles of ethical thought as applied to the areas of pharmacy ethics which will include state and federal laws. Students will learn the organization and functions of retail and hospital pharmacy settings. This course will also introduce students to common uses of computers and their practical applications in a pharmacy setting. The roles and responsibilities of a pharmacy technician will be explored as well as Occupational Safety and Health Act (OSHA) and Health

Insurance Portability and Accountability ACT (HIPAA) requirements will be covered.

**PHRM 1105** 5  
**Pharmacy Principles and Practices II**

Demonstrate the preparation of retail and institutional pharmacy practices. Perform advanced procedures including Intravenous (IV) drug admixture, total parenteral nutrition (TPN) and critical care IV admixture. Students will learn and demonstrate understanding of various billing systems as well as the universal medical coding system which uses numerical codes to classify medical conditions and treatments. Apply personal safety and hygiene related to pharmacy practices will be covered. Students will demonstrate knowledge and skill in filling prescriptions in a lab setting and develop communication skills associated with pharmacy technicians. Prerequisite: PHRM 1100.

**PHRM 1110** 3  
**Pharmaceutical Calculations**

In this class students will demonstrate proficiency in specific calculation methods and principles related to pharmacy tasks. Students will utilize basic arithmetic principles in completing tasks associated with a pharmacy technician. Throughout this course basic math skills will be reviewed that are necessary for the required calculations that become more advanced as students' progress through the course. Students will also demonstrate understanding of various measurement systems and various dosage calculations. Prerequisite: PHRM 1100.

**PHRM 1115** 4  
**Pharmacology for Technicians I**

Introduces pharmacy technician students to the general principles of pharmacology. Drugs are discussed in the context of drug classes, mechanics of action, disease types, and body systems. The goal is to provide pharmacy technicians with sufficient background information so that they will be able to play a key role in avoiding dispensing errors. Although emphasis will be given to the approximately 200 most commonly prescribed drugs, many more drugs will be discussed during the semester.

**PHRM 1120** 3  
**Pharmacology for Technicians II**

Introduces pharmacy technician students to the general principles of pharmacology. Drugs are discussed in the context of drug classes, mechanics of action, disease types, and body systems. The goal is to provide pharmacy technicians with sufficient background information so that they will be able to play a key role in avoiding dispensing errors. Although emphasis will be given to the approximately 200 most commonly prescribed drugs, many more drugs will be discussed during the semester. Prerequisite: PHRM 1115.

**PHRM 1130** 3  
**Hospital Externship**

Perform skills in a hospital pharmacy setting under the direction of the pharmacist and pharmacy technicians. This course prepares the student for entering the Pharmacy Technician career field and provides information on career opportunities. Students will apply skills, knowledge, and abilities acquired in the classroom and laboratory settings in a practical work-based pharmacy training environment. Prerequisites: PHRM 1100, PHRM 1105, PHRM 1115, PHRM 1120.

**PHRM 1135** 3  
**Retail Externship**

Perform skills in a retail pharmacy setting under the direction of the pharmacist and pharmacy technicians. This course prepares the student for entering the Pharmacy Technician career field and provides information on career opportunities. Students will apply skills, knowledge, and abilities acquired in the classroom and laboratory settings in a practical work-based pharmacy training environment. Prerequisites: PHRM 1100, PHRM 1105, PHRM 1115, PHRM 1120.

**PHYSICS (PHYS)**

**PHYS 1100** 3  
**Survey of Physics** Meets Goal Area: 03

Includes a general survey of conceptual physics. Topics include a basic introduction to Newton's Laws of motion, gravity, physical

mechanics, properties of matter, heat, sound, electricity, magnetism, light and nuclear physics. This is mainly a lab activity course for students who have not had high school physics. Prerequisite: MATH 0099 or placement by multiple measures.

**PHYS 1150** 3  
**Survey of Astronomy** Meets Goal Area: 03

Covers a general overview of the science of astronomy. Topics include the history of astronomy, the nature of science, celestial motion, phases of the moon, gravity, Keplers Laws, light and spectroscopy, the Solar System, stars, galaxies, and cosmology. There will be lab activities to accompany many of the topics. Prerequisite: MATH 0099 or placement by multiple measures.

**PHYS 1201** 4  
**Fundamentals of Physics I** Meets Goal Area: 03

Develops a foundation for future studies in fields not requiring the calculus. Laboratory and lecture based instruction using both calculator and computer based instruction. Develops a foundation in physics for liberal arts, pre-medical, or pre-pharmacy students. Topics studied include one and two-dimensional motion, forces and acceleration, applications of Newton's Laws, momentum, gravitation, collisions, work and energy, rotational motion, and angular momentum, harmonic motion and sound. Prerequisite: MATH 0100 or placement by multiple measures.

**PHYS 1202** 4  
**Fundamentals of Physics II** Meets Goal Area: 03

Continues PHYS 1201. Topics include temperature and heat transfer, Laws of Thermodynamics and heat engines, electric fields, electricity of direct circuits, electronics, magnetism, electromagnetism, optics, modern physics, and radioactivity. Prerequisite: PHYS 1201 or permission of the instructor.

**PHYS 2121** 5  
**General Physics I** Meets Goal Area: 03

Teaches the fundamentals of physics using calculus and vectors. Uses laboratory centered instruction with calculator and computer based investigations. Topics include kinematics, Newton's Laws of motion, forces, collisions, momentum, work, and energy, energy conservation, rotational motion, angular momentum, torque, harmonic motion, oscillations, and fluids. Prerequisite: MATH 1121 (can be taken concurrently).

**PHYS 2122** 5  
**General Physics II** Meets Goal Area: 03

Continues Physics 2121. Calculus and vectors are used throughout. Uses laboratory-based instruction. Topics include heat and thermodynamics, heat engines, electric charges and forces, electric potential, electric fields, Gauss' Law, direct and alternating current circuits, capacitors and RC circuits, electronics, magnetism and magnetic fields, modern physics, and radioactivity. Prerequisite: PHYS 2121 and MATH 1121, with MATH 1122 being taken concurrently or before.

**PHYS 2235** 1-3  
**Special Topics**

Explores specific areas of physics to meet specialized student needs or interests. The class may be retaken if the topics vary.

**PLUMBING AND HEATING (PLHT)**

**PLHT 1100** 3  
**Introduction to Plumbing**

Introduces students to the tools and equipment of the plumbing trade, the necessity of safety in the workplace and methods described in the Minnesota Plumbing Code. Students will study plastic piping, which involves the joining of drainage, waste & vent, water supply and distribution lines. Students will become familiar with the different types of copper pipe, fittings and tubing. PEX water and heating distribution piping will be discussed and utilized. Students will also utilize and study water pumps.

**PLHT 1105** 4  
**Plumbing Installation and Fixtures**  
 Expands on PLHT 1100 to begin construction systems for residential and light commercial structures. Safe methods of handling and installing piping in accordance with Minnesota State Plumbing Code and general industry accepted standards will be emphasized. Both copper and plastic materials will be utilized in installations. Common fixtures, faucets, and valve selection and installation will be included in lab activities. Proper structural support will be included.

**PLHT 1110** 2  
**Code I**  
 Provide an understanding of many of the technical rules of the Minnesota Plumbing Code. Topics included are Minnesota licensing laws, plumbing industry definitions, basic plumbing principles and general regulations, requirements and calculations for plumbing installations, potable water distribution systems, Drain, Waste and Vent (DWV) systems, and various requirements for plumbing fixtures.

**PLHT 1115** 1  
**Print Reading I**  
 Introduce students to fundamental print reading skills. Students will read building plans and pipe diagrams, interpret floor plan elevations, draw isometric views and sketch working drawings.

**PLHT 1120** 3  
**Heating & Air Conditioning Electrical & Control Circuits**  
 Understand the fundamentals of electricity, electrical controls and circuits, safety and operative controls in residential heating and air conditioning. Students will learn how they operate, what they control, and what the controls are protecting and how they are protecting the unit, device or structure.

**PLHT 1125** 3  
**Heating & Air Conditioning Fundamentals**  
 Explore heating systems, various energy sources and the technology around modern heating systems. Topics will include controls, sizing, types of heat, venting and distribution requirements. This course will explore the evolving impact of technology and efficiency of systems and energy consumption.

**PLHT 1130** 5  
**Plumbing Installation and Fixtures II**  
 Expand on PLHT 1105 for more complex construction systems for residential and light commercial structures. Installation, service and repair of common fixtures, faucets, water treatment, water heaters installation will be included in lab activities. Students will be provided more complex projects and develop solutions to complete system installations, various piping installations applying code requirements.

**PLHT 1135** 2  
**Code II**  
 Build on knowledge learned in PLHT 1110 and apply this information to gain thorough understanding of Minnesota plumbing code. Course includes pipe sizing of residential homes, plumbing license requirements and practical testing to achieve the journeyman license.

**PLHT 1140** 2  
**Print Reading II**  
 Learn how to read building plans and pipe diagrams, interpret floor plans, elevation views, draw isometrics and sketch detailed work drawings. Students will develop skills in estimating plumbing cost for basic residential installations and remodels. Building on these skills, the student will gain knowledge of complex residential pipe diagrams, and isometric drawings. Prerequisite: PLHT 1115

**PLHT 1145** 5  
**Heating & Air Conditioning Installation and Service**  
 Develop skills in system operation, installation, service and repair. Emphasis in this course will be on controls and safety components. Testing of systems, calculating corrections, installation of new and replacement parts, and methods of system repair will be practiced.

**PLHT 1150** 2  
**Sheet Metal Technology**  
 Gain experience using sheet metal tools with proper applications. Measuring and layout, pattern matching, making edges and seaming will be taught. Students will be exposed to sizing, measuring pressures and calculating losses.

## POWER SPORTS (PRSP)

**PRSP 1100** 4  
**Outdoor Power Equipment Technology**  
 This course will introduce students to the operating principles of OPE engines and drive systems. The focus of this course will be systems operations and maintenance of equipment components to maintain optimum performance. Instruction will include fuel and electrical system normal function, basic system analysis, and maintenance procedures to restore equipment from normal operation and wear. Prerequisite: TRAN 1100

**PRSP 1110** 2  
**Snowmobile Technology**  
 This course will teach the operating characteristics of two cycle engines and explore the service techniques to maintain quality performance. From the engine, students will explore drive system operation, followed by suspension systems. Discussions will include fuel systems, electrical systems, cooling and accessory systems. Prerequisite: TRAN 1100

**PRSP 1115** 4  
**Snowmobile Service Operations**  
 This course will teach the service procedures of two cycle engines and students will perform service techniques to maintain quality performance. Beginning with engine service and rebuilding, students will also service drive systems and suspension systems. Service procedures will include fuel systems, electrical systems, cooling and accessory systems. Prerequisite: TRAN 1100

**PRSP 1130** 3  
**ATV/Motorcycle Technology**  
 This course will cover fundamental operating principles and service techniques for ATV and motorcycle engines and transmissions. Clutches, drive systems and suspensions on each vehicle style will be explained and analyzed to understand performance expectations for the varied design technologies applied in vehicle applications. Prerequisite: TRAN 1100

**PRSP 1135** 6  
**ATV/Motorcycle Service Operations**  
 Students in this course will perform service operations to restore optimum performance and provide quality maintenance services for ATV and motorcycle engines, transmissions, clutches, drive systems and suspensions on each vehicle style. Students will analyze performance and handling issues to determine needed corrective actions and complete required repairs. Prerequisite: TRAN 1100

**PRSP 1140** 2  
**Principles of Shop Operations**  
 This course will prepare students for the day-to-day operation of a service center. Manufacturer's service procedures, record management, work order processing, warranty service, new vehicle preparations, and customer relations will all be focal points of this course. Prerequisite: TRAN 1100

**PRSP 1145** 4  
**Performance Technologies**  
 This capstone course will provide students the opportunity to hone their skills developed through the program and incorporate those skills and business principles to manage the service center concept from customer check-in to finished product. New vehicle prep will be included here as well as service advisor skill development to determine customer needs and the processes to meet those expectations. Prerequisite: TRAN 1100

## POLITICAL SCIENCE (PSCI)

**PSCI 1101** **3**  
**Introduction to Political Science** Meets Goal Areas: 05, 08  
Acquaints students with the fundamental concepts, institutions, principles and procedures of the discipline of political science. The course will provide a brief background in classical political theory through some exposure to the ideas of past political philosophers (such as Aristotle, Machiavelli, Hobbes, Locke, Marx and others). The course also introduces the study of comparative systems through consideration of the governments of Great Britain, France, and Canada. PSCI 1101 is viewed as a general introductory course. The course also counts as a Global Perspective course. Prerequisite: STSK 0095 or placement by multiple measures.

**PSCI 1201** **3**  
**American Government and Politics** Meets Goal Areas: 05, 09  
Presents a general survey of the history, philosophy, functions and performance of American national political institutions and processes. This course also emphasizes ethical and civic responsibility. Prerequisite: STSK 0090 or placement by multiple measures.

**PSCI 2202** **3**  
**State and Local Government** Meets Goal Areas: 05, 09  
Presents a general survey of the history, philosophy, functions and performance of American state and local political institutions and processes. Minnesota, Nobles County and the City of Worthington will be examined. This course also emphasizes ethical and civic responsibility. Prerequisite: STSK 0095 or placement by multiple measures.

**PSCI 2210** **3**  
**Environmental Politics** Meets Goal Areas: 05, 10  
Examines the political nature of environmental problems and surveys American political institutions and public policies that deal with these problems. The course will also assess and critique current environmental policies. While the major emphasis will be national environmental concerns, certain local and global environmental problems will also be addressed. Prerequisite: STSK 0095 or placement by multiple measures.

**PSCI 2235** **1-3**  
**Special Topics**  
Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies. Prerequisite: STSK 0095 or placement by multiple measures.

**PSCI 2280** **2-4**  
**Field Experience - Political Science**  
Offers students paid or unpaid work experiences closely related to their academic and career pursuits. Assists students in gaining skills and realism about job demands and future educational choices. Activities are closely supervised by college instructors and on-the-job supervisors.

## PRACTICAL NURSING (PRNU)

**PRNU 2235** **1-3**  
**Special Topics in Practical Nursing**  
Topics will be chosen to meet the needs of students. The class may be retaken for credits if the topic varies.

**PRNU 2295** **1**  
**IV Skills for Practical Nurses**  
This course is designed to enhance the knowledge of established IV nursing standards of practice and to qualify the licensed practical nurse to initiate and administer IV therapy to adults and adolescents. Information and hands-on practice for the safe insertion, care and maintenance of a peripheral IV catheter will be provided. Administration of IV therapy via a peripheral site will also be discussed.

## PSYCHOLOGY (PSYC)

**PSYC 1101** **4**  
**Introduction to Psychology** Meets Goal Areas: 05, 07  
Introduction to Psychology provides an overview of contemporary psychology. Topics include the biological bases of behavior, sensation and perception, motivation, learning, memory, development, personality theory and disorders. This psychology course emphasizes biological, ability, age, gender, personality, and ethnic diversity. This course is a prerequisite for all other psychology courses and is a required course for many degree programs. Prerequisite: STSK 0095 or placement by multiple measures.

**PSYC 1111** **3**  
**Psychology of Adjustment** Meets Goal Areas: 05, 07  
Uses a cognitive-behavioral approach to achieve personal growth and manage common problems of daily living. Topics include development of self-esteem and assertiveness, health and wellness, relationships, loneliness and solitude, anger management, and handling death and loss. Prerequisite: PSYC 1101 or consent of instructor.

**PSYC 1141** **2**  
**Psychology of Adulthood and Aging**  
Presents the basic views, principles, research findings, and ideas about adulthood from an interdisciplinary, process-oriented perspective. Adopting this perspective allows an understanding of the developing individual through an analysis of the biological, social, and cultural contexts in which aging occurs. An overview of the research methods used to investigate psychological development over the adult lifespan will be explored. Career paths and opportunities within the field of adult development will be presented. Prerequisite: PSYC 1101 or consent of instructor. May be taken in sequence with PSYC 1140, for greater breadth and depth than PSYC 1150.

**PSYC 1150** **3**  
**Developmental Psychology** Meets Goal Areas: 05, 07  
Describes the ongoing processes in the biosocial, cognitive, and psychosocial domains of human development throughout the lifespan. Analysis of major developmental events from psychoanalytic, learning, cognitive, and humanistic perspectives are included. Contributions from and applications of research is a core component across all topics. Prerequisite: STSK 0095 or placement by multiple measures.

**PSYC 2210** **3**  
**Basic Counseling Skills** Meets Goal Area: 05  
Teaches individual interviewing and helping techniques, including attending skills, reflection of content, feeling and meaning, asking questions, giving information, challenging, and action planning. Students record sessions in a lab setting. Prerequisite: PSYC 1101 or consent of instructor.

**PSYC 2221** **3**  
**Abnormal Psychology** Meets Goal Areas: 05, 07  
Provides students with historical and current views of the major patterns of behavior disorders. Examines the etiology of disorders, their symptom patterns, assessment and classification, their prevention and treatment, and current issues in the mental health field. Attention is given to how social variables such as race/ethnicity, gender, and socioeconomic status affect determination of abnormality. Prerequisite: PSYC 1101 or consent of instructor.

**PSYC 2225** **3**  
**Addictive Behavior** Meets Goal Areas: 05, 07  
Provides a comprehensive overview of psychological models to understanding addiction. Presents the process of addiction as sequence which includes: initiation, maintenance, dependence, and change. Also addressed is the prevention of addiction. Describes the biological, social, emotional, and psychological consequences of addictions for the individual and society. Although concentrating on substance-based behaviors (alcohol and drugs) other addictions such as gambling, eating disorders, and compulsive sexual behavior will be considered. Prerequisite: PSYC 1101 or consent of instructor.

**PSYC 2230** **3**  
**Behavior Modification** Meets Goal Area: 05  
 Introduces basic principles of behavior modification and their application to the modification of maladaptive behavior and the development of adaptive behavior. Development of skills to adapt these principles to address problems of daily living is emphasized. Prerequisite: PSYC 1101 or consent of instructor.

**PSYC 2235** **1-3**  
**Special Topics**  
 Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies.

**PSYC 2260** **3**  
**Social Psychology** Meets Goal Areas: 05, 07  
 Provides students with the scientific studies of individual behaviors as influenced by other people and in social contexts. Specific emphasis will be placed on social psychological theories and research findings on such areas as the self-concept, social cognition, attribution theory, social influence, group processes, prejudice and discrimination, interpersonal processes, aggression, attitudes, stereotypes, the relation of self and culture/multicultural. Pre-requisite: PSYC 1101 or consent of instructor.

**PSYC 2280** **2-4**  
**Field Experiences - Psychology**  
 Offers students paid or unpaid work experiences closely related to their academic and career pursuits. Assists students in gaining skills and realism about job demands and future educational choices. Activities are closely supervised by college instructors and on-the-job supervisors.

**RADIOLOGIC TECHNOLOGY (RADT)**

**RADT 1100** **3**  
**Introduction to Radiography & Patient Care**  
 Provide the basic concepts of patient care in radiography as well as introduce to radiology, radiology as a career, radiologic technologist roles, and radiologic technology education. The role of the radiographer will be identified as well as basic information regarding making radiographic exposures.

**RADT 1110** **4**  
**Radiological Procedures I**  
 Provide the student with the knowledge necessary to perform radiographic procedures relative to the upper extremities, lower extremities, shoulder and pelvic girdle. Emphasis will be on radiographic terms, anatomy, positioning, manipulation of radiographic equipment and accessories, and related patient care considerations.

**RADT 1120** **3**  
**Radiological Procedures II**  
 This course will provide the student with the knowledge necessary to perform radiographic procedure relative to the urinary system, the bony thorax, skull, vertebral column and arthrology. Emphasis will be on radiographic terms, anatomy, positioning, manipulation of radiographic equipment and accessories, and patient care considerations related to radiography of the urinary system, bony thorax, vertebral column, skull and arthrography. Basic techniques in venipuncture, contrast media types, intravenous medication and emergency response will also be included. Prerequisites: RADT 1100, RADT 1110 and BIOL 2202.

**RADT 1130** **3**  
**Radiological Exposures I**  
 This course provides the student with the knowledge of factors that govern and influence image quality. The course emphasis is on image quality through the discussion of factors that affect density, contrast, recorded detail and distortion. Complex mathematical problems reflect the effect of change in exposure factors and radiographic devices on image quality. Topics include basic physics concepts, radiographic equipment, properties of x-rays, exposure factors, radiographic devices and the principles of automatic processing. The application of radiographic calculations is addressed during discussion of the course material. Prerequisites: RADT 1100 and MATH 1111.

**RADT 1140** **3**  
**Radiological Exposures II**  
 Implementation of radiological exposure compensations as well as the effects of each compensation on image quality and the knowledge and ability to process and evaluate radiographic images will be emphasized. Requirements will focus on x-ray film, intensifying screens, radiographic processing, processing systems, digital imaging, digital imaging system components and the ability to identify and recognize diagnostic quality. The principle and operation of automatic exposure control is also presented. Advancement in examination difficulty and complexity of mathematical applications will be reflected. Prerequisite: RADT 1130.

**RADT 1150** **7**  
**Clinical Radiography I**  
 Apply and analyze previously learned concepts and theories in radiologic procedures. Focus will be on performance of competency based radiologic procedures, patient care, and demonstration of professionalism during day to day activities within the radiology department. Clinical practice will be designed to allow student to evaluate and perform diagnostic exams on live patients with follow up critique of images. An emphasis on manipulation of radiologic equipment and accessories will also be evaluated. Prerequisite(s): RADT 1100 and RADT 1110.

**RADT 1160** **8**  
**Clinical Radiography II**  
 Apply and analyze previously learned concepts and theories in radiologic procedures. Focus will be on performance of competency based radiologic procedures, patient care, and demonstration of professionalism during day to day activities within the radiology department. Clinical practice will be designed to allow student to evaluate and perform diagnostic exams on live patients with follow up critique of images. An emphasis on manipulation of radiologic equipment and accessories will also be evaluated. Prerequisite: RADT 1150.

**RADT 2210** **3**  
**Radiological Procedures III**  
 Examine previously learned radiographic procedures to provide the student with the knowledge necessary to adapt radiographic procedures relative to traumatic injury, surgical and portable radiography. In addition the student will be introduced to the specialized modalities of radiography as well as cross-sectional imaging. Prerequisite: RADT 1120.

**RADT 2220** **4**  
**Radiological Equipment**  
 Provides the student with a basic understanding of radiation physics including the structure of matter, electromagnetic energy, electricity, magnetism, electromagnetism, x-ray emission and x-ray production. This course is designed to establish a strong understanding of radiographic equipment including the x-ray tube, x-ray circuit, fluoroscopy and Computed Tomography. The content will also provide a basic knowledge of quality control. Prerequisite: RADT 1140.

**RADT 2230** **2**  
**Radiological Pathology**  
 Designed to introduce theories of disease causation and the pathophysiological disorders that compromise health systems. Etiology, pathophysiological responses, clinical manifestations, radiographic appearance and management of alterations in body systems will be presented. Prerequisites: RADT 1140 & BIOL 2202.

**RADT 2235** **1-4**  
**Special Topics in Radiologic Technology**  
 Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies.

**RADT 2240** **3**  
**Principles of Radiobiology**  
 Designed to establish a basic knowledge of atomic structure and terminology and provide an overview of the principles of radiation protection and interaction with living systems. Also presented are the nature and characteristics of radiation (i.e. its effects on molecules, cells, tissues, and the body as a whole), x-ray production, and the fundamentals of photon interactions with matter. Radiation health and

safety requirements of federal and state regulatory agencies, accreditation agencies, healthcare organizations, and the responsibilities of the radiographer for patients, personnel and the public are also incorporated. Factors affecting biological response are presented including acute and chronic effects of radiation. Prerequisites: RADT 1140 & BIOL 2202.

**RADT 2250 Clinical Radiography III** 8

Apply and analyze previously learned concepts and theories in radiologic procedures. Focus will be on performance of competency based radiologic procedures, patient care, and demonstration of professionalism during day to day activities within the radiology department. Clinical practice will be designed to allow student to evaluate and perform diagnostic exams on live patients with follow up critique of images. An emphasis on manipulation of radiologic equipment and accessories will also be evaluated. Student independence on previously learned exams will be stressed. Prerequisite: RADT 1160.

**RADT 2260 Clinical Radiography IV** 8

Apply and analyze previously learned concepts and theories in radiologic procedures. Focus will be on performance of competency based radiologic procedures, patient care, and demonstration of professionalism during day to day activities within the radiology department. Clinical practice will be designed to allow student to evaluate and perform diagnostic exams on live patients with follow up critique of images. An emphasis on manipulation of radiologic equipment and accessories will also be evaluated. Student independence on previously learned exams will be stressed. Prerequisite: RADT 2250.

**RADT 2280 Board Review** 2

Designed to prepare the student to write the national board exam administered by the American Registry of Radiologic Technologists (ARRT). A review of all course work presented in the program with an emphasis on the ARRT exam specifications will be presented. Prerequisite: RADT 2260.

**RADT 2290 Computed Tomography Basics** 1

Designed to provide a comprehensive review of Computed Tomography and a step by step method of preparation for successful completion of the American Registry of Radiologic Technologists (ARRT) CT Registry Exam.

**RADT 2293 Mammography Basics** 1

Designed to provide a comprehensive review of mammography and a step by step method of preparation for successful completion of the American Registry of Radiologic Technologists (ARRT) Mammography Registry Exam.

**BIOFUEL TECHNOLOGY (RNEW)**

**RNEW 1100 Process Dynamics** 3

Introduces concepts which deal with physical forces and their relationship to energy through temperature and pressure and are frequently encountered in an operating plant environment. An explanation and understanding of a plant system is crucial to this course. The scientific principles of flow, temperature, pressure, heat, gases, liquids, solids, fluid systems, process dynamics and heat transfer are covered in detail. The curriculum of this course encompasses basic physics and science.

**RNEW 1101 Ethanol Process Fundamentals** 2

Covers the history, rationale, and overall fundamental process of ethanol production. A Process Flow Diagram (PFD) of a typical ethanol plant will be used to examine the sequence of operation including residence time, pressures, and temperatures seen in various stages of production. This course will explain the rationale for feedstock and

additives used in ethanol processing as well as product and co-product production and use.

**RNEW 1102 Biodiesel Process Fundamentals** 2

Provides detailed information regarding the overall fundamental process of biodiesel production. The course will include a review of biodiesel chemistry, process engineering, post reaction processing, fuel specification and properties, feedstock preparation, treatment and recovery of side streams, fuel transportation storage and general plant operations.

**RNEW 1107 Industrial Safety** 2

**Introduces workplace safety** concepts as they are related to federal and state agencies and regulations. Topics covered in the course include recognition and identification of safety issues, governing agencies and industry organizations, and details about voluntary standards.

**RNEW 1110 Low & High Pressure Boiler Systems** 1

Covers fuel combustion principles, steam boiler types and their components. Students will gain an understanding of the equipment its operation and maintenance to ensure safe and efficient procedures that are in line with regulations and codes.

**RNEW 1115 Mechanical Fundamentals for Process Controls** 3

Covers a basic understanding and identification of pumps, valves, heat exchangers, cooling towers, compressors, refrigeration principles and boiler systems. Startup, shutdown, operation and troubleshooting of each of these mechanical systems will be explained.

**RNEW 1125 P & ID & PFD Reading** 1

Covers the symbols and diagrams commonly used on Piping and Instrumentation Diagrams (P & ID) and Process Flow Diagrams (PFD). Focus will be on identifying the types of diagrams, identifying instrument symbols and line symbols used on P & ID's, understanding the types of information typically found on a legend, using a P & ID to locate the components of a system, and reading a PFD to trace the flow paths of a system.

**RNEW 1130 Pollution Control Fundamentals** 2

Examines questions such as: What are the sources of pollution from a processing plant? How to mitigate pollution emissions, and why is it important to reduce emissions. What regulatory agencies oversee permitting and enforcement issues state and countrywide.

**RNEW 1160 Instrumentation & Control** 3

Builds on Mechanical Fundamentals and Process Dynamics. This course will cover the essential elements of a process control system. It will cover common types of electrical and pneumatic signals used for data collection while exploring devices used to measure flow rate, pressure, temperature, level and analytical control. This course will compare fundamental control concepts such as on/off and PID. It will explain how control concepts are used in various control loops of feedback, cascade, ratio and feedforward.

**RNEW 1175 Industrial Water Treatment** 2

Covers the basic understanding of primary water treatment systems and chlorination. Students will be able to describe problems that can be caused by impurities in the water and explain how they can be removed physically and chemically. This course will also familiarize students with the basic concepts of treating industrial wastewater so it can be reused or discharged into the environment.

**RNEW 1195 Biodiesel Technologies and Regulatory Issues** 2

Investigates the underlying research and reaction processes that are used to produce biodiesel. Studying feedstock options coupled with past and present technologies provides foundational knowledge about

the industry. The course includes an in-depth review of the ASTM Standard for biodiesel and the regulatory issues that can arise from non-compliance.

**RNEW 1300** **3**  
**Introduction to Traditional and Renewable Energy**

Designed to introduce students to various forms of energy stemming from both renewable and non-renewable sources. Students will study many sources of energy including solar thermal power, solar photovoltaics, bioenergy, hydroelectricity, tidal power, wind energy, wave energy, geothermal energy and fossil fuels. The First Law of Thermodynamics is studied along with conversion and efficiency of various forms of energy. The economics, potential and environmental impact will be covered for each topic.

**RNEW 2120** **2**  
**Ethanol Separation Technology**

Covers the basic principles of ethanol distillation, evaporation and dehydration. Included will be an understanding of the operating components in a distillation system; demonstrable familiarity with startup, cleaning, operating, and shutdown procedures; and the ability to interpret both normal and abnormal operating conditions. The evaporative process and its role in processing plants will also be covered as well as the theory of molecular sieve dehydration and how it is used in the ethanol process. Prerequisite: RNEW 1101.

**RNEW 2165** **1**  
**Instrumentation and Control Lab**

Provides hands-on exposure to the essential elements of a process control system. It will cover common types of electrical and pneumatic signals used for data collection while exploring devices used to measure flow rate, pressure, temperature, level and analytical control. This course will compare fundamental control concepts such as on/off and PID. It will explain how control concepts are used in the various control loops of feedback, cascade, ratio, and feedforward. This lab course, geared toward on-campus students, will fulfill one of the technical elective credits for the Renewable Energy Technology Program.

**FOR ADDITIONAL COURSE DESCRIPTIONS ON SMALL BUSINESS MANAGEMENT COURSES (SBMT) GO TO: [WWW.MNWEST.EDU/PROGRAMS/LIST/SMALL-BUSINESS-MANAGEMENT-DIPLOMA.](http://WWW.MNWEST.EDU/PROGRAMS/LIST/SMALL-BUSINESS-MANAGEMENT-DIPLOMA.)**

**SBMT 1110** **2**  
**Organization Planning**

In this course the business owner or manager will conduct a self-study of the business and an analysis of the various business systems. The results will be used to begin the process of establishing a new or updated business plan, including a mission statement, vision statement, and business goals.

**SBMT 1120** **3**  
**Business Systems**

In this course, the business owner or manager will begin the process of creating or updating a business plan. The course will include an overview of the business planning process, the individual components of a business plan, and the process for building a business plan. A business plan for the business is the desired outcome.

**SBMT 1210** **3**  
**Financial Systems**

In this course the business owner or manager will study product pricing for optimizing business profits, budgeting to monitor business revenues and expenses, and cost control options

**SBMT 1220** **3**  
**Financial Management**

In this course the business owner or manager will study product pricing for optimizing business profits, budgeting to monitor business revenues and expenses, and cost control options for the small business. The student will also create a break-even analysis of the business and study the effect of different business decisions using a break-even analysis.

**SBMT 1230** **3**  
**Financial Analysis**

In this course the business owner or manager will study how to analyze the profit and loss statement, the balance sheet, and cash flow statement using ratio and trend analysis. Prerequisite: SBMT 1210.

**SBMT 1268** **2**  
**Governmental Payroll Reporting for Small Business**

This course covers the fundamentals, completion, and analysis of the federal and state employment tax forms and filing requirements.

**SBMT 1310** **1**  
**Conflict Resolution**

Covers techniques for resolving conflict and negotiating collaborative solutions in workplace settings. Conflict resolution and negotiation strategies are essential for supervisors and other persons in leadership positions. Emphasis will be placed on selecting and applying conflict resolution and negotiation strategies that are appropriate for a given situation. Students will learn to effectively confront conflict in its early stages and to negotiate solutions beneficial to all persons involved.

**SBMT 1312** **3**  
**Marketing Systems**

In this course the business owner or manager will study the 5 P's of marketing, product, pricing, presentation, promotion, and packaging. The business owner or manager will apply them to their business entity. They will also use these concepts to design a marketing strategy to create the desired business image.

**SBMT 1315** **3**  
**Principles of Supervisory Leadership**

Assists the student to become better acquainted with realistic problems, which must be confronted along with practical advice for solutions. The focus will be an explanation and translation of management principles and theories into tools that can be used in the everyday practice of supervision.

**SBMT 1320** **1**  
**Innovation and Creativity**

Provides learners with an opportunity to explore the essential concepts of accelerated learning. Learners will be exposed to research on "how to learn", as well as examine the process of non-linear thinking. With this information learners will be able to utilize processes for finding business opportunities within their organization.

**SBMT 1321** **2**  
**Marketing Management**

Studies the basics of planning an advertising schedule. Topics include budgeting and designing advertisements for specific media. The student will construct both an advertising plan and a budget for the business. Prerequisite: SBMT 1312.

**SBMT 1325** **2**  
**Problem Solving and Decision Making**

Provides learners with an opportunity to explore the essential concepts of problem solving and decision-making. Learners will learn how thinking differently can help them solve problems and make decisions. Learners will break complex problems into workable components and will learn to go beyond preconceived limitations when developing solutions.

**SBMT 1330** **1**  
**Interpersonal Skills**

Designed to assist learners in improving their one-on-one communication skills. The learner will analyze the variables common to interpersonal communication and learn techniques to overcome barriers to effective communication.

**SBMT 1335** **1**  
**Teamwork**

Addresses the context, which contributes to the growth of team based work systems, the essentials for conducting effective meetings and skills necessary for participating in and leading successful teams.

<b>SBMT 1340</b>	<b>1</b>
<b>Time Management</b>	
Provides learners with an opportunity to explore the essential concepts of time management. The learner will explore ways of dealing with the daily challenge of successfully juggling multiple priorities, which require a clear understanding of individual time management strengths and weaknesses and a well-practiced self managed strategy. The learner will analyze their time management habits and development improvement plans to become a time master.	
<b>SBMT 1345</b>	<b>3</b>
<b>Finances for the Non-Financial Manager</b>	
Provides learners with an opportunity to explore the essential concepts of financial analysis and improve their decision-making skills. This course is for students who have little experience in the field of finance. The students will explore the financial activities practiced by nonfinancial managers who are responsible for resources and interested in improving the financial performance and destiny of their organization.	
<b>SBMT 1400</b>	<b>2</b>
<b>Employment</b>	
Introduces an overview of the employment process with emphasis on hiring practices and procedures, job descriptions, advertising the position, screening applicants, interview process, reference checks, hiring process, and orientation.	
<b>SBMT 1405</b>	<b>2</b>
<b>Customer Service</b>	
Introduces practical tools for the development and management of effective customer relations. The learner will identify the broad range of external and internal customer relations and identify quality assurance requirements and expectations.	
<b>SBMT 1410</b>	<b>4</b>
<b>Personnel Supervision</b>	
Introduces the student to the various components of personnel supervision, which are unique to the healthcare industry.	
<b>SBMT 1415</b>	<b>4</b>
<b>Leadership</b>	
Introduces the student to the various components of leadership, which are unique to the healthcare industry.	
<b>SBMT 1420</b>	<b>2</b>
<b>Corporate Compliance</b>	
Emphasizes corporate compliance in the healthcare industry. Managers must be well informed of legal and financial requirements in order to make good management decisions. The reimbursement processes and practices are unique to this industry. This course will focus on the development and management processes required to ensure compliance with federal and state laws and regulations such as the Emergency Medical Treatment & Active Labor Act (EMTALA), the Health Insurance Protection & Portability Act (HIPPA), the Omnibus Budget Reconciliation Act (OBRA) and Medicare and Medicaid Reimbursements. Additional topics include violence in the workplace as related to healthcare, and vulnerable adults and minors' legislation.	
<b>SBMT 1425</b>	<b>3</b>
<b>Finance for Healthcare</b>	
Assists the student to become better acquainted with terms and definitions used in finance for Healthcare Facilities.	
<b>SBMT 1430</b>	<b>1</b>
<b>Healthcare Industry Trends</b>	
Assists the student to become better acquainted with changing technology and new programs and services in healthcare.	
<b>SBMT 1435</b>	<b>1</b>
<b>Marketing in Healthcare</b>	
Assists the student to become better acquainted with the changing technology and new programs and services in healthcare.	

## SOCIOLOGY (SOC)

<b>SOC 1101</b>	<b>3</b>
<b>Introduction to Sociology</b>	Meets Goal Area: 05
Introduces the student to basic sociological concepts. Topics include sociological theory, research, culture, socialization, groups, social stratification, social class, gender, race, and family. Secondly, a comprehensive study of society, with analysis of group life, and other forces shaping human behavior. Sociology is the scientific study of human society and social interaction. Prerequisite: STSK 0090 or placement by multiple measures.	
<b>SOC 1102</b>	<b>3</b>
<b>Social Problems</b>	Meets Goal Areas: 05, 07
Offers students the opportunity to examine societal impact and process of identification; use critical thinking skills for analysis of causation and exploration of potential solutions to present day problems in contemporary societies such as crime and delinquency, discrimination and racism, education, familial issues, government, physical and mental health, poverty, roots of group inequality, war and environmental issues. Explores significance and current policies and action.	
<b>SOC 2100</b>	<b>3</b>
<b>Human Relations</b>	Meets Goal Areas: 07, 08
Covers concepts and ideas enabling students to recognize and identify oppression, discrimination, and racism, along with learning techniques for building community in a pluralistic society with its great variety of cultures, value systems, and life styles. Includes study of the cultural content, worldview, and concepts that comprise Minnesota-based American Indian tribal government, history, language, and culture.	
<b>SOC 2210</b>	<b>3</b>
<b>Marriage and the Family</b>	Meets Goal Areas: 05, 07
Reviews historical and cultural perspectives of American family systems. Assesses the current ideals, functions, stresses and trends of the family. Topics include courtship, factors associated with marital success, roles and role expectations, statuses, alternatives to traditional systems, communication, marital dissolution and cross-cultural patterns. Prerequisite: STSK 0095 or placement by multiple measures.	
<b>SOC 2224</b>	<b>3</b>
<b>Racial and Ethnic Minorities</b>	Meets Goal Areas: 05, 07, 08
Examines the relationship of racial and ethnic minorities to dominant American society. Emphasis on the African American, American Indian, Hispanic, and Asian cultures. Topics include, but not limited to prejudice, discrimination, institutionalized racism, ethnocentrism, segregation, and persons with disabilities. Prerequisite: SOC 1101 or consent of instructor.	
<b>SOC 2235</b>	<b>1-3</b>
<b>Special Topics</b>	
Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies.	

## SOLAR PHOTOVOLTAIC (SOLR)

<b>SOLR 1030</b>	<b>2</b>
<b>Solar Energy Construction Projects</b>	
This course introduces students to basic construction skills and molting methods used in solar air, water, and electric systems. Topics include how to safely and carefully work with roofing, how to plan and assemble racking, how solar modules and panels are mounted, and how the remaining solar components are incorporated.	
<b>SOLR 2020</b>	<b>3</b>
<b>Advanced Photovoltaic Systems</b>	
This course will introduce photovoltaic (PV) systems design, installation, operation, and maintenance for residential and commercial applications. Students will collect and interpret data. They will apply this data to the design and configuration of grid-tied and stand-alone system designs. Prerequisites: ELCO 1100 or ELCO 1110.	



**SOLR 2025** **2**  
**Photovoltaic Systems Lab**  
 This hands-on course will cover the National Electrical Code (NEC) specifics concerning photovoltaic installation Article 690. Code-compliant wiring of modules, inverters, charge controllers, and batteries will be explored. Students will plan and execute photovoltaic system installations. Prerequisites: ELCO 1100 or ELCO 1110.

## SPANISH (SPAN)

**SPAN 1101** **4**  
**Spanish I** Meets Goal Areas: 06, 08  
 Assists students in developing proficiency in listening, speaking, reading and writing Spanish, mastering fundamental grammatical concepts, and integrating the culture of the Spanish-speaking world. The course is designed for students with little or no prior language study. Prerequisite: STSK 0090 or placement by multiple measures.

**SPAN 1102** **4**  
**Spanish II** Meets Goal Areas: 06, 08  
 Continues to increase proficiency in listening, speaking, reading and writing in Spanish, mastering of more complex grammatical concepts including subjunctive mood, and integrating the culture of the Spanish-speaking world. Prerequisite: SPAN 1101, one-two years of high school Spanish, or consent of instructor.

**SPAN 1150** **1-3**  
**Conversational Spanish**  
 Provides students with the opportunity to use Spanish for specific communicative goals. The situational approach will focus on words and phrases needed to cope with everyday, survival situations and will vary according to class need. This course is designed for students with little or no prior language experience. This course could be taken more than once as the topics change. Survival Spanish for Probation Officers; Survival Spanish for Paramedics and EMT's; Survival Spanish for Law Enforcement Officers; Emergency Spanish for Firefighters; Survival Spanish for Correctional Staff; Spanish for Dental Staff; Survival Spanish for School Administrators, Teachers, & Support Staff; Office Spanish for Office Personnel; Doing Business in Latin America; Spanish for the Physician's Office; Spanish for Nursing; and other professions are available.

**SPAN 2201** **4**  
**Spanish III** Meets Goal Areas: 06, 08  
 Provides for a review of grammar and vocabulary study and allows for practice of the more difficult grammatical concepts in Spanish. Interactive activities using authentic text materials, various literary genre, videos in the target culture, thematic cultural units, and written exercises help students to increase proficiency in the four language modalities: listening, speaking, reading and writing. Prerequisite: SPAN 1102, one year of college Spanish, three years of high school Spanish, or consent of instructor.

**SPAN 2202** **4**  
**Spanish IV** Meets Goal Areas: 06, 08  
 Integrates the mastery of structural concepts with the study of authentic text materials on a variety of cultural topics, various literary genre, and provides for developing proficiency in the four language modalities. Prerequisite: SPAN 2201, three or four years of high school Spanish, or consent of instructor.

**SPAN 2235** **1**  
**Special Topics**  
 Introduces students to topics of special interest incorporating the various modalities of language learning: listening, speaking, reading and writing, and interweaves the culture of the Spanish-speaking community. The course may be retaken for credit as the topics change.

## STUDY SKILLS (STSK)

**STSK 0090** **2**  
**Reading Improvement I**  
 Provides improvement of reading skills for students underprepared for college level reading. The focus is on basic comprehension with additional instruction in vocabulary and word recognition.

**STSK 0091** **1**  
**Basic Math Skills**  
 Provides individualized assistance to students who need to improve their basic math skills. The course covers fractions, decimals, metric, percents, ratio and proportions, and solving for "x".

**STSK 0092** **2**  
**Basic Skills Development**  
 Assists students in developing college-level study skills: time management, note taking, scheduling, and homework. Helps students understand how to manage college workload, analyze assignments, and clarify instructor expectations. Offers a review of college-level reading, writing and math abilities and skills. Helps students understand resources available and what is required of a responsible, self-motivated learner.

**STSK 0095** **2**  
**Reading Improvement II**  
 Provides improvement of reading skills for students underprepared for college level reading. The focus is on basic comprehension with additional instruction in vocabulary and word recognition. Prerequisite: STSK 0090 or placement by assessment test score.

**STSK 0096** **2**  
**Increasing College Vocabulary**  
 Designed for students who need to increase vocabulary and spelling skills for job success, continuation in college, are culturally diverse students, and others who want to make better use of Standard English.

**STSK 1104** **2**  
**Efficient Reading**  
 Offers students the opportunity to improve academic performance by developing higher levels of comprehension. Emphasis is on gaining knowledge from college textbooks. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

**STSK 1110** **1**  
**Freshman Seminar**  
 Enhances the student's adjustment and success with the college experience. The Freshman Seminar course provides first-year students with a general orientation and introduction to resources and skills helpful in the transition to college life and to assist in long term academic and personal success. It is designed to facilitate a successful college experience. Students will develop college-level study skills and will learn about college resources to assist them in their personal and academic adjustment to college life. Strategies for a successful college experience, including: time management, studying smart, taking notes from lecture and textbooks, writing, test taking techniques, stress management, learning teaching styles, preparing speeches, introduction to online learning, navigating D2L and ITV/distance learning will be covered.

**STSK 1135** **2**  
**Introduction to Digital Literacy**  
 Introduces students to the basic elements of Digital Literacy as they develop the technology proficiency, information literacy, and media literacy necessary for safe use of digital technologies vital for success in post-secondary settings as well as the 21st Century workforce. Prerequisite: Students will need to have access to a reliable Internet connection and access to a device which will enable them to use various technologies.

## SURGICAL TECHNOLOGY (SURG)

**SURG 1110** **2**  
**Surgical Microbiology**  
 This course will enable you to recognize how you can prevent the spread of disease and promote wound healing. You will study the structure and function of microorganisms, pathogenic microorganisms and their diseases along with the methods of transmission. The concept of standard precautions will be explored. Various methods of sterilization and disinfection will be discussed. You will study the wound healing process and classifications in conjunction of the body's defenses against disease. Prerequisite: Concurrent enrollment in SURG 1130.

**SURG 1120** 2  
**Surgical Pharmacology**

This course will enable you to assist in the preparation of drugs used in the operating room. You will study the uses, routes of administration, equipment needed and possible side effects of these drugs. The metric and apothecary systems of measure will be studied. You will convert standard time to military time, do temperature conversions, and study how to prepare a solution. Emphasis will be placed on the legal and safety aspects of drug administration. Prerequisites: SURG 1110 and SURG 1130. Can be taken concurrently with HC 1180.

**SURG 1130** 4  
**Operating Room Theory**

This course will enable students to function as an essential part of the medical team providing surgical care to patients in an operating room setting. Students will study the total operating room environment, which includes preoperative, intraoperative and postoperative care. The principles of electricity, physics, Lasers, computers and Robotics will be covered. Emphasis will be placed on principles of aseptic technique. Prerequisites: Concurrent enrollment with HC 1180 and SURG 1110.

**SURG 1140** 4  
**Operating Room Practices**

This course will facilitate students in development of fundamental operating room skill, to identify instruments and to prepare necessary supplies for surgical case management. Included will be a basic knowledge of electricity, physics and robotics. Emphasis will be placed on demonstrating the principles of aseptic techniques as they apply skills inherent in the role of the surgical technologist. The students will observe, practice and demonstrate these skills in a lab setting. Prerequisites: SURG 1110, SURG 1120, SURG 1130 and SURG 1150. Concurrent enrollment in SURG 1151 and SURG 1160.

**SURG 1150** 4  
**Operating Room Procedures I**

Enables students to understand various types of surgical procedures. Students will relate the knowledge learned in previous theory courses to specific surgical procedures. The types of cases to be studied will include general surgery (Gastrointestinal, Hernia repairs, Breast surgery, Thyroid & Parathyroid, Liver & Biliary Tract), OBGYN, Genitourinary, Orthopedic, Oral & Maxillofacial surgeries. The areas of anatomy, diagnostic testing, patient positioning, instrumentation, equipment and supplies necessary to complete a surgical procedure and the actual sequence of the procedure will be analyzed. Prerequisites: SURG 1110, SURG 1130, and HC 1180 (this may be concurrent). Concurrent enrollment with SURG 1120.

**SURG 1151** 4  
**Operating Room Procedures II**

Enables students to understand various types of surgical procedures. Students will relate the knowledge learned in previous theory courses to specific surgical procedures. The types of cases to be studied will include Ophthalmic, Otorhinolaryngologic, Plastic & Reconstructive Surgery, Cardiothoracic, Peripheral Vascular surgeries. The areas of anatomy, diagnostic testing, patient positioning, instrumentation, equipment and supplies necessary to complete a surgical procedure and the actual sequence of the procedure will be analyzed.

**SURG 1160** 2  
**Clinical I**

This course provides supervised occupational experience in the clinical setting. It applies knowledge acquired in the classroom and laboratory to the development and performance of competencies associated with operating room policy and procedure. Prerequisites: SURG 1110, SURG 1120, SURG 1130, SURG 1150, HC 1180, and HC 1151. Concurrent enrollment with SURG 1140, SURG 1151 and BIOL 1115.

**SURG 1170** 12  
**Clinical II**

This course provides supervised occupational experience in the clinical setting. It applies knowledge acquired in the classroom and laboratory to the development and performance of competencies associated with operating room policy and procedure. Prerequisites: SURG 1110, SURG 1120, SURG 1130, SURG 1150, SURG 1160, HC 1151, and HC 1151.

**SURG 1181** 2  
**Board Review**

This course is designed to prepare students to take the National Board certification exam by the National Board of Surgical Technologist and Surgical Assists. A review of all course work presented in the program with an emphasis on Certification exam specifications will be presented. Prerequisites: SURG 1160, SURG 1170, SURG 1151, SURG 1140, SURG 1120, SURG 1150, SURG 1130 and SURG 1110.

**THEATER (THTR)**

**THTR 1101** 3  
**Introduction to Theater** Meets Goal Area: 06

Introduction to Theater introduces theater as an art form, discusses text analysis and examines elements of dramatic theater construction. This theater course reviews major movements in theater from Greek to modern theater. It is intended to give students a background in theater history, exposure to text analysis, examination of performance tactics and experience in bringing a text to the stage. Prerequisite: STSK 0090 or placement by multiple measures.

**THTR 1102** 3  
**Acting Basics** Meets Goal Area: 06

Emphasizes voice, body and concentration along with attention to character analysis and development.

**THTR 1104** 3  
**Survey of Musical Theatre** Meets Goal Area: 06

Exposes students to the path of the form from its birth to the Broadway shows of today. These works will include operas, operettas, vaudevilles, reviews and Broadway Musicals. Significant time will be spent studying major works and songs from the American Musical. Prerequisite: STSK 0090 or placement by multiple measures.

**THTR 1105** 1-3  
**Theater Production** Meets Goal Area: 06

Provides students with the opportunity for participation in major productions as actors or members of technical crews. Instructor will determine the number of credits to be assigned based on the student's role.

**THTR 1106** 1-3  
**Theater Production** Meets Goal Area: 06

Provides students with the opportunity for participation in major productions as actors or members of technical crews. Instructor will determine the number of credits to be assigned based on the student's role.

**THTR 2105** 1-3  
**Theater Production** Meets Goal Area: 06

Provides students with the opportunity for participation in major productions as actors or members of technical crews. Instructor will determine the number of credits to be assigned based on the student's role.

**THTR 2106** 1-3  
**Theater Production** Meets Goal Area: 06

Provides students with the opportunity for participation in major productions as actors or members of technical crews. Instructor will determine the number of credits to be assigned based on the student's role.

**THTR 2122** 3  
**Introduction to Film** Meets Goal Area: 06

Reviews the technical, historical, and dramatic elements of film making. The course is intended to give students a more sophisticated perspective of this unique art form.

**THTR 2235** 1-3  
**Special Topics** Meets Goal Area: 06

Covers a wide range of issues of current interest. Topics will be chosen to meet the needs of students. The class may be retaken for credit if the topic varies.

## **AUTOMOTIVE TECHNOLOGY (TRAN ALSO SEE AUTO)**

### **TRAN 1100 2** **Intro to Transportation**

Students will define correct procedures for servicing and maintaining vehicles. Shop safety, use of service manuals and bulletins, writing repair orders, and parts requisitions will also be addressed.

### **TRAN 1111 3** **Electrical Fundamentals**

Students will define the basic fundamentals of electricity and electronics and identify sources of electricity. Circuits, magnetism, resistance, coils, capacitance, instruments, diodes, and solid-state devices will be presented. Emphasis is placed on the testing and repair of the electrical systems, starter motors, alternators and regulators. Students will identify parts, operation, testing, and overhaul procedures.

### **TRAN 1145 2** **Engine Performance I**

Students will demonstrate the proper techniques necessary to diagnose and repair OBD I and OBD II computer systems using diagnostic equipment. This course also covers fuel system components testing and repair.

## **WELDING (WELD)**

### **WELD 1130 3** **Shielded Metal Arc Welding II**

Provides training to develop skills necessary to produce quality multipass groove welds with backing on 3/4 inch plate in horizontal, vertical and overhead positions. The student will also be able to produce quality open root single V-groove welds on 3/8 inch mild steel plate in horizontal, vertical and overhead positions. Welding related information is also provided on hard surfacing, repair of cast iron and metal identification. In addition, welding related information is included about procedure and welder qualification on destructive and nondestructive testing methods. Corequisite: WELD 1120.

### **WELD 1150 2** **Gas Tungsten Arc Welding II**

Designed to provide the student with an understanding of gas tungsten arc welding on thin gauge stainless steel and titanium. The student will learn to develop the skill necessary to produce quality welds on .040" to .062" stainless steel and titanium in the flat and horizontal positions. In addition, information will be presented on the weld characteristics of titanium and stainless steel to familiarize the student with the manipulative technique and the characteristics of these metals. Corequisite: WELD 1140.

### **WELD 1170 2** **Flux Cored Arc Welding I**

Designed to provide training to develop welding skills on carbon steels using small and large diameter flux-cored electrode (with and without shielding gas) in all positions on fillet and groove welds on plain carbon steel products typically 1/4 inch thickness or greater. Flux in the core is relied upon to generate the necessary protection from the atmosphere. This process is widely used in construction because of its high welding speed and portability.

### **WELD 1180 2** **Weldability of Metals, Ferrous and Nonferrous**

Provides the non-metallurgist with basic knowledge of various metals and their weldability. Anyone involved with welding will benefit from the better understanding of welding the different metals. Students will learn metal properties, heat input, preheating, post heating, selecting filler metals plus many more topics.

### **WELD 1190 3** **Welding Principles**

Provides students with details of welding and cutting processes, terminology and joint design, related areas of shop math, measurement, and reading technical drawings.

### **WELD 1200 3**

### **Blueprint Reading for Welders**

This course presents a thorough foundation for understanding the symbols, practices, and concepts used in prints created for manufacturing. It will present information on blueprint reading using a step by step process to enable students to visualize and interpret blueprints used in industrial settings.

### **WELD 1210 2** **Oxy-fuel/Plasma Arc Cutting**

Provides the student with basic knowledge and skills in oxyacetylene cutting and welding and plasma arc cutting.

### **WELD 1220 3** **Shielded Metal Arc Welding I**

Provides the student with a thorough technical understanding of arc welding, welding safety, arc welding power sources, electrode classifications and selection. It also provides training to develop the skills necessary to make quality shielded metal arc welds on mild steel.

### **WELD 1230 3** **Gas Metal Arc Welding I**

Provides the student with a thorough technical understanding of Gas Metal Arc welding (GMAW), welding safety, equipment and setup, and wire and shielding gas classifications and selection. It also provides training to develop the skills necessary to make quality gas metal arc welds on mild steel.

### **WELD 1240 2** **Gas Tungsten Arc Welding I**

Provides the student with a thorough technical understanding of Gas Tungsten Arc welding, welding safety, equipment and set-up, rod and shielding gas classifications and selection. It also provides training to develop the skills necessary to make quality gas tungsten arc welds on non-ferrous metals.

### **WELD 1260 2** **Metallurgy and Materials**

Evaluates the basic elements of metallurgy and weld-ability as it pertains to commonly welded materials. Instruction will provide on the weld ability of metals, the effects of welding on metals, mechanical properties of metals, alloys and their properties, applications of various types of metals, metal classification systems, and procedures for welding hard to weld metals.

### **WELD 1270 2** **Testing, Codes & Inspection**

Describes the different types of destructive and non-destructive weldment testing. Emphasis will be placed on major national welding codes that govern the welding industry specifically the American Welding Society Structural Code D1.1 along with the American Welding Society Codes.

### **WELD 1280 2** **Intermediate Shielded Metal Arc Welding**

Perform horizontal, vertical, and overhead welding in accordance with American Welding Society procedures. Common joint types in various thicknesses are welding using various electrodes. Some sheet metal will be welded.

### **WELD 1300 3** **Intermediate Gas Metal Arc Welding**

Perform Gas Metal Arc Welding in the horizontal, vertical, and overhead positions in accordance with American Welding Society procedures. Operate power supplies that use shielded gases, short-arc and spray discharge. Identify wire types and sizes, common joint types in various thicknesses are welded.

### **WELD 1340 3** **Welding Qualifications Lab**

Determine the requirements of welding codes and specifications for welding qualifications. Emphasis will be placed on the American Welding Society and ASME tests and procedures for ferrous and nonferrous metals. Performance will be evaluated using visual and destructive testing.

**WELD 1350** 4  
**Pipe Welding Processes**

This course provides an introduction to pipe welding processes in accordance with the American Welding Society 1G & 2G standards. Students will learn basic pipe layout and preparation techniques including bevel, quarter mark, cut, fit, and weld basic pipe joints in various positions from hand drawn templates. Cutting techniques will concentrate on manual Oxy-Fuel cutting pipe joints for accurate fit-up. Each pipe joint will be welded and inspected to meet visual inspection criteria. Hands-on welding techniques for Pipe processes using Shielded Metal Arc Welding, Gas Metal Arc Welding and Gas Tungsten Arc Welding of carbon steel pipe in the 1G & 2G position.

**WELD 2110** 2  
**Advanced Blueprint Reading**

Designed for students who have a basic understanding of blueprint reading. Selected blueprints cover methods of representation and unusual applications of drafting principles including sketches, auxiliary section, distorted views and representation of some common production methods. This course covers and builds the hands-on skills that are essential to fabricate weldments from blueprints. Students will learn how to visualize blueprints by actually building welding projects from them. Students will begin fabricating projects from blueprints starting with simple blueprints and progressing to more challenging projects.

**WELD 2120** 2  
**Fixture and Layout**

Develops the concepts necessary for basic layout skills including fixture construction. Fixtures allow pre-cut components to be quickly assembled into position for welding. This course covers calculation of the area of geometric figures for use in layout and cutting operations and includes the volumes of geometric figures used in the layout and shearing operations.

**WELD 2140** 3  
**Fabrication and Repair II**

Provides skill to properly fit up and weld carbon steel pipe, square steel tube and angle iron in a structural application. Carbon steel plate is welded according to the nationally recognized AWS certification code. Fabrication projects will be made using a variety of manufacturing processes including CNC press brake forming, CNC plasma arc cutting, CNC laser cutting, shearing, punching and welding. Fixtures also will be designed and used. Prerequisite: WELD 2130.

**WELD 2160** 3  
**Gas Metal Arc Welding II**

Builds proficiency in GMAW processes using the spray and pulse spray transfers with mild steel and progresses to aluminum and stainless steel. The introduction of the aluminum and stainless numbering system will be included. Students will be expected to work to industry standards for apprentice welders. Prerequisite: WELD 1160.

**WELD 2170** 3  
**SMAW Pipe Welding**

Provides instruction for the development of pipe welding skills. Students will prepare and weld various pipe diameters with the Shielded Metal Arc Weld process. This course helps to develop the welding skills necessary to produce quality welds on schedule 80 mild steel pipes in the 1F, 2F, 5F, 1G, 2G and 5G positions using E6010 and E7018 electrodes.

## ADMISSIONS INFORMATION

Minnesota West Community & Technical College maintains an open door policy for admissions to the College. If you have graduated from high school or have obtained a General Education Development (GED) Certificate, have scores on the High School Equivalency Test (HiSET) Exam or Test Assessing Secondary Completion (TASC) exams that you are eligible for admission.

If you do not have a high school diploma or General Education Development Certificate, or do not meet the test score requirements on the HiSET or TASC exams, you may be admitted at the discretion of the College. Admission to Minnesota West does not guarantee admission to college-level courses nor to specific programs. New students are required to take an assessment evaluation in Reading, Writing, and Math.

When applying for admission, an application, application fee, and official transcripts are required. Official high school, GED, HiSET or TASC score reports and college transcripts must be submitted to the campus resource specialist. Departments may have additional requirements for admission to their programs. Admissions staff will also assist with the application for admissions, information for prospective students, and tours of the campus.

The campus resource specialist provides services pertaining to reciprocity forms, high school enrollments, applications for programs, and transcripts received from previous institutions. Students may apply to programs which lead to:

- Certificate
- Diploma
- Associate of Arts degree
- Associate in Science degree
- Associate in Applied Science degree

Students may be classified as non-diploma or non-degree seeking applicants.

- Part-time students
- Concurrent high school students
- English as a Second Language student (ESL)

If students have attended another college, an official sealed copy of a transcript must be received by the admissions office. Electronic transcripts will be accepted when sent from a secured, verified sender. Students should submit an unofficial copy of their transcript to use in meetings with advisors or instructors.

### To Apply to the College

To apply to the College: You must complete the Minnesota West online application for admission,

which can be found at

<http://www.mnwest.edu/admissions/apply>. If you do not have access to a computer, you can complete the Minnesota State universal application form. This form can be obtained by contacting the Minnesota West Communication Center at 800-658-2330, any Minnesota West campus, or your local high school counselor.

### Application Fee

All applicants are required to pay a \$20.00 application fee. The application fee is non-refundable except when the College denies enrollment due to college determined program requirements or course size limitations, or when there is a program closure.

The application fee does not pertain to PSEO students or High School Contract for Training programs. Non-degree seeking students are not required to pay the application fee until they declare a major and/or apply for graduation. The application fee is waived for overseas, active duty military service personnel.

### Admission of Transfer Students

Transfer students must submit the application form, application fee and official transcripts from all institutions previously attended directly to the admissions office. Transcripts do not need to be requested from any college that is part of the Minnesota State system. Those transcripts can be retrieved electronically by our admissions office. Students are also required to provide a high school transcript or GED test scores.

### Admission of International Students

If you are an international student (non-immigrant, non-refugee, a resident of another country holding a valid student visa), you must apply to Minnesota West using these instructions for the International Admissions application.

The following items are required for you to be considered for admission and must be submitted to the college three months before you plan to arrive:

1. International Student Application for Admission ([http://www.mnwest.edu/images/admissions/international\\_applic.pdf](http://www.mnwest.edu/images/admissions/international_applic.pdf))
2. Certification of Financial Responsibility ([http://www.mnwest.edu/images/admissions/certif\\_finan\\_responsibility.pdf](http://www.mnwest.edu/images/admissions/certif_finan_responsibility.pdf)). You must come fully prepared to meet all financial obligations for the entire course of study as a student including tuition, fees, books, medical insurance and all other personal expenses in the United States. The CFR must be completed with supporting documentation attached. It is estimated that you will need \$12,000 per year for tuition and living expenses. Minnesota West does not provide financial aid for International students.
3. A \$20 (U.S. dollars) non-refundable application fee.
4. Proof of English Proficiency.  
If your native language is not English, you must

present proof of English proficiency in the form of test scores on the Test of English as a Foreign Language (TOEFL). A minimum score of 500 on the paper based test, 173 on the computer-based test or 61 on the Internet based test is required for acceptance. The TOEFL may be secured from the American Consulate in your country or it may be taken by applying directly to:

Educational Testing Service  
Rosedale Road  
Princeton, NJ 08541 USA  
609-921-9000  
<http://www.ets.org/toefl>

5. Academic Records.

Official transcripts of your entire academic record in secondary school and college, including grades received each year of study, degree certificates, and examination certificates. Photocopies are not acceptable. Transcripts must be translated in English, and a certified copy of the translation must be attached.

6. Health Insurance Requirements.

All international students are required to purchase the Minnesota State international student accident and illness insurance plan, unless they can provide written verification that their government or sponsoring agency accepts full responsibility for any medical claims that might occur.

7. Required immunization form

([http://www.mnwest.edu/images/student-forms/immunization\\_form.pdf](http://www.mnwest.edu/images/student-forms/immunization_form.pdf)). All students born after 1956 are required by Minnesota Law to provide proof that they have been vaccinated against diphtheria, tetanus, measles, mumps, and rubella.

Submit all application materials and correspondence to:  
Minnesota West Community & Technical College  
International Student Office  
1450 Collegeway  
Worthington, MN 56187

### Admissions for New Immigrants

Potential students who are new immigrants must be able to demonstrate English language proficiency before enrolling in programs or courses at Minnesota West. All students must take the placement tests including new immigrants. Results of those tests will determine placement in either the regular English sequence or the developmental English courses. The Accuplacer assessment or a similar assessment will be used for appropriate course placement.

### Senior Citizens

A Minnesota resident who is 62 years of age or older (Senior Citizen) is entitled to enroll in a credit bearing course for an administrative fee of \$20.00 per credit plus fees, on a space available basis.

A Senior Citizen may also enroll in any non-credit open enrollment courses on a space available basis at no charge or may audit a credit bearing open enrollment course on a space available basis at no charge. However, senior citizens auditing a class will be required to pay fees as allowed by MS135A.52. A Senior Citizen enrolled in a closed enrollment contract training or professional continuing education course must pay the regular tuition charge for the course.

In all cases, senior citizens are required to pay for any materials and personal property for the course.

### Readmission to the College

Students who have left the College for one or more semesters may re-enter Minnesota West as returning students. Students who have been out of Minnesota West Community & Technical College for five (5) or more years must resubmit an application and any transcripts since enrolled at Minnesota West.

### Academic Renewal

Academic Renewal gives an undergraduate student who has been away from Minnesota West Community & Technical College at least five calendar years a one-time opportunity to establish a new grade point average. The policy will not apply if a student has earned a degree, diploma, or certificate from Minnesota West for the period in which they are asking for a fresh start. Students who seek a fresh start must meet the following conditions:

- The student must not have been enrolled at Minnesota West for a minimum of five consecutive years prior to the point of the fresh start.
- Upon readmission, the student must successfully complete 15 credits at Minnesota West with no grades below C prior to applying for the fresh start.
- If approved, the fresh start will be indicated on the transcript. All prior grades and credits will not apply to academic GPA, credits attempted and credits earned, but will be used for calculating Satisfactory Academic Progress, Grade Point Average, and completion percentage for financial aid purposes. The student's record will reflect all original courses attempted by the student.

### Special Student Status

Special students are all students not working on a degree program and not accepted into the College. Special students are frequently part-time students. A student may earn no more than eight credits without making application to the College.

- Special student registration should be completed prior to the first day of scheduled classes each term.
- Special students are encouraged to register with an advisor to assist them with their program.

- All credits earned in the special student classification will be maintained as a permanent record of the College and will be considered for application toward a diploma or degree program upon admission to the College.

### **Visiting Student Status**

Visiting students are all students who are not seeking a degree at Minnesota West, but are currently admitted as degree-seeking students at another college that is part of the Minnesota State system. Visiting students will not be required to apply for admission, but must comply with all course restrictions, such as a course prerequisite, placement test score, or major.

### **Post-Secondary Enrollment Options (PSEO)**

The Post-Secondary Enrollment Options Program is a state-sponsored program that allows qualified sophomores, juniors and seniors to take college-level courses that apply to both high school graduation requirements and a college degree. It is intended to increase the range and depth of academic options for high school students.

#### **Registration Dates**

- Fall semester registration opens on April 15 for PSEO students
- Spring semester registration opens on November 15 for PSEO students

High school students should carefully consider their participation in this program before applying for admission. Students should discuss participation in the PSEO program with their parents and high school counselor/principal. Students should notify their high school by May 30th of their intent to enroll in PSEO for the upcoming school year.

For eligibility and admissions refer to our website <http://www.mnwest.edu/admission/pseo/pseo-eligibility-and-admissions>

### **Immunization Policy**

Minnesota Law (MS135A.14) requires that all students born after 1956 or who graduated from a Minnesota High School prior to 1997 and enrolled in a public or private post secondary school in Minnesota must be immunized against diphtheria, tetanus, measles, mumps, and rubella. The student will provide proof of immunization by completing the Immunization Record for Students Attending Post Secondary Schools form prior to registering for classes. This form can be obtained from the campus resource specialist.

#### **Exceptions:**

This form need not be completed by students who are enrolled for only one class during the full academic

semester or for extension, correspondence or online courses only. Students may also be exempt for medical or conscientious reasons.

Transfer students from a different Minnesota college are exempt if transcripts or other information from the previous school indicate that the student has met immunization requirements.

### **Assessment/Placement**

Minnesota West is committed to institutional improvements and assisting all students in realizing their potential. For this reason, student assessment is part of the College's educational program. Students participate in a series of assessment tests and surveys designed to assist college personnel in accurate advisement and course placement and to gather information on student satisfaction with college programs and services.

Minnesota West uses multiple measures to determine placement in courses with reading, English, and math requirements. New students are required to complete the Accuplacer, to assess their readiness to function effectively within college level curriculum, unless the need is waived by other measures. Other measures used to meet assessment standards include qualifying college coursework, ACT, MCA, or SAT scores and high school GPA. Minnesota West will not require an individual to take a remedial, noncredit course in a subject area if the individual has met the qualifying college ready standards in that subject area.

Students will be given reasonable time and opportunity to review materials provided by the college covering the material to be tested. This material will include a sample test. An individual who is required to take a remedial, noncredit course as a result of a test given by a Minnesota West will be given an opportunity to retake the test at the earliest time determined by the individual when testing is otherwise offered. Minnesota West will provide an individual with study materials for the purpose of retaking and passing the test.

#### **Orientation**

A New Student Orientation is available in D2L/Brightspace and should be completed prior to attending an Advising/Registration event or meeting with an Advisor. Students will receive information on advising and topics related to registration and academic and student life at Minnesota West. Student advising/registration sessions are held for new students prior to the beginning of each term. Contact the Communication Center, campus, or go to our website for Advising/Registration dates and times.

# Registration

## Time of Entrance

Students may have multiple opportunities for entrance to Minnesota West Community & Technical College. Check with the program or major of choice for admission requirements. It is recommended that high school seniors make application for admission during their senior year and include with their high school transcript a current schedule of classes.

Registration refers to the process of signing up for classes. The registration procedures vary depending upon whether a new or continuing student is in a degree, diploma or certificate program or is taking classes but not pursuing a degree, diploma or certificate.

New students who have completed the application for admission process will be scheduled for an orientation/advising session. During orientation/advising, advisors will meet with students to assist in selecting appropriate courses. At the conclusion of this session, registration begins.

## State Residency Requirement

Classification as State Residents. Students who meet one or more of the following conditions on the date they apply for admission to a state college or university shall be classified as residents of Minnesota.

- a. Students must have resided in Minnesota for at least one calendar year immediately prior to applying for in-state tuition or are dependent students whose parents or legal guardian resides in Minnesota at the time the student applies. Residence in Minnesota must not be merely for the purpose of attending college.
- b. Students are Minnesota residents and can demonstrate that they were temporarily absent from the state without establishing residency elsewhere.
- c. Students moved to the state for employment purposes and, before moving and before applying for admission to a public postsecondary institution, accepted a full-time job in the state, or students who are spouses or dependents of such persons.

### Procedure

**Domicile** is a person's true, fixed and permanent living place. Domicile is the place to which a person intends to return after temporary absences. A person may have only one domicile at a time.

1. **Demonstration of Domicile and Factors to be Considered.** In order to be reclassified as a Minnesota state resident, a student must first demonstrate the establishment of domicile in Minnesota as described in this part.

2. **Required Period of Residence.** A student must have resided in Minnesota for a continuous period of one calendar year immediately prior to applying for reclassification, and residence in Minnesota during this period of time must not have been solely or primarily for the purpose of attending a college or university
3. **Other Factors.** Each of the following additional facts and circumstances may be considered in the evaluation of a petition for a change in state residency, and other factors not listed may also be considered. The existence of any one of these factors is neither necessary nor sufficient to form the basis for a decision. It is the student's responsibility to provide documentation or evidence of any factors to be considered in the reclassification decision.
  - a. Continuous presence in Minnesota between academic terms or other periods when not enrolled as a student.
  - b. Registration as a voter in Minnesota.
  - c. Ownership of a home in Minnesota.
  - d. Domicile of the student's spouse in Minnesota.
  - e. Registration of the student's automobile in Minnesota.
  - f. For a dependent student, domicile in Minnesota of the student's parent or legal guardian.
  - g. Evidence of the intention to acquire a domicile in Minnesota.
  - h. Sources of the student's financial support are generated within Minnesota.
  - i. An offer of employment in Minnesota to begin after the student's projected date of college or university graduation.
4. **Decision.** A student's petition for reclassification (this should be a hyperlink that links to the college's petition form) shall be considered and a decision made within one week of receipt of petition and all necessary documentation. A student whose residency is changed to that of a Minnesota resident shall be charged the resident tuition rate effective at the beginning of the term of enrollment following the date the petition was submitted. Classification of a student as a Minnesota resident shall apply to all Minnesota State colleges and universities.
5. **Appeal.** Students may appeal a decision not to reclassify a student as a Minnesota resident by requesting their initial petition be forwarded to the college provost for additional review. The provost's decision shall be final.



## Tuition and Fees

Tuition and fees for credit bearing courses at Minnesota West are established by the Minnesota State Board of Trustees. Future and current students are encouraged to visit the College web site for the most current tuition and fees information at:

<http://www.mnwest.edu/business-office/tuition-fees>.

## Reciprocity

For students who live in a state that has a reciprocity agreement with Minnesota, tuition and fees will be based on their home state's negotiated rate. Students from Wisconsin and North Dakota need to apply to their home state to ensure the negotiated tuition rate. Students from South Dakota need to complete an application and submit it to the campus they plan to attend. Contact the Campus Resource Specialist for assistance.

## Paying Tuition & Fees

It is the students' responsibility to check their account online through the e-Services Student Account. Statements will not be mailed to students.

Students may choose one of the following options for paying:

### Pay Online

Online payments are accepted through e-services student account. Students may make full or partial payments using a major credit card, debit card or e-check.

### Pay in Installments

Set up a tuition payment plan with Nelnet Campus Commerce.

### Pay by Mail

Students may pay by mail by including their student ID number on their check or money order.

### Pay in Person

Payments are accepted at the campus business office during regular business hours. Payments may be made with a credit or debit card, check or cash.

### Third Party Billing

When a student's tuition, fees and/or bookstore purchases are billed directly to an outside agency or organization, the process is termed "third party billing." The College agrees to defer the appropriate college costs and collect payment directly from the agency or organization on behalf of the student. The College must receive authorization from the sponsoring agency or organization before third party billing can be processed. Students are ultimately responsible for all college costs incurred.

## Registration Cancellation for Non-Payment

Students who have not paid their tuition and fees by the payment deadline will have their class registrations cancelled unless one of the following conditions is met:

- Student has made a down payment of 15% or \$300.00, whichever is less.
- Student has an active Nelnet tuition payment plan.
- Student has completed the financial aid application and has an ISIR on file with the College (completed FAFSA using the Minnesota West code of 005263)
- Student has provided the College with scholarship or third party authorization for payment of tuition.
- Student is a PSEO student.

Students in jeopardy of having class registrations cancelled will notice a message on their E-services dashboard notifying them that they have not met the financial requirements necessary to remain registered after the tuition due date. Seek assistance early to ensure that class registration will not be cancelled

Limited circumstances could allow a student to have tuition and fees deferred for a short period of time. Students who believe they have extenuating circumstances that could be considered for deferment must contact the business office. Deferment criteria are well defined. Not all requests for deferments will be granted.

## Late Fee

A \$30.00 late fee will be assessed to accounts that are not paid by the 25th day of the semester. No late fees will be charged if the payment plan has been implemented by that date. The late fee will also apply to resale activity.

## Non-payment

Non-payment of the account will result in submission of the outstanding balance to the Minnesota Department of Revenue Collection Division for further action. Students having outstanding accounts with the College will not be permitted to register for a subsequent term. Students should not rely on the College to drop them from courses.

## Schedule Adjustments - Drop/Add

### Terms three weeks or greater in length:

Minnesota West students may drop courses within the first five days of a term without obligation. For purposes of this policy a term is defined as fall semester, fall late start, spring semester, spring late start, summer session I and summer session II. Students must submit a completed Course Drop/Add Withdrawal Form at a campus registration office or online through eServices.

A 100% refund of tuition and fees shall be provided to a student who drops on or before the fifth day of a term. Students will be obligated for any courses dropped after the fifth day of a term.

#### **Courses less than three weeks in length:**

Students are entitled to have the opportunity to attend one class session without obligation. Students who are registered for courses which are less than 3 weeks in length will have one business day after the first class meets in which to drop courses without obligation. A 100% refund of tuition and fees shall be provided to a student who drops a course less than three weeks in length on or before one business day after the first class meets. Students will be obligated for any course dropped after the first business day following the first class session.

#### **Financial Aid Implications:**

If a student is eligible for federal financial aid (Title IV) and he/she completely withdraws from school during a period of enrollment, he/she is entitled to aid based on the percentage of the period of enrollment he/she attended. When a student withdraws from all courses prior to completing 60% of the semester, the school is required to determine the amount of the federal financial aid the student has earned. If a student has been disbursed unearned aid, he/she must repay it. If a student has earned aid which has not been disbursed, he/she is eligible to receive those funds as a post-withdrawal disbursement. If any funds are remaining after the return of Title IV aid, they will be used for repayment obligations for Minnesota West Community & Technical College funds, State funds, and other private sources. If an unpaid balance exists, all aid sources will be repaid before any funds are returned.

Refunds of Institutional funds less any federal Title IV aid funds are subject to be returned to State and Local aid programs which require a return of funds. The funds are returned according to the ratio of the aid program award to the total Non-Title IV Aid package.

#### **Late Registration**

Registration for classes will be allowed through the first five instructional days of a term. For purposes of this policy, a term is defined as fall semester, fall late start, spring semester, spring late start, summer session I, and summer session II. Registration for courses which are less than 3 weeks in length will be allowed through one business day after the first class meeting date. Registration after these deadlines will require consent of the instructor, providing space is available.

#### **Withdrawals**

Students may withdraw from a course through the date on which eighty percent (80%) of the days in the academic semester have elapsed. For courses not on a

standard academic semester schedule, the final date for official course withdrawal shall be the date on which eighty percent (80%) of the instructional days for the course have elapsed.

Students withdrawing from the college after registering for classes must officially withdraw with the campus registration office or online through eServices. A course from which the student withdraws will appear on their academic transcript with a W and will count against their completion percentage for Satisfactory Academic Progress.

Minnesota West will refund tuition and fees for students who totally withdraw in accordance with the following schedule:

1 <sup>st</sup> to 5 <sup>th</sup> class day	- 100%
6 <sup>th</sup> to 10 <sup>th</sup> class day	- 75%
11 <sup>th</sup> to 15 <sup>th</sup> class day	- 50%
16 <sup>th</sup> to 20 <sup>th</sup> class day	- 25%
After the 20 <sup>th</sup> class day	- 0%

Summer sessions and other terms at least three weeks but less than ten weeks in length:

1 <sup>st</sup> to 5 <sup>th</sup> class day	- 100%
6 <sup>th</sup> to 10 <sup>th</sup> class day	- 50%
After the 10 <sup>th</sup> class day	- 0%

Terms less than three weeks in length:

1 <sup>st</sup> class day of term	- 100%
2 <sup>nd</sup> and 3 <sup>rd</sup> class day of term	- 50%
After the 3 <sup>rd</sup> class day	- 0%

#### **Financial Aid Implications**

Federal regulations state that students who withdraw after receiving federal financial aid may be required to return a portion of the aid received. Students considering withdrawing from the college should consult an advisor or financial aid specialist before withdrawing from the college. The Minnesota State Grant recalculates throughout the term and may result in a student either receiving an increased or a decreased Minnesota State Grant award. Any student considering withdrawing from a course or courses should speak with their campus financial aid specialist to determine both the academic and financial effects of a withdrawal.

Students in attendance after the 60% point of the term will be considered to have earned all financial aid.

#### **Administrative Withdrawals**

The College reserves the right to administratively withdraw students for non-attendance. Notification will be sent students who are administratively withdrawn. There will be no reduction in tuition and fees.

## Alternative Methods of Earning Credit

Students may be granted credit toward program completion for prior work, education, and life experiences, which are deemed equivalent to the program requirements.

Earning credit may be achieved through one of the following options: Advanced Placement (AP), College Level Examination Program (CLEP), Competency Based Education (CBE), or Course Test Out.

1. Credits received through alternative methods count toward graduation requirements but are not counted in Grade Point Average or minimum semester credit completion calculations and are not counted for financial aid status.
2. Responsibility for possessing and retaining the content knowledge and skills required by course requirements for which alternative credit is granted rests with the student.
3. Alternative Methods of Earning Credit procedures do not supersede the time frames for drop/add, withdrawal, or any refund of tuition.
4. Credits earned by these alternative methods may or may not be accepted by other institutions.

### • **Advanced Placement (AP)**

It is the policy of Minnesota West Community & Technical College to award college credit to students who attend Minnesota West Community & Technical College and have achieved a score of 3, 4, or 5 on the Advanced Placement (AP) examination(s). Credit may be given for a specific college course if a test covers substantially similar material. If the test material does not match an existing course, students may be given elective credits. Students are provided information on AP examination policies and procedures in the college catalog and on the college website. The college policy and procedure for Advanced Placement can be found at <http://www.mnwest.edu/policies>.

Advanced Placement equivalency charts are available at Transferology to assist students in their educational planning. There is no limit to the total number of credits a student may earn through AP examinations. Credits earned through AP examinations are not resident credits and may not be used to satisfy resident credit requirements for graduation.

1. The student requests an official AP score report from the College Board be sent to Minnesota West Community & Technical College. Minnesota West Code: 6945
2. The AP scores are received and reviewed by an advisor.
3. An equivalency credit form is completed and transcribed for each student.
4. The appropriate signatures are obtained on the equivalency credit form.

5. The student is notified of the number of credits that will be granted upon enrollment at Minnesota West.
6. AP credits will be recorded on a transcript once the student has registered for classes at Minnesota West.

### • **College Level Examination Program (CLEP)**

It is the policy of Minnesota West Community & Technical College to award college credit to students who attend Minnesota West Community & Technical College and have achieved the minimum required score as outlined in the equivalency chart on [Transferology](#). Credit may be given for a specific college course if a test covers substantially similar material. If the test material does not match an existing course, students may be given elective credits. Students who have enrolled in a comparable class at Minnesota West or another institution are not eligible to receive credit through CLEP for the same course. Students are provided information on CLEP examination policy and procedures in the college catalog and on the college website.

An equivalency chart for CLEP credit is available at [Transferology](#) to assist students in their educational planning. There is no limit to the total number of credits a student may earn through CLEP examinations. Credits earned through CLEP examinations are not resident credits and may not be used to satisfy resident credit requirements for graduation. The Minnesota West - Worthington Campus is a National Test Center for CLEP. Students can contact Student Services at the Worthington Campus for cost information and to schedule a test. More information on other test centers and CLEP tests can be found at <http://clep.collegeboard.org/>.

1. The student requests an official CLEP score report from the College Board ([www.collegeboard.com](http://www.collegeboard.com)) to be sent to Minnesota West Community & Technical College. Minnesota West Code: 6945
2. The CLEP scores are received and reviewed by an advisor.
3. An equivalency credit form is completed and transcribed for each student.
4. The appropriate signatures are obtained on the equivalency credit form.
5. The student is notified of the number of credits that will be granted upon enrollment at Minnesota West.
6. CLEP credits will be recorded on a transcript once the student has registered for classes at Minnesota West

### • **Competency Based Education (CBE)**

Competency Based Education (<http://www.mnwest.edu/academics/earning-credit>) refers to learner-demonstrated knowledge, skill, and

ability to perform a task or function. The learner uses prior experiences to support course competencies.

There is a \$200 initial fee that includes career planning, development of an academic plan, and the application. Thereafter, regular tuition per credit will be assessed.

Students may be eligible to earn up to 44 credits for prior learning from work, volunteer services, conferences, workshop attendance, in-service training, and a vocational interest.

- **Course Test Out**

Students who can demonstrate competence in specific disciplines may earn college credit by testing out of college courses with Minnesota West Community and Technical College. Students must initiate the Course Test-Out process by working with appropriate instructors and then completing a Course Test-Out Award Recommendation Form. Students should check with an advisor, instructors, and campus registrars to see if Course Test-Outs are available. Course Test-Out is not an option for all courses.

1. A fee of \$40 per lecture credit and \$65 per lab credit payable to Minnesota West Community & Technical College is required prior to completing a Course Test-Out exam. This fee is nonrefundable even if examinees do not pass exams and do not receive credit for the course.
2. Course Test-Outs must be completed at least ten days prior to the start of the semester or after the fifth day of the semester; however, the President or designee has the authority to allow a faculty member to grant a Course Test-Out at any time if circumstances warrant.
3. Testing out is not an option for students who desire to earn credit for courses previously attempted. Course Test-Outs cannot be used to improve grades for courses previously completed.
4. Students who fail a Course Test-Out exam must complete the course to fulfill graduation requirements. Failing Course Test-Out grades will not be recorded on transcripts.
5. Course Test-Out exams are instructor-generated to reflect the objectives of the course. Only grades of "C" or higher will be recorded as credit (CR).
6. Credits earned by the Course Test-Out option are not computed in a student's GPA, nor will they count towards the enrollment figures of the college. Financial Aid is not available for Course Test-Out credits.
7. Course Test-Out credits will not be recorded on a transcript once the student has registered for classes at Minnesota West. ([www.mnwest.edu/student-forms](http://www.mnwest.edu/student-forms))

- **School to Work Articulated Courses**

Minnesota West Community & Technical College participates in the school to work program and has

entered into agreements with several area high schools. Students enrolling in articulated high school courses and successfully meeting specific criteria for each course may be eligible to receive credit at the College. Credit will be granted for competency mastered within the preceding two years at a skill level of "B" or better on a grade scale of "A-F". Credit will only be awarded for articulated high school courses in which the student has met the criteria after the student has enrolled in and successfully completed 15 credits at the College.

- **International Baccalaureate Credit**

It is the policy of Minnesota West Community & Technical College to award credit for the International Baccalaureate (IB) programs completed by students who subsequently attend Minnesota West Community & Technical College. The examination for the diploma covers six subjects, three or four of which must be at a higher level and others at the subsidiary level. Students may present a full IB diploma or a certificate recognizing specific higher level or subsidiary level test scores. Those students completing a standard level course of 150 hours will earn three (3) or four (4) credits as appropriate. Students completing a higher level course of 240 hours will receive six (6) or eight (8) credits as appropriate. Students are provided information on IB examination policies and procedures in the college catalog and on the college website.

An equivalency chart for International Baccalaureate (IB) is available at Transferology to assist students in their educational planning. There is no limit to the total number of credits a student may earn through IB examinations. Credits earned through IB examinations are not resident credits and may not be used to satisfy resident credit requirements for graduation.

1. The student requests an official IB score transcript from the International Baccalaureate Organization be sent to Minnesota West Community & Technical College.
2. The IP scores are received and reviewed an advisor.
3. An equivalency credit form is completed for each student.
4. The appropriate signatures are obtained on the equivalency credit form.
5. The student is notified of the number of credits that will be granted upon enrollment at Minnesota West.
6. IB credits will be recorded on a transcript once the student has registered for classes at Minnesota West

- **Other Nationally Recognized Examination Programs**

It is the policy of Minnesota West Community and Technical College to consider awarding credit for nationally recognized examination programs such as

Dantes Subject Standardized Tests (DSST), Thomas Edison College Examination Program (TECEP), Excelsior Examinations, New York Foreign Language Proficiency, and National Occupational Competency Testing Institute (NOCTI). Credits earned through a nationally recognized examination are not resident credits and may not be used to satisfy resident credit requirements for graduation. Official score report or transcript for each of the above nationally recognized examination programs is required for transfer evaluation.

1. The student requests an official score report from the appropriate testing service be sent to Minnesota West Community and Technical College.
2. The score reports are received are reviewed by appropriate college staff.
3. An equivalency credit form is completed and transcribed for each student.
4. The appropriate signatures are obtained on the equivalency credit form.
5. The student is notified that credit has been granted.
6. Credits granted will be recorded on a transcript once the student has registered for classes at Minnesota West

### **Military Training**

It is the policy of Minnesota West Community and Technical College to consider awarding college credit from the student's military transcript using the "ACE Guide to the Evaluation of Experiences in the Armed Forces." The Minnesota West transfer policy will apply to military training transcripts (<http://www.mnwest.edu/index.php/policies/321>).

1. The student requests an official military transcript through the Joint Services Transcript (JST) system or the Community College of the Air Force be sent to Minnesota West Community and Technical College.
2. The student's declared degree goal will be used as the transfer evaluation base. If the student changes his/her degree goal, the student is responsible for seeking information on the application of credits toward the new degree goal.
3. The student should make an appointment with the program advisor.
  - a. A copy of the official transcript should be present when meeting with the program advisor.
  - b. The student's assigned program advisor will review any technical credits to ascertain their validity within the student's major study.
4. If the transcript contains general education courses, the Campus Resource Specialist will forward a copy of the official transcript to the College Registrar for review. The College Registrar will verify applicability

of transfer credits and respond back to the Campus Resource Specialist.

5. Military credits will be recorded on a transcript once the student has completed 12 credits at Minnesota West.

## **Academic Information**

### **Attendance**

Students should adhere to the attendance policy as stated on each course syllabus. It is the student's responsibility to check with each instructor concerning assignments, projects, or work missed during and absence.

### **Definition of College Credit**

A college credit is a unit of measure that is used to quantify progress in or completion of a college course, program, or degree. A credit comprises elements of both time and academic achievement. In higher education, one semester credit generally involves 45 hours of activity. A lecture credit generally is comprised of 15 hours of classroom instruction from a qualified instructor, and an expectation of an additional 30 hours of student supplemental study or activity outside of the classroom. A lab credit would generally be comprised of 30 hours of laboratory instruction from a qualified instructor with an expectation of an additional 15 hours of supplemental study or activity by the student outside the classroom. An On-the-Job (OJT) credit would involve 45 hours of training at an actual job location, working for an employer, under the supervision of a qualified instructor. All credits would require assimilation of specified knowledge and skills comparable to and consistent with learning objectives established for similar courses and levels at other accredited institutions of higher learning.

Advances in communication technologies have affected how colleges award credit. Distance education courses, such as those offered on-line, stress assimilation of knowledge and skills more than time spent in a classroom. Students taking such courses are expected to acquire equivalent knowledge and skills by devoting more time to independent activities designed and directed by qualified faculty than they would for an equivalent course on campus with an instructor.

A college may grant or waive credit for a course in which the student does not enroll if the student can document a direct correlation between his or her life experience and the prescribed faculty-developed coursework. The student must establish that his or her experience was equivalent or superior to the classroom experience as well as demonstrate mastery of the course's learning objectives in a manner determined by appropriate department faculty.

### **Dean's List and Honors**

To be eligible for the semester Dean's list and/or honors, students must meet the following requirements:

1. Be a full-time student enrolled in a minimum of 12 credits
2. Earn 12 credits of course work within the A-F grading system. Credits with Pass/Fail grading methods do not count towards the 12 credit minimum.
3. Earn a 3.5 GPA.

## **Online/Distance Learning Student Responsibilities**

### **Distance Learning**

Distance learning occurs when the student and instructor are separated by distance, time and/or location. Minnesota West provides avenues for distance learning for students; instructional television (ITV) and online courses. ITV courses are offered at the same time in different locations.

### **Instructional Television (ITV)**

Instructional Television is used extensively at Minnesota West. This technology provides students with a broad range of classroom experiences that might not otherwise be available. Using state-of-the-art two-way video conferencing, instructors and students are brought together in full video and audio. In many cases, instructors enhance their teaching with technical tools that are available in these specially equipped classrooms.

When a class lecture or lab is being recorded for any reason, students will be informed that a recording is taking place. Students will be advised as to the purpose of the recording, how it will be used, and the process for destroying of the recording. Students wishing to record a class must have written permission from the instructor.

### **Minnesota West Online Courses**

At Minnesota West, efforts focus on developing internet based courses that parallel campus courses. Online courses at Minnesota West are taught by college faculty who work with students throughout the duration of the course. Instructors apply the same rigorous academic standards for success with an Online course as they do in their traditional classroom courses. Online courses are delivered through Minnesota West 's online learning management system Desire2Learn Brightspace.

There is an Introduction to Online Learning course available. To access this FREE non-credit course, contact the D2L Site Administrator at [d2ladmin@mnwest.edu](mailto:d2ladmin@mnwest.edu) to be enrolled. It is recommended that you review this course before you take an online course.

To obtain the maximum benefit of online courses, it is the student's responsibility to be actively engaged in the online learning experience by:

- attending online classes per the instructor's requirements, participating in online discussion, and setting aside time for online coursework
- proactively seeking assistance when needed

For information, see Minnesota West Online.  
[\(http://www.mnwest.edu/minnesota-west-online/\)](http://www.mnwest.edu/minnesota-west-online/)

### Grading System

At the beginning of each semester, students must be informed by their instructor as to how students will be graded in each course. If the information is not provided by the faculty member, it should be requested.

#### Pass/Fail Policy

A student may request a "pass" (P) grade for any class in which he or she is enrolled. The "P" grade must be requested by the student ten school days prior to the end of the term. The "P" grade indicates the student has performed at a passing level. Passing level is interpreted as being a grade of "C" or better. A grade of C- is not considered passing. Any student who achieves less than "C" level work will receive an "F" on his/her transcript. A student may have a total of 20% of his or her credits with a grade of "P". It is not recommended that a student request a "P" grade for any course that will apply toward a major or minor.

#### Right to Alternative Complaint

These procedures do not deny the right of any individual to pursue other avenues of recourse, which may include filing charges with the Minnesota Department of Human Rights, initiating civil action or seeking redress under state and federal law.

#### Last Date of Attendance

Last Dates of Attendance are entered through faculty eServices. It is expected that faculty will enter a date into this field for students who have quit attending or mark the check box for students who have never attended but have not withdrawn from their class. A grading symbol of "F" will automatically be entered for any student for which a last date of attendance is entered. A grading symbol of FN will be automatically entered for any student marked as never attending.

Students will be allowed to submit an official withdrawal from the course if doing so falls within the withdrawal deadline per policy 5.12.0. For courses where faculty have reported that the student started but quit attending, the Registrar's Office will then change the "F" to a "W" and enter the Last Date of Attendance as the date the official withdrawal form is submitted to the registration office. For courses where faculty have reported the student as never attended, the FN and last date of attendance shall not be changed.

The following grading system is used at Minnesota West to report academic achievement and to compute the student's grade point average.

Letter grade	Meaning	Grade Point Value per Credit Hour
A	Excellent	4
A-		3.67
B+		3.33
B	Above Average	3
B-		2.67
C+		2.33
C	Average	2
C-		1.67
D+		1.33
D	Below Average	1
D-		.67
I	Incomplete	
FN	Never Attended	No grade point value
F	Failure	
NC	No Credit (assigned only to courses numbered below 100 which are not passed)	No grade point value earned
P	Pass - C or higher grade must be earned to receive a grade of P. C- is not considered passing.	Earned credit but no grade point value
W	Withdrawn	No earned credit
AU	Audit-no credit earned	No grade assigned or grade point value
IP	In Progress	No grade assigned at this time
Z	Course registered for but grade not yet assigned	No grade assigned
CR	Credit by Test Out	No Grade point toward GPA

**Definitions/Conditions:**

**Grade points:** A letter grade is assigned at the end of a semester 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.

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

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

**Credit:** The unit by which academic work is measured.

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

**Completed Credits:** Completed credits include A, B, C, D, P, and F. They do not include "I" (incomplete), "W" (withdraw), FW (no grade point value), audit, no credit, or drops (classes dropped during the first days of class). Completed credits may qualify for retroactive payment of financial aid.

**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.

**Incomplete:** The mark "I" is a temporary grade that is assigned only in exceptional circumstances. An "I" grade will automatically become an "F" grade at the end of the next semester. Faculty has the option of setting an earlier completion date.

**Repeat Credits:** Credits awarded when a student repeats a course in order to improve a grade. A student may repeat a course two times and the most recent grade will become the grade calculated for GPA purposes. If a student chooses to take a course more than three times, the third grade and all subsequent grades in that course will be averaged into the GPA.

**Developmental Credits:** Credits awarded for coursework below the course prefix 1000. Student may receive financial aid for developmental credits up to a maximum of 30 semester hours.

**Transfer Credits:** Credits that are accepted by the College. Accepted transfer credits are not included in

the calculation of GPA, but are used in the calculation of the 67 percent completion rule.

**Cumulative Credits (Cumulative attempted CUMATT on transcript):** Cumulative credits are the total number of credits registered for all terms of enrollment at the College, including summer terms and terms for semesters for which the student did not receive financial aid.

**Audit:** Term used to identify a course taken by a student who wishes to obtain the information presented but does not wish to earn credit. Students who audit a course are not required to complete assigned work or take written examinations. Audited courses do not count toward Cumulative Credits toward graduation and do not figure into the grade point average. Audits are designated by the grade of AU on the transcript. To register for an audit, notify the registrar of intent at the time of registration so the appropriate designation may be made. Audits are allowed on a space available basis only. Full tuition and fees must be paid. No financial aid is available for classes taken for audit.

## Grade Appeals

In the case where a student disputes the grade he/she has received in a particular course, class or assignment, the student's first recourse is to meet with the instructor to discuss their concerns of the grade. (See Student Handbook) If no resolution between the instructor and the student can be met the student should then refer to the grievance procedures as found under Student Rights and Responsibilities in the Student Handbook.

## Education Plan

Students on Academic Probation will be expected to work with their advisor toward improving their grades by agreeing to an Education Plan. The Plan will outline what activities the student will participate in to raise his/her GPA. Activities may include tutoring, meeting regularly with an advisor, Study Skills Workshops and other support activities.

Students who have been suspended and are re-entering the college will be required to appeal and if approved, participate in an Education Plan/Case Management Program.

## Independent Study

Independent study is approved only in situations where an academic emergency exists. Students may request registration for one or more credits of independent study in a semester and must have the consent of the instructor and Administrative approval for the course in which the credit is being sought. The nature of the project, number of credits to be awarded, and the evaluation procedures must be approved by the



instructor on a special form located at:  
<http://www.mnwest.edu/student-forms>.

## **Statement on the Role/Importance of Writing**

The College recognizes that clear, correct and concise use of language is a characteristic of an educated person. Papers and examinations that are poorly written may receive a lower grade based on the quality of the writing alone. Poor writing is sufficient cause for a failing grade on a paper or in a course. This pertains to all courses offered by the College.

## **Library and Academic Resource Center (LARC)**

Each Minnesota West Community & Technical College campus has a Library and Academic Resource Center (LARC), which supports the curriculum, students, and staff. The LARC houses the following services:

### **Library**

Minnesota West Community & Technical College has approximately 50,000 items including books, periodicals, audio-visual materials, electronic books, and streaming videos. The library website provides access to the online catalog, full-text article databases and reference books, and other library services. Off-campus access is available through proxy services. Library materials are transported between campuses via U.S. mail. Interlibrary loan for materials not owned by Minnesota West Community & Technical College is provided through the MINITEX system.

Library staff provides reference and user instruction on all campuses and to our distance learners. Each library has open computer and study spaces designed to create an inviting atmosphere with comfortable seating, individual carrels, and group study areas.

### **Tutoring**

The Library and Academic Resource Center offers free tutoring to students who need help with classes or programs.

- Individualized and small group tutoring is available for students on all campuses. Students use tutoring services in the LARC to receive assistance in oral and written communication skills, math, reading skills, study skills, and technical tutoring.
- Tutors help students prepare for tests, improve study techniques, review course materials, and answer questions about assignments. They assist with fundamental skills such as time management, note taking, and test preparation techniques that are necessary for college success. Tutors will not do work for students, nor do they replace

instructors. They will show techniques to keep pace with assignments and help students understand course material.

- Students usually request tutoring on their own, but faculty may also refer a student for tutoring.

**Both peer and staff tutors** are available at Minnesota West Community & Technical College.

- Peer tutors are fellow students who display a willingness to assist others and who know the course content and the instructor's expectations.
- Staff tutors provide tutoring and assistance with general study techniques.

### **Online Assistance**

Minnesota West utilizes Tutor.com, a dynamic online tutoring service. This service is available to students 24/7 361 days per year (4 holidays are observed) for free. Students needing assistance in math, economics, accounting, chemistry, physics, Spanish, nursing, statistics, and a wide range of other subjects will receive real-time assistance. Tutor.com also includes an online writing lab, allowing students to submit drafts of writing assignments for assistance in revisions.

### **Test Proctoring**

Make-up tests and testing services for students with documented disabilities are proctored in the Library and Academic Resource Centers at each campus. Hours are set each semester and appointments must be made to schedule a test.

### **Career Center**

Career Services include resume and cover letter assistance. These services are provided at no charge to Minnesota West Community & Technical College students, graduates, and alumni. A Career Assessment tool is also available for current and prospective students. Students, alumni, and employers have free access to College Central Network, Minnesota West's official online job posting and resume building service.

### **Computer Access**

Each Minnesota West Community & Technical College Campus provides computer access to students. Open computer labs for student use are located in each Library and Academic Resource Center.

### **LARC Help Desk**

The college-wide help desk is housed in the Worthington Library and Academic Resource Center. Students from all campuses and distance learners can contact the help desk via phone or online through our Ask JAY service. Ask JAY is a web-based, self-service database of frequently asked questions. The LARC help desk staff works with students to resolve issues related to online courses/D2L and tutoring services. Call (507) 372-3476.

### **One Stop Communication Center**

The college maintains a Communication Center staffed by Resource Specialists who can answer most of the students' questions regarding program information, application, admissions, registration, financial aid, eServices Student Account, Tuition and Fees, Payment Plans, student email, and much more. The Communication Center is available Monday-Friday during the day. Call (800) 658-2330.

## **Financial Aid**

Covering college costs is usually a cooperative effort involving student and parent resources and financial aid, which can consist of grants, scholarships, loans, and student employment.

The responsibility of financing a college education begins with students and parents and their financial capability to contribute to the costs. How much parents and students are expected to contribute is determined by a Department of Education Needs Analysis Formula.

### **Financial Aid**

The amount of financial aid available to a student is also based on the Needs Analysis Formula. Like most colleges, Minnesota West Community & Technical College makes these determinations based on information submitted by families on the Free Application for Federal Student Aid (FAFSA).

Submitting a FAFSA allows students to be considered for aid from the following programs:

- Federal aid such as the Pell Grant, SEOG Grant, Direct Loan, and Perkins Loan.
- State aid such as the Minnesota State Grant.
- College employment through the Work Study program.

### **Scholarships**

Minnesota West Community & Technical College recognizes students who have demonstrated outstanding academic, leadership, service, and extracurricular achievements through the Minnesota West Community & Technical College Scholarship program. Qualified students, regardless of financial circumstances, may apply for these awards.

### **Getting Started with Financial Aid**

Minnesota West Community & Technical College is ready to assist students and provide information about financing education. Students must apply for financial aid each year because financial, academic, or personal situations may change.

## **Satisfactory Progress Standards**

Minnesota West Community & Technical College adheres to Minnesota State policy of maintaining an open door admissions policy, assessing students, and providing developmental coursework and other programs of assistance to support student success. However, students must perform at an acceptable academic level and program completion level to continue enrollment and be eligible to receive financial aid.

Minnesota West Community & Technical College is a publicly supported institution and has an obligation to follow rules and regulations set forth by the state and federal government by providing documented accountability of the taxpayer's investment in education by closely monitoring all students' academic progress.

Minnesota West Community & Technical College requires that students make satisfactory academic progress toward a degree, diploma or certificate to remain in good standing. According to regulations governing the federal financial aid programs, a student must be enrolled in a program of study leading to a degree or certificate and must be making satisfactory academic progress according to standards and practices of the institution in order to continue to be eligible for the federal programs (Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Direct Loan, Federal PLUS, and Federal work Study), state programs (Minnesota State Grant, Minnesota Non-AFDC Child Care Grant, Minnesota State Work Study, and Student Education Loan Fund), and institutional programs. All students must comply with the standards of Satisfactory Academic Progress as outlined in this policy without exception for full-time/part-time status or regardless of program of study.

Satisfactory Academic Progress is defined as progressing in a positive manner toward fulfilling requirements for the degree or certificate in a given program of study. Satisfactory progress is the measurement of a student's performance (credits completed and cumulative grade point average) in meeting the institutional degree requirements.

Minnesota West Community & Technical College believes that students are responsible for their own academic progress and for seeking assistance when experiencing academic difficulty.

Minnesota West Community & Technical College has an established procedure for placing students on academic warning, continued academic probation, academic suspension, financial aid warning, and financial aid suspension.

There is also an appeal process for academic/financial

aid suspension based on unusual or extenuating circumstances. Appeal forms for both academic and financial aid issues are available from the Student Services Office, the Campus Administrator Office or online.

The standards that follow are based on Federal requirements and Minnesota State Board Policy.

## Requirements

### 1. Qualitative Measure

All students are required to maintain an acceptable grade point average (GPA). The minimum standard is progressive based on cumulative registered credits and is detailed below.

*Grades of A,B,C,D, and F will be included in calculating a student's GPA.*

Cumulative Registered Credits	Minimum Required GPA
0-5	0.00
6-15	1.60
16-30	1.80
31+	2.00

### 2. Quantitative Measures

- a. Required Completion Percentage: Students are required to complete a minimum of all attempted credits as follows:

Cumulative Registered Credits	Minimum Completion Percentage
0 – 5	0%
6+	67%

- b. The completion percentage will be reviewed after the end of each term. Grades of Incomplete (I), Failing (F), Ceased to attend (FW), Withdraw (W), No Credit (NC) or No Grade Assigned (Z) do not count toward satisfactory completion but as attempted credits.
- c. Maximum Time Frame: All students are expected to complete their program within an acceptable period of time. Financial Aid recipients may continue to receive aid until they complete all of their required coursework or until they have attempted 150% of the normal time required to complete a program (ex: for a 60 credit program you can attempt 90 credits towards the completion of the program and receive financial aid) There is no warning period for Maximum Time Frame.

- i. If a student changes programs after receiving financial aid for partial completion of one program, and if the new completion time will be more than 150% of normal completion of the original program, the maximum time for the student's financial aid eligibility will be agreed to be the length of time to complete only the additional

courses required to complete the second program.

- ii. If a student decides to have a double major, the 150% completion time may be extended. The maximum time for the student's financial aid eligibility will be agreed to be the length of time to complete only the additional courses required to complete the second major.
- iii. If a student completes one program and decides to enter into another program, the maximum time for the student's financial aid eligibility will be agreed to be the length of time to complete only the additional courses required to complete the second program.

### 3. Evaluation Period

#### Satisfactory Academic Progress will be monitored as follows:

All students with registered credits during a term will be evaluated at the end of the term including summer to make sure that all criteria of the satisfactory progress policy have been met. The review is based on cumulative records. Students who are part-time will not be evaluated until six cumulative registered credits are posted on the student's transcript.

### 4. Failure to Meet Standards

#### A. Academic and Financial Aid Warning and Suspension Warning

A student will be placed on Academic and Financial Aid Warning for one term if he/she fails to meet these standards at the end of the review period. Students on warning are eligible to receive financial aid. To be removed from warning, a student must meet the SAP standards at the end of the warning period.

If a student fails to meet the SAP standards at the end of the warning period, he/she will be placed on Academic and Financial Aid Suspension.

#### Suspension

Academic and Financial Aid Suspension: A student will be placed on suspension if: he/she does not satisfactorily remove him/herself from Academic and Financial Aid warning.

Financial Aid suspension: If a student has reached 150% of credits attempted for Financial Aid suspension or MWCTC has determined it is not possible for the student to raise his/her GPA or completion rate to meet the college's standards prior to the end of the

program for which the student is receiving financial aid.

A student does not have to be placed on academic suspension to be placed on financial aid suspension.

#### B. **Extraordinary Circumstances**

Students may be immediately suspended from financial aid eligibility in the event of extraordinary circumstances, including but not limited to previously suspended (and reinstated) students whose academic performance falls below acceptable standards during a subsequent term of enrollment; students who register for courses, receive financial aid, and do not attend any classes; and students whose attendance patterns appear to abuse the receipt of financial aid.

#### **5. Notification**

The college will notify a student in writing by mail and/or student email when they enter into a warning or suspension status. It is the student's responsibility to monitor their Satisfactory Academic Progress.

#### **6. Appeal Process:**

The appeal of academic suspension and appeal of financial aid suspension are separate processes. Approval of an academic appeal does not guarantee approval of a financial aid appeal. By federal regulations, the guidelines for approval of financial aid appeals are more restrictive.

##### **Academic Appeal:**

1. Appeals must be submitted in writing using the Academic/Financial Aid Reinstatement Appeal form and include all of the following documentation:
  - a. Letter of explanation describing extenuating circumstances that affected academic progress and how your situation has/will change.
  - b. Copy of unofficial college transcript(s).
  - c. A completed Education Plan listing courses and credits by semester, and actions/steps to achieve Satisfactory Academic Progress. It must be signed by student and advisor.
  - d. If requested by the Committee Chairperson or designee, the appeal must include supporting documentation beyond the written explanation.
2. The Appeals Committee will meet the second week of every month however, Appeals must be received by the Committee Chairperson prior to the beginning of the start of the term desired. Any appeals received after the term begins will be considered for the next term.

3. A committee of five or more members and the Committee Chairperson will consider the appeal.
  - a. The appeals committee will meet monthly and within a reasonable time frame prior to the start of each term. The Committee Chairperson may call other meetings as needed.
  - b. The decision will be transmitted to the student within three working days after the decision has been made. The decision will be final.
4. If an appeal is denied, a student may file a new appeal in a subsequent term.
5. An Academic Dean may approve registration into one course without lifting the suspension only if the Academic Appeal form is completed by the student and signed by an Advisor with consultation of SAP requirements.

##### **Academic Reinstatement**

A student who has been suspended from enrollment may return to the college on probationary status after an appeal has been approved with the following requirements.

1. The student will continue on probationary status if the student completes 75% of his/her registered credits in the probationary semester with a 2.5 term grade point average but has not met the institution's cumulative standards.
2. The student will be removed from probationary status when both the cumulative qualitative and quantitative criteria for satisfactory academic progress have been met.
3. The student must contact her/his academic advisor at three times each semester to report academic status and registration for next term.

##### **Financial Aid Appeals**

A student who fails to make satisfactory academic progress and is suspended from enrollment has the right to appeal based on unusual or mitigating circumstances including but not limited to death of a relative, illness, hospitalization, or injury to the student. Mitigating circumstances are situations that are out of the control of the student and were not present at the time of initial enrollment. An academic appeal must be approved before a financial aid appeal can be considered.

The appeal must be submitted using the Academic/Financial Aid Reinstatement Appeal form found on our website.

1. The appeal must include an explanation of the extenuating circumstances that negatively affected academic progress.
2. The appeal must include supporting documentation beyond the written explanation.

3. The appeal must include what has changed in the student's situation that would allow the student to demonstrate satisfactory academic progress at the end of the next evaluation period.
4. Sitting out a year is not in itself a reason for appeal or reinstatement of financial aid.

The initial consideration of appeal shall be undertaken by the Director of Financial Aid or a designee. Students have the right to request appeals of adverse decisions to go to the Financial Aid Appeals Committee. Results of all appeals will be communicated to the student in writing in a timely manner along with pertinent information regarding the conditions of the appeal and the length of the appeal period.

### 7. Financial Aid Reinstatement

Student will be eligible for Reinstatement of Aid when:

1. They satisfactorily complete acceptable academic work (2.0 GPA and 67% completion) in a minimum of 6 credit hours taken toward completion of their degree in the same semester. This student cannot receive financial aid for the period during which eligibility is being reinstated. A student who has met this condition must still be approved through the appeal process. Reinstatement of financial aid is not guaranteed.
2. They have had a financial aid suspension appeal approved based on unusual or mitigating circumstances including but not limited to death of a relative, illness, hospitalization, or injury to the student. Mitigating circumstances are situations that are out of the control of the student and were not present at the time of initial enrollment.
3. They have met the conditions specified in their academic plan but have not met the institution's cumulative standards. In such cases, MWCTC shall permit the student to remain on a continued probation status for a subsequent evaluation period.
4. They have a grade of Incomplete (I) turn into an acceptable letter grade during the first twenty days of the semester following the suspension that enables the student to meet the minimum Satisfactory Progress requirements.
5. They have met the cumulative GPA and completion rate requirements by taking credits on their own (no financial aid). Students need to contact the Director of Financial Aid in writing when they have met the requirements.

### 8. Additional Elements

- A. Treatment of Grades: A course repeated with the intent of improving GPA will have both the initial and repeated course counted when calculating courses attempted. Grades of

Incomplete (I), Failing (F), Failure, Ceased to Attend (FW), Withdraw (W), No Credit (NC), In Progress (IP), or No Grade Assigned (Z) shall be treated as credits attempted but not successfully completed.

- B. Academic Amnesty: Credits for which students have been granted academic amnesty ("academic forgiveness", "academic renewal", etc.) will be included in both cumulative GPA and completion percentage for financial aid warning/suspension calculations.
- C. Audited Courses: Audited courses (AU) are not included in any financial aid satisfactory academic progress measurements.
- D. Consortium Credits: Credits for which financial aid is received under a consortium agreement will be included in cumulative GPA, completion percentage and maximum time frame calculations for financial aid warning/suspension.
- E. Remedial Credits: Developmental courses are those awarded for remedial course work (below 1000 levels). Students may receive financial aid for developmental credits up to a maximum of 30 credit hours (excluding ESL). These credits are included in all financial aid satisfactory academic progress measurements. Up to 30 credits of developmental credits shall be excluded from maximum time frame calculation.
- F. Repeated Courses: Repeated credits are credits awarded when a student repeats a course in order to improve a grade. The last grade will become the grade calculated for GPA purposes. Academic policy allows a student to repeat a course no more than two times, however, a student shall not be permitted to receive financial aid for more than one repetition of a previously passed course. All repeated credits are included in the percentage of completion and maximum time frame calculation for financial aid purposes.
- G. Transfer Credits: Transfer credits accepted by Minnesota West Community & Technical College shall not be counted as credits attempted for calculation of cumulative completion percentage, and grades associated with these credits shall not be used in calculating cumulative GPA. Transfer credits accepted and applied by Minnesota West Community & Technical College toward a student's general education program, or degree requirements shall apply toward the maximum time frame calculation.
- H. Withdraws: Credits for courses that a student withdraws from after the drop period will be included in credits attempted but not successfully completed for purpose of monitoring academic satisfactory progress. Thus, a "W" does not impact GPA, but does

negatively impact the cumulative completion percentage.

1. Students who have not met the institution's cumulative grade point average and completion percentage standards and have not met the conditions specified in his/her academic plan shall be re-suspended immediately upon completion of the evaluation.

## Student Eligibility Policy

A student must meet federal/state requirements to be eligible for and receive financial aid.

### Federal Requirements

1. A student must be a citizen of the United States or an eligible nonresident.
2. A student must meet the requirements of the Selective Services regulations.
3. A student may not be in default on a student loan or owe an overpayment on Title IV funding at any previously attended postsecondary school.
4. A student must be making "satisfactory progress" toward graduation.
5. A student must have a high school diploma or a GED certificate.
6. A student must be enrolled in (or have applied for admission to) an eligible program.

### State Requirements

1. A student must be enrolled in an eligible program of at least three credits.
2. A student must be a Minnesota resident.
3. A student must demonstrate financial need.
4. A student must be past mandatory high school age or if under 17, hold a high school diploma or GED.
5. A student must not be delinquent on child support payments.
- 6.

### Ability to Benefit

Every student receiving financial aid at Minnesota West Community & Technical College must be academically qualified for study at a higher education level. A student with a high school diploma or its recognized equivalent (GED) is always considered to be academically qualified. A student who does not have a high school diploma or its recognized equivalent is not eligible for Federal Financial Aid funds, only state funds.

## Enrollment/Degree Verification

Minnesota West Community & Technical College has authorized the National Student Clearinghouse to act as agent for verification of student enrollment and degree status. The verification service is available 24 hours a day, 7 days a week.

The Clearinghouse receives data electronically from Minnesota West Community & Technical College and, in

compliance with the Family Educational Rights and Privacy Act (FERPA), dispenses the information electronically to current students or agencies and organizations requiring proof of enrollment.

Student Status is defined as:

Full-time status	12 or more hours
Half-time status	6-11 hours
Less than half-time	1-5 hours

Note: For students who need GPA or grades reported, an official/unofficial transcript is available from the Registrar's office.

### Professional or Business Organizations/Companies

The National Student Clearinghouse provides instant electronic verification of student degrees and student enrollment to employers, employment agencies, credit card companies, background search firms, travel companies, and various other businesses that offer products or services based on an individual's status as an enrolled student.

Agencies and organizations are required to contact the Clearinghouse at [www.degreeverify.org](http://www.degreeverify.org) for Minnesota West Community & Technical College student enrollment information.

National Student Clearinghouse  
13454 Sunrise Valley Road, Suite 300  
Herndon, VA 20171  
Phone: 703-742-4200  
Fax: 703-742-4239

### Active Duty with Armed Forces

Minnesota West Community & Technical College in accordance with Minnesota State policy 5.12 recognizes the importance of America's national defense that is made by students who are members of the armed forces.

Students enrolled at Minnesota West Community & Technical College who are members of any branch of the U.S. military reserves and who are unable to complete a semester due to having been called to active duty shall to the extent possible be provided one of the following options:

1. The student may be given a full refund of tuition. Students receiving financial aid who choose this option should be made aware that they may be liable for any required refunds of state or federal financial aid funds.
2. The student may be given a grade of incomplete in a course and complete it upon release from active duty. Course completion may be accomplished by independent study or by retaking the course without payment of tuition. Under federal financial aid

policies a course that is retaken this way may not be counted toward a student's enrollment load.

3. If in the instructor's judgment the student has completed sufficient course work to earn a grade of C or better, the student may be given credit for completion of a course.

Minnesota West Community & Technical College will provide a full refund of required tuition, fees, and other institutional charges, or provide a credit in a comparable amount against future charges for students who are forced to withdraw from the College as a result of a military mobilization. Students affected by a military mobilization will be provided an easy and flexible re-entry back into Minnesota West Community & Technical College upon the students release from active duty.

## Leave of Absence

Students who have a legitimate reason for an extended absence may request a leave of absence. The leave of absence shall meet these conditions.

1. Must be a written request giving starting and ending dates.
2. Must be approved by the student's advisor and a College Dean.
3. Will not exceed thirty (30) school days.
4. Does not require the student to pay any charges to the College during the leave period.
5. Does not require the student to repeat any class time.
6. May be granted to a student only once in a twelve (12) month period.

Note: If a student who has been granted a leave of absence does not return to class at the end of the leave, the student's withdrawal date is the first date of the leave. Consequently, no financial aid will be disbursed during the period.

## Graduation Information

### Graduation

Students will graduate with an Associate of Arts Degree, Associate in Science Degree, Associate in Applied Science Degree, Diploma, or Certificate upon the successful completion of all program/major requirements.

A minimum cumulative grade point average of 2.0 is required for graduation. Practical nursing, registered nursing, medical lab technician, medical assisting, law enforcement (technical courses), radiologic technology, surgical technology requires a 2.0 per course for satisfactory completion.

To be eligible for a degree, diploma, or certificate, a transfer student must earn at least 30% of the major

graduation requirements from Minnesota West Community & Technical College.

### Graduation with Honors

A student will be graduated "with honors" if the cumulative grade point average is between 3.5 and 3.74, and "with high honors" if the cumulative grade point average is 3.75 or greater.

### Apply for Graduation

Each graduating student must complete an Application for Graduation Form for Student Services during the semester preceding graduation.

### Campus Graduation Ceremonies

Each Minnesota West Community & Technical College campus will host a graduation ceremony at the end of the spring semester recognizing all students who have completed the degree, diploma, or certificate requirements during the academic year.

## Student Services

### Official Transcripts

A transcript is a comprehensive record of student academic progress. Names will appear on the transcript as it appears on the College record. Academic records are classified as confidential and may be released only with the student's written authorization and signature. Official transcripts include the College seal and signature of the registrar.

### To request an official transcript:

**Order it online** through Parchment ([www.parchment.com](http://www.parchment.com)).

Minnesota West has partnered with Parchment to provide students with the option of ordering a transcript online. Students create a personal profile, submit their requests, pay a fee of \$7.00 per transcript by credit card, electronically sign and submit the order. Once Parchment receives the completed order, Minnesota West is notified of the transcript request. Ordering transcripts online allows students to track the progress of their requests.

### By Mail or In Person

Print the Transcript Request form found on the Minnesota West web site at [www.mnwest.edu/images/student-forms/transcript\\_request.pdf](http://www.mnwest.edu/images/student-forms/transcript_request.pdf)

Complete the form and mail (or personally deliver to any campus) along with \$10.00 for each copy requested to:

Minnesota West Community & Technical College  
Office of the Registrar  
1450 Collegeway  
Worthington, MN 56187

Students do not need to complete a transcript request if they plan to attend an institution that is a part of the Minnesota State system; those colleges will have electronic access. Transcripts are sent within two working days. Students who have a hold on a college record will be sent a letter advising how to clear the hold before a transcript can be issued.

### **Unofficial Transcripts**

Current students may print an unofficial copy of an academic record by logging in to their student account. Instructions are found in the "How Do I?" section of the page. Questions regarding transcript requests should be directed to the Registrar.

### **Bookstore**

Minnesota West Community & Technical College operates a fulfillment center located on the Worthington campus and ships all books and materials directly to the address of the student's choice for the convenience of both students and the faculty. All books and materials should be ordered online at <http://www.mnwest.edu/bookstore>.

General supplies are available in the college retail stores located on four of the five campuses, as well as clothing, gifts, souvenirs, and snack options.

Students dropping courses will be permitted to return texts for a full refund through the 6th day of the semester. Students must fill out return slip and enclose a copy of the packing slip; texts and materials must be in perfect, unmarked condition. Texts in shrink wrap cannot be opened. Single use access codes must not be opened and registered. Study guides and solution manuals are not returnable. Books and materials being mailed back to the fulfillment center must be postmarked by the 6th day of the semester to be eligible for a full refund.

### **Child Care Assistance**

The Post-Secondary Child Care Grant Program assists low income students who have young children pay for child care while the student attends classes.

### **Campus Child Care Centers**

Contact your campus for a list of local child care providers. You may also contact the county Family Service Agency or the Southwestern Minnesota Opportunity Council (SMOC) Child Care Resource and Referral program at 866-511-2244.

### **Advisor/Advisee**

It is the philosophy of Minnesota West Community & Technical College that an advisor/advisee system is essential to the growth and development of each

individual student.

Two tools have been developed to help the advisor. Degree audits are available for every student, plus a course applicability system Transferology <https://www.transferology.com/school/mnwest> can help a student and advisor determine how courses will transfer into and out of Minnesota West Community & Technical College. A student advisee is responsible to use the degree audit to determine how the student is progressing towards graduation. Students have the final responsibility to select and register for courses that meet the program plan requirements. They are encouraged to seek consultation and advice when selecting courses.

1. Consult with an advisor prior to the first semester registration and each semester prior to graduation.
2. Make appointments for such consultations during regularly scheduled office hours.
3. If it is impossible to keep the appointment, cancel it in a timely manner.
4. Prepare for the appointment and bring appropriate materials.
5. Discuss academic and career related needs as they develop.
6. Become knowledgeable about college, department and/or program policies, procedures, and requirements and adhere to them.
7. Assure that all courses needed for graduation have been completed.

### **Advisor Responsibilities:**

1. Inform the student of the advisor - advisee relationship.
2. Maintain advising records for each student, monitoring their progress toward educational and career plans.
3. Identify and post office hours of availability.
4. In consultation with appropriate individuals, review students' previous academic history and placement tests to determine course placement, transfer of credits and/or recommendations for test out.
5. During pre-registration assist students with course selection and the development of semester schedules.
6. During the academic term, assist students with drops, adds, withdrawals and change of status.
7. Refer students to appropriate resources as necessary in cases where academic or personal problems are at such a level as to require intervention by other professionals.
8. Inform students of department or program policies, procedures, and requirements.
9. Assist students with job placement resources or transfer.
10. Help students to define and develop realistic educational and career plans.
11. Interpret and provide students with the rationale for institutional policies, procedures, and requirements.



12. Inform students of special services available for remediation, academic assistance, personal counseling, and career counseling.

### **Food Service**

Food service may be available at some campuses through a private vendor. Options vary across the campuses. Vending machines are also available on campus for a variety of snacks and beverages.

### **Housing**

Housing is the responsibility of the student. A listing of available housing is located at all campuses. Contact the campus admissions office for a list of apartment and housing units available for rent.

### **Student Identification Card**

Each Minnesota West Community & Technical College student is issued a permanent photo identification card. The card is the property of Minnesota West Community & Technical College and the lending of the card or failure to present it when requested by a college official is a violation of the Student Conduct Code. The card is for identification and the transaction of college business only. Each student is personally liable for all obligations incurred by its use. Lost or damaged cards will be replaced at a \$5 cost to the student.

### **Student Clubs and Organizations**

Minnesota West Community & Technical College is dedicated to the principle that student clubs/organizations are an integral part of the total education program. Students have the opportunity for representation in college committees involving or affecting student interests to promote appropriate levels of student participation in campus/college decision making and assuring that student perspectives are considered.

For a complete list of college clubs and organizations please reference our website at [www.mnwest.edu](http://www.mnwest.edu).

### **Absences for Attending College Events**

Students enrolled at Minnesota West Community & Technical College and who participate in college-sponsored activities and approved Instructor-generated field trips shall be excused from missed classes without prejudice or penalty. This policy is intended to permit students to participate in events and activities without jeopardizing their academic standings or penalizing them in the classes they miss.

The activity advisor, coach or instructor will submit a list of students to be excused from classes along with the name of the event or activity, dates and times of absence to the Student Service Dean for approval and notification to the college faculty.

It is the student's responsibility to contact his/her instructors at least two days prior to the absence to arrange to make-up work missed. Instructors may require make-up work to be complete prior to the absence. The student is responsible for all work missed during the approved absence period.

Once the student has notified the instructor, it is the instructor's responsibility to arrange for make-up work or alternative assignments so that the student is not penalized for an approved absence. It is understood that all missed classroom experiences cannot be replicated

# Directory of Minnesota West Community & Technical College Administration and Faculty

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## Administration

**Terry Gaalswyk** .....President  
 B.A. Northwestern College  
 M.Ed. South Dakota State University  
 M.S. South Dakota State University  
 Ph.D. Iowa State University

**Jeffery Williamson** .....Provost  
 B.S. South Dakota State University  
 M.Ed. South Dakota State University  
 Ed.D. University of South Dakota

**Jodi Landgaard** ..... Vice President of Finance  
 and Facilities  
 B.S. Dakota Wesleyan University  
 M.B.A. University of South Dakota

**Diana Fliss**..... Director of Financial Operations  
 Diploma Minnesota West Community & Technical College  
 A.A. Minnesota West Community & Technical College

**Dawn Gordon** .....Dean Science & Nursing  
 B.S. Augustana College  
 M.B.A. Colorado Technical University  
 M.B.M. Colorado Technical University  
 M.S. Colorado Technical University  
 Ph.D. South Dakota State University

**Gordon Heitkamp**.....Maintenance Supervisor

**Katie Heronimus** .....Director of Admissions,  
 Registration and Financial Aid  
 B.A. Mount Marty College  
 M.S. Bemidji State University

**Paul Lanoue** ..... Dean of Agriculture and Business  
 BS University of Minnesota

**Amber Luinenburg**..... Director of Communication and  
 Marketing  
 A.A. Minnesota West Community & Technical College  
 B.S. University of Wisconsin, River Falls  
 M.B.A. University of Sioux Falls

**Karen Miller** ..... Chief Human Resource Director  
 Diploma Minnesota West Community & Technical College

**Jackie Otkin**..... Dean of Allied Health  
 B.S. South Dakota State University  
 M.S. Metropolitan State University

**Bruce Peterson** ..... Interim Associate Vice President  
 of Strategy  
 Diploma Detroit Lakes Technical College  
 A.A.S. North Dakota College of Science  
 B.S. Bemidji State University

**Kayla Richter** ..... Business Manager  
 A.A.S. Ridgewater College  
 B.A. University of Sioux Falls

**Judy Tebben**.....Interim Dean of Academic Affairs  
 A.A. Ridgewater College  
 B.A. Southwest Minnesota State University  
 M.B.A. Southwest Minnesota State University  
 M.S. St. Cloud State University

**Rebecca Weber**..... Dean of Student Services  
 B.S. Southwest Minnesota State University  
 M.S. South Dakota State University

**Kayla Westra**..... Dean of Institutional Effectiveness  
 and Liberal Arts  
 B.S. Minnesota State University, Mankato  
 M.S. Utah State University  
 Ed.D. MSU-Mankato

## Faculty

**Sara Abrahamson**..... Dental Assistant  
 A.A.S. Minnesota West Community & Technical College  
 B.S. Minnesota State University, Mankato  
 M.S. Southwest Minnesota State University

**Robert Arp**..... Electrician  
 Diploma Minnesota West Community & Technical College  
 A.A.S. Minnesota West Community & Technical College  
 B.S. Bemidji State University

**Leslie Bauman** .....Accounting  
 Diploma Minnesota West Community & Technical College  
 B.S. Bemidji State University  
 M.S. Bemidji State University

**Lance Baumann**..... Electrician  
 Diploma, Minnesota West Community & Technical College

**Philip Berg** ..... Lamb and Wool Management  
 B.S. South Dakota State University  
 M.S. North Dakota State University

**Shawn Berning** ..... Carpentry  
 Diploma, Alexandria Technical & Community College

**Dan Bernstrom** ..... English  
 B.S. University of Northwestern  
 MFA Hamline University

**Brian Binnebose**..... Powerline Technology  
 Diploma Wadena AVTI

**Mike Boersma** ..... Farm Business Management  
 B.S. South Dakota State University

**Jason Bohl** .....Small Engine Repair  
 Diploma Iowa Lakes Community College

**Ty Bowen** ..... Mechatronics  
 A.A. Minnesota West Community & Technical College

**Aaron Brudelie**..... Farm Business Management  
 B.S. South Dakota State University

**Brian Boomgaarden** ..... Farm Business Management  
 B.S. South Dakota State University

**Tim Buysse** ..... English  
 B.A. University of Minnesota  
 M.A. South Dakota State University

**Linda Carter**..... **Farm Business Management**  
B.S. South Dakota State University

**Stacy Christensen**..... **Nursing Assistant**  
B.S.N. South Dakota State University

**Mike Cumiskey**..... **Law Enforcement**  
A.A. Alexandria Technical & Community College  
B.S. Winona State University  
M.S. Winona State University

**Jeremy Daberkow** ..... **Farm Business Management**  
B.S. University of Minnesota

**Kent Dahlman**..... **Speech Communication**  
B.S. Minnesota State University, Moorhead  
M.S. St. Cloud State University

**Mike DeVries** ..... **Diesel Mechanics**  
Diploma Minnesota West Community & Technical College

**Mike Dierks**..... **Farm Business Management**  
B.S. South Dakota State University  
M.B.A. Southwest Minnesota State University

**Judy Drown** ..... **Electrician**  
A.A.S. Minnesota West Community & Technical College

**Janice Eibensteiner** ..... **Biology**  
B.S. Bowling Green State University  
B.S. Minnesota State University, Mankato  
M.S. Minnesota State University, Mankato  
Ph.D. University of Minnesota  
Ph.D. South Dakota State University

**Danylle Espenson**..... **Cosmetology**  
Regency Beauty Academy

**Shannon Fiene** ..... **Mathematics**  
B.S. Clemson University  
M.S. North Carolina State University  
Ph.D. North Carolina State University

**Erika Freking** ..... **Nursing**  
A.A.S. Minnesota West Community & Technical College  
B.A. Southwest Minnesota State University  
M.S. Minnesota State University, Mankato

**Anita Gaul**..... **History**  
B.A. Calvin College  
M.A. University of Iowa, Iowa City  
PhD. University of Iowa, Iowa City

**Peter Girard** ..... **Diesel Mechanics**  
A.A.S. Minnesota West Community & Technical College

**Leah Gossom** ..... **Art**  
B.A. Ohio State University  
M.F.A. Ohio State University

**Donna Hage**..... **Nursing**  
B.S.N. Minnesota State University, Mankato  
M.S.N. Minnesota State University, Moorhead

**Rosalie Hayenga-Hostikka** ..... **Biology/Coaching**  
B.S. Minnesota State University, Moorhead  
M.S. St. Cloud State University

**Justin Heckenlaible** ..... **Computer Science/Coaching**  
B.S. Dakota State University  
M.S. University of South Dakota

**Alyson Helgeson**..... **Child Care**  
B.A. Concordia College  
M.A. University of Phoenix

**Derek Hennager**..... **Plumbing**  
Diploma, Minnesota West Community and Technical College

**Angela Hoffman**..... **Administrative Support**  
B.S. Franklin University

**Amber Humphrey** ..... **Nursing**  
B.S. South Dakota State University

**Amy McCuen**..... **Surgical Technology**  
Diploma Southeast Technical Institute  
A.A.S. South Dakota State University

**Kent Janssen** ..... **Farm Business Management**  
B.A. University of Minnesota  
M.A. University of Minnesota

**Pam Jensen** ... **Computer and Information Technology**  
A.A. Minnesota State in Fergus Falls  
B.S. Minnesota State in Moorhead  
Graduate Certificate University of Illinois  
M.S. Bemidji State University

**Douglas Kleeberger** ..... **Auto Mechanics**  
B.A. Pillsbury Baptist Bible College  
M.A. Central Baptist Theological Seminary

**Ann Kolthoff**..... **Lamb and Wool Management**  
B.S. South Dakota State University  
M. S. South Dakota State University

**Kim Lehrke**..... **Nursing**  
B.S. MSU – Mankato  
M.A. MSU – Moorhead

**Jeff Linder** ..... **Physical Education/Coaching**  
A.A. Minnesota West Community & Technical College  
B.S. Bemidji State University  
M.S. United States Sports Academy

**Ray Louwagie** ..... **Precision Machining**  
Diploma Minnesota West Community & Technical College

**McCall Lutmer**..... **Practical Nursing**  
A.S. University of South Dakota  
B.S.N. University of South Dakota

**Sandi Mead** ..... **Librarian**  
A.A. Minnesota West Community & Technical College  
B.S. Minnesota State University, Mankato  
M.S. Minnesota State University, Mankato

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**Troy Otto..... Farm Business Management**

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**Falon Paluch .....Radiologic Technology**

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B.A. Gustavus Adolphus  
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M.A. C.O. Sioux Falls Seminary (NABS)  
Ph.D. Harold Abel School of Psychology (Capella University)

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