

Minnesota West

Community & Technical College

2010-2012 Catalog

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For student rights and conduct policies and appeals see
www.mnwest.edu/student-handbook



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web site: www.mnwest.edu

Campus Addresses and Phone Numbers

Canby Campus

1011 First Street West
Canby, MN 56220
(507) 223-7252
FAX (507) 223-5291

Fairmont Center

115 South Park Street
Fairmont, MN 56031
507-235-3385
Fax (507) 238-1949

Granite Falls Campus

1593 11th Avenue
Granite Falls, MN 56241
(320) 564-4511
FAX (320) 564-4582

Jackson Campus

P.O. Box 269
401 West Street
Jackson, MN 56143
(507) 847-7920
FAX (507) 847-5389

**Luverne Educational Center
for Health Careers**

305 E. Luverne Street
Luverne, MN 56156
(507) 449-2772

Marshall Center

1001 West Erie Road
Marshall, MN 56258
(507) 537-7051
FAX (507) 372-7081
www.ct.mnwest.edu

Pipestone Campus

P.O. Box 250
1314 North Hiawatha Ave.
Pipestone, MN 56164
(507) 825-6800
FAX (507) 825-4656

Redwood Falls Center

403 S. Mill Street
P.O. Box 130
Redwood Falls, MN 56283
(507) 637-6007
FAX (507) 637-6008

Worthington Campus

1450 Collegeway
Worthington, MN 56187
(507) 372-3400
FAX (507) 372-5803

THE MINNESOTA STATE COLLEGES AND UNIVERSITIES SYSTEM

Minnesota West Community and Technical College is a member institution of the Minnesota State Colleges and Universities System. Minnesota State Colleges and Universities System is the largest single provider of higher education in the state of Minnesota. Minnesota State Colleges and Universities System has 34 campuses and includes community colleges, technical colleges, comprehensive community and technical colleges, and universities.

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

Minnesota State Colleges & Universities

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

History

Minnesota West Community and Technical College is a comprehensive community and technical college with five southwestern Minnesota campuses: Canby, Granite Falls, Jackson, Pipestone, and Worthington. 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 and Technical College.

The four campuses that comprised Southwestern Technical College began as local area vocational schools. The individual campuses have a history dating back 30 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 the Minnesota State Colleges and Universities (MnSCU) system.

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 the Minnesota State Colleges and Universities system.

Four sites in Fairmont, Marshall, Luverne, and Redwood Falls have been added to Minnesota West Community & Technical College to serve the students of those areas.

Mission Statement

Minnesota West Community and Technical College is dedicated to serving the varied educational needs of our diverse populations in affordable, accessible and supportive settings.

Mission Goals

1. To provide pre-professional and liberal arts courses which lead to Associate in Arts or Associate in Science degrees. The courses are designed to transfer to a four-year college or university and will apply toward a baccalaureate degree.
2. To provide certificate, diploma, and Associate in Applied Science degree courses for students working to develop and enhance occupational or technical competence leading toward employment or further education.
3. To provide learning opportunities for people of varying ages, backgrounds, and abilities with a particular focus and commitment to retraining and lifelong learning.
4. To provide continuing education, management education, and customized training for professions, businesses, and industries.
5. To provide facilities for programs, activities, conferences, teleconferences, and courses to meet community needs.
6. To provide extended educational opportunities by means of flexible scheduling and delivery.
7. To provide effective and efficient use of resources through partnerships with agencies, other educational institutions, businesses and industries.
8. To provide continuous improvement processes via assessment, evaluation and upgrading of programs and services, and to support the professional development of college personnel.
9. To provide the resources to meet the contemporary standards of facilities, informational resources, technology, and teaching strategies to ensure quality educational outcomes.
10. To provide comprehensive student services enabling academic and personal growth toward lifelong learning.

General Information

Affirmative Action/Nondiscrimination

It is the policy of Minnesota West Community and Technical College to undertake and maintain a program of affirmative and positive action and of nondiscrimination as determined by MnSCU policy 1B.1 in educational opportunities and employment. No person shall be discriminated against in the terms and conditions of employment, personal practices or access to and participation in, programs, services, and activities with regard to race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission as defined by law. Contact Karen Miller, Affirmative Action Officer; 1011 First Street West; Canby, MN 56220. Phone (507) 223-7252 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 counselor for advisement and 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 Linda DeGriselles who can be reached at: linda.degriselles@mnwest.edu

Consumer Information/Student Right to Know

Minnesota West Community and 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 Campus Dean, Registrar, or the Student Services staffs 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 and Technical College is a member of the Minnesota State Colleges and Universities System, which consists of 34 state universities, community and technical colleges.

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

Minnesota State Colleges and Universities
500 Wells Fargo Place
30 East 7th Street
Saint Paul, MN 55101
888-667-2848

Additional Accrediting and Approval Organizations

American Dental Association
Commission of Dental Accreditation
211 East Chicago Avenue

Chicago, Illinois 60601-2678
312-440-2500

Commission on Accreditation of Allied Health Education

35 E. Wacker Drive, Suite 1970
Chicago, IL 60601-2208
312-553-9355

The Minnesota West Community and Technical College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education (www.caahep.org) upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE).

Minnesota Board of Nursing

8229 University Ave SE, #500
Minneapolis MN 55414-3253
612-617-2296

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

133 East Seventh St.
St. Paul, MN 55101
651-296-6319

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

United States Department of Education

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

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

For the most recent information see www.mnwest.edu. This document can be made available in alternative formats such as large print, Braille, or audio tape.

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) (or ENGL 1103 Research Papers (1) , if appropriate with approval)
2. One of the following: ENGL 1102 Composition II (3), ENGL 2243 Creative Writing (3), or ENGL 2276 Technical Writing (3)
3. SPCH 1101 Introduction to Speech (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 1110 Principles of Biology (4)
BIOL 1115 Human Biology (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)
PHYS 1100 Survey of Physics (3)
PHYS 1201 Fundamentals of Physics I (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:

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)

Geography

- GEOG 1100 Introduction to Geography (3)

GEOG 1101 Introduction to Physical Geography (4)

History

HIST 1101 American History I (4)
HIST 1102 American History II (4)
HIST 1105 Minnesota History (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)

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 2210 Marriage and the Family (3)
SOC 2220 Family Life Dynamics (3)

** If not applied to Area 6

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 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 1141 Writing and Reading Poetry (2)
ENGL 1143 Writing and Reading Fiction (2)
ENGL 2201 American Literature I (3)
ENGL 2202 American Literature II (3)
ENGL 2221 British Literature I (3)
ENGL 2222 British Literature II (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)
** If not applied to Area 5

Humanities

HUM 2121 The Turbulent '60s (4)
HUM 2201 The Many Faces of Mexico (2)

Music

MUSC 1101 Fundamentals of Music (3)
MUSC 1104 American Popular Music (3)
MUSC 1105 Enjoying 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 2201 Introduction to Ethical Theory (1) and one of the following three: PHIL 2202 General Applied Ethics (1), PHIL 2205 Business Ethics (2), PHIL 2222 Medical Ethics (1)
PHIL 2230 World Religions (3)

Speech

SPCH 2210 Oral Interpretation (3)

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.

**If not applied to Area 5.

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):

ENGL 1105 Introduction to Literature (3)
ENGL 2201 Survey of American Literature I (3)
ENGL 2202 Survey of American Literature II (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)
SOC1102 Social Problems (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)
ENGL 2221 Survey of British Lit I (3)
ENGL 2222 Survey of British Lit II (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)
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:

NSCI 1100 Issues in the Environment (3)
 PHIL 2201 Introduction to Ethical Theory (1)
 and 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)
 PSCI 2210 Environmental Politics (3)
 GEOG 1101 Intro to Physical Geography (3)

Transfer information

Preparing for Transfer

Students currently enrolled at Minnesota West Community and Technical College:

1. Discuss plans with the campus transfer specialist.
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/ counselor. Bring a current college transcript for the admission counselor, transfer specialist and department advisor to review. Transcripts from any college that is part of the Minnesota State Colleges and Universities (MnSCU) 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.

u. select

u.select is a free web-based transfer information system that can be accessed by any Internet user (<https://mn.transfer.org/cas/>).

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

Using *u.select*, 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 *u.select* or from a *u.select* institution's Web site.

Note:

Information obtained through *u.select* 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 in Arts (A.A.)
 Associate in Science (A.S.)
 Associate in Applied Science (A.A.S.)
 Diploma
 Certificate

Associate in Arts (A.A.) Degree Requirements

Minnesota West offers the first two years of course work which is designed for transfer to a baccalaureate degree at four year colleges and universities. Some examples of majors for which Minnesota West offers the first two years of preparation (A.A.) are listed below. The following are examples:

Accounting	Mass Communications
Art	Math
Biology	Music
Business Administration	Philosophy
Business Education	Physical Education
Chemistry	Physics
Computer Science	Political Science
Economics	Psychology
Elementary Education	Secondary Education
English	Social Work
Geography	Sociology
Health	Speech
History	Special Education
Law Enforcement	Theatre

The Associate in 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, 20 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. This fulfills the Minnesota Transfer Curriculum. The credit requirements in each of the ten listed areas of emphasis must be met. 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 MnTC 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. Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 1102, or any Physical Education course.
5. Electives sufficient to total 60 credits.

Associate in Science (A.S.) Degree Requirements

Minnesota West Community and 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 in Science (A.S.) degree with one or more of the following as their major field:

Agriculture	Pre-Dentistry
Agri. Business	Pre-Engineering
Ag Production Management	Pre-Medicine
Business	Pre-Medical Tech
Business Management	Pre-Occupational
Child Development	Therapy
Computer Science	Pre-Pharmacy
Fish/Wildlife Management	Pre-Physical
Human Services	Therapy
Law Enforcement	Pre-Veterinary
Pre-Airway Science	Registered Nurse

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 a counselor. 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. Successful completion of 64 semester credits of which at least 20 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.
5. Physical Education/Health/EMS 1112 - a minimum of one course.
6. Computer Science 1102 Introduction to Microcomputers, 3 credits.

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

The Associate in 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, 20 of which must be earned at Minnesota West Community and 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. 25% of total semester credits must be 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. General education courses as part of the program as established through consultation with the program advisory committee if diplomas are awarded for 45 credits or more.
3. 15% of the credits in general education if diplomas are awarded for under 45 credits.
4. At least 1/3 (33%) of the credits to be completed at Minnesota West.
5. A grade point average of 2.0 ("C") or better.

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.

ACCT 1104	Special Projects	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 2105	Auditing	3
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
ADSA 1132	Calculators	1
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
GSCL 1105	Job Seeking Skills	1

General Education Requirements 20

ENGL 1101	Composition I	3
ECON 2201	Principles of Macro Economics	3
NSCI 1100	Issues in the Environment	3

Humanities Electives-Art, Foreign Languages, Literature, Music, Philosophy, Theater, Western Civilization 3

General Education Electives 8
English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

Total Credits 71

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 1104	Special Projects	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 2105	Auditing	3
ACCT 2115	Cost Accounting I	4
ACCT 2120	Fund/Nonprofit Accounting	3
ACCT 2125	Computerized Accounting Applic II	2
ACCT 2130	Intermediate Accounting III	2
	or	
ACCT 2135	Internship	2
	Electives	2
ADSA 1122	Word Processing I	2
ADSA 1132	Calculators	1
BUS 2201	Principles of Accounting I	4
BUS 2202	Principles of Accounting II	4
BUS 2241	Business Law and Ethics	3
BUS 1104	Business Math	3
CSCI 1102	Introduction to Microcomputers	3
GSCL 1105	Job Seeking Skills	1

General Education or Related – 9 credits may include the following classes:

ENGL 1101	Composition I	3
	or	
ADSA 1176	Business Communications	3
ADSA 1141	Customer Service	2
BUS 2221	Principles of Management	3

or the following General Education classes:

English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

Total Credits 64

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 1104	Special Projects	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
ADSA 1132	Calculators	1
BUS 2201	Principles of Accounting I	4
BUS 2202	Principles of Accounting II	4
BUS 2241	Business Law & Ethics	3
BUS 1104	Business Math	3
CSCI 1102	Introduction to Microcomputers	3
GSCL 1105	Job Seeking Skills	1
	Electives	1
	Total Credits	32

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

Students in the Accounting Certificate 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, payroll accounting and computerized accounting skills.

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
		Total Credits	16

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.

ADSA	1100	College Keyboarding I	3
ADSA	1122	Word Processing I	2
CSCI	1102	Introduction to Microcomputers	3
ADSA	1176	Business Communications	3
ADSA	1105	College Keyboarding II	3
ADSA	1123	Word Processing II	2
ADSA	1131	Office Accounting Concepts II	2
ADSA	1136	Desktop Publishing	2
ADSA	1141	Customer Service for Office Prof	2
ADSA	1190	Presentation Graphics	2
GSCL	1105	Job Seeking Skills	1
ADSA	1111	Office Management	3
ADSA	1130	Office Accounting Concepts	3
ACCT	1122	Database Concepts & Applications	2
ACCT	1120	Spreadsheet Concepts & Applications	2
ADSA	1145	Supervisory Management	3
		or	
BUS	2221	Principles of Management	3
ADSA	1126	Advanced Office Applications	2
		General Education	20
		Humanities Electives	3
		General Education Electives	4 or 5
		Electives	4 or 5
		Total Credits	64

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.

ADSA	1100	College Keyboarding I	3
ADSA	1111	Office Management	3
ADSA	1122	Word Processing I	2
ADSA	1130	Office Accounting Concepts	3
ADSA	1176	Business Communications	3
CSCI	1102	Introduction to Microcomputers	3

GSCL	1105	Job Seeking Skills	1
ACCT	1120	Spreadsheet Concepts and Applications	2
ACCT	1122	Database Concepts and Applications	2
ADSA	1105	College Keyboarding II	3
ADSA	1123	Word Processing II	2
ADSA	1126	Advanced Office Applications	2
ADSA	1190	Presentation Graphics	2
ADSA	1141	Customer Service for Office Prof	2
		Electives	2
		Total Credits	35

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.

ADSA	1100	College Keyboarding I	3
ADSA	1111	Office Management	3
ADSA	1176	Business Communications	3
ADSA	1122	Word Processing I	2
GSCL	1105	Job Seeking Skills	1
ADSA	1105	College Keyboarding II	3
ADSA	1141	Customer Service for Office Prof	2
CSCI	1102	Introduction to Microcomputers	3
ADSA	1123	Word Processing II	2
		Elective	1
		Total Credits	23

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 a counselor 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.

1. Successful completion of a minimum of 64 credits, 20 of which must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.00 ("C") or better.
3. Meet the minimum of 30 credits of general education as required by the A.S. degree.
4. Fulfill a minimum of 30 credits of core technical courses unique to the agriculture program in the transfer institution, including a minimum of 18 credits in agriculture.
5. Physical Education/Health-a minimum of one course.

6. Computer Science 1102 Introduction to Microcomputers, 3 credits, required.

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:

1. Successful completion of a minimum of 64 credits, 20 of which must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.00 ("C") or better.
3. Meet the minimum of 30 credits of general education as required by the A.S. degree.
4. Physical Education/Health - a minimum of one course.
5. CSCI 1102 Introduction to Microcomputers, 3 credits required.
6. Fulfill a minimum of 30 credits of core technical courses in the areas of business and agriculture from the following:

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 Control	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	Intro to GPS/GIS	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, A.A.S.

Location: Worthington

This two year program is designed to prepare students for employment in agribusiness. Graduates may find employment opportunities in sales, services, and management positions in the Agriculture business sector.

ENGL	1101	Composition I	3
ECON	2201	Macro Economics	3
BUS	1101	Introduction to Business	4
BUS	2201	Principles of Accounting I	4
BUS	2221	Business Management	3
BUS	2242	Business Communication	3
		or	
ENGL	2276	Technical Writing	3
CSCI	1102	Introduction to Microcomputers	3
AGRI	2299	Internship	2-8
		General Education Electives	11
		Agriculture Electives	30
		Total Credits	64

Agriculture Business Marketing, A.A.S.

Location: Worthington

A.A.S. students selecting this option are looking to seek employment upon completion of this degree. This degree will provide the student with the skills necessary to work in the Agriculture business area. The areas of possible employment include, but are not limited to, ag sales and services, with skills necessary for seeking entry-level management positions.

General Education Requirement **11**

ENGL	1101	Composition I	3
ECON	2201	Macro Economics	3
BUS	1101	Introduction to Business	4
BUS	2230	Principles of Marketing	3
BUS	2242	Business Communications	3
		or	
ENGL	2276	Technical Writing	3
CSCI	1102	Introduction to Microcomputers	3
AGRI	2299	Internship	2-8
		Agriculture Electives	30
		Total Credits	64

Agriculture - Plant Science GIS/GPS, A.S.

Location: Worthington

The Plant Science GIS/GPS Associate in 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 Control	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	GIS/GPS	3
AGRI	2212	Corn & Soybean Production	3
BIOL	1110	Principles of Biology	4
BIOL	2230	Plant Biology	4
ENGL	1101	Composition I	3
CSCI	1102	Introduction to Microcomputers	3
CHEM	1101	General Inorganic I	5
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	2203	Ethics for Small Businesses	1

PHIL	2204	Ethics for Corporations	1
SPCH	1101	Introduction to Speech Health/Phy Ed	3
		Electives	1
		Total Credits	7

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 Control	3
AGRI	2204	GIS/GPS	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
		Total Credits	26

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	2214	Machinery Principles & Mgt	3
AGRI	2251	Farm & Ranch Management	4
AGRI	2297	Ag Production Mgt. Intern	2-8
		General Education	10

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

AGRI	1110	Introduction to Horticulture	3
AGRI	1121	Dairy Technician	2
AGRI	1125	Custom Application	2
AGRI	2202	Weed Control	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
		Total Credits	64

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.

ENGL	1101	Composition I	3
ECON	2101	Principles of Macro Economics	3
NSCI	1100	Issues in the Environment	3
SPCH	1101	Introduction to Speech	3
		Humanities Elective	3
		General Education Electives	5

Ag production core requirements with emphasis:

Agronomy or Animal Science

AGRI	1151	Farm Records & Bus. Analysis	4
AGRI	1152	Marketing & Pricing	3
AGRI	2251	Farm & Ranch Management	4
AGRI	2297	Internship	2-8

Students should choose (15 credits) from either

Agronomy or Animal Science listed below:

Agronomy Emphasis

AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	2202	Weed Control	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	GIS/GPS	3
AGRI	2212	Corn & Soybean Production	3
AGRI	2214	Machinery Prin. & Management	3
		Ag Mechanics Electives	3

Animal Science Emphasis

AGRI	1101	Livestock Production	3
AGRI	1102	Principles of Agronomy	3
AGRI	1103	Introduction to Soil Science	3
AGRI	1121	Dairy Technician	2
AGRI	2201	Principles of Animal Nutrition	3
AGRI	2216	Introduction to Meat Science	3

Total Credits 64

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:

1. Successful completion of a minimum of 64 credits, 20 of which must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.00 ("C") or better.
3. Meet the minimum of 30 credits of general education as required by the A.S. degree.
4. Fulfill a minimum of 30 credits of core technical courses in Agriculture. An agriculture production management internship of at least 2 credits is required.

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 Control	3
AGRI	2203	Soil Fertility & Fertilizers	3
AGRI	2204	GPS/GIS	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

5. Physical Education/Health - a minimum of one course.

6. CSCI 1102 Introduction to Microcomputers, 3 credits required.

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.

ENGL	1101	Composition I	3
SPCH	1101	Introduction to Speech	3
Choose one of the following:			3
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

Choose one of the following: 3-4

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
Total Credits			60

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

* Consult counselor/advisor

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

Auto Body, Rod, Custom & Restoration, Diploma

Location: Granite Falls

Auto Body, Rod, Custom & Restoration technicians repair damaged vehicles to their "pre-accident" condition by replacing or repairing and realigning the exterior panels made of sheet

metal, plastic or fiberglass. In addition, the technicians must replace, straighten, and align the structural components to bring the vehicle back to the factory specifications. Students in the two-year program spend the first year gaining hands-on experience in areas such as welding, sheet metal repair, collision repair, refinishing, filler, adhesives, and plastics repair. Students who choose to continue through the second year of training learn the skills of collision damage repair and replacement, estimating, suspension and wheel alignment techniques, and auto body electrical systems. Students will mix and match paints for spot repairs as well as to repair components on "repairable" vehicles.

The customizing and restoration option available to students comes toward the end of the second year of training. Students work on vehicles to learn street rod construction, custom painting, custom vehicle modification, and vehicle restoration.

General Studies/General Education Electives			9
TRAB	1200	Auto Body Welding	4
TRAB	1206	Plastic Filler & Adhesives	3
TRAB	1215	Auto Body Specialty Lab I	5
TRAB	1220	Intro to Refinishing	6
TRAB	1232	Auto Body Specialty Lab II	5
TRAB	1240	Intro to Auto Body Restoration	1
TRAB	2100	Color Matching & Blending/ Spot Repairs	3
TRAB	2111	Auto Body Mechanical Repairs	5
TRAB	2112	Auto Body Electrical & Advanced System Repairs	2
TRAB	2130	Custom Paint Layout & Applic	4
TRAB	2160	Auto Body Specialty Lab IV	5-6
TRAB	2210	Metal Fabrication	6
TRAB	2215	Modified Vehicle Construction I	4
TRAB	2230	Modified Vehicle Construction II	4-5
TRAB	2235	Basic Auto Upholstery & Trim	2
Total Credits			68

Auto Body, Rod & Custom, Certificate

Locations: Granite Falls

TRAB	2100	Color Matching & Blending/ Spot Repairs	3
TRAB	2111	Auto Body Mechanical Repairs	5
TRAB	2112	Auto Body Electrical & Advanced System Repairs	2
TRAB	2130	Custom Paint Layout & Applic	4
TRAB	2160	Auto Body Specialty Lab IV	5-6
TRAB	2215	Modified Vehicle Construction I	4
TRAB	2230	Modified Vehicle Construction II	4-5
TRAB	2235	Basic Auto Upholstery & Trim	2
Total Credits			30

Auto Body & Restoration, Certificate

Locations: Granite Falls

TRAB	1200	Auto Body Welding	4
TRAB	1206	Plastic Filler & Adhesives	3
TRAB	1215	Auto Body Specialty Lab I	5
TRAB	1220	Intro to Refinishing	6
TRAB	1232	Auto Body Specialty Lab II	5
TRAB	1240	Intro to Auto Body Restoration	1
TRAB	2210	Metal Fabrication	6
Total Credits			30

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 1100	Intro to Transportation	2
AUTO 1111	Electrical	4
AUTO 1120	Air Conditioning	2
AUTO 1121	Adv. Heating & Air Conditioning	2
AUTO 1126	Steering and Alignment	4
AUTO 1131	Brakes	4
AUTO 1136	Engine Technology & Lab	5
AUTO 1145	Engine Performance I	2
AUTO 2106	Automatic Transmissions	5
AUTO 2112	Manual Drive Train & Axles	5
AUTO 2121	Engine Performance II	5
AUTO 2122	Advance Engine Performance III	5
AUTO 2145	Body Computer Controlled Electrical Systems	5
AUTO 2190	Summer Internship (after 2nd Semester)	4 or 6

General Education - 18 credits as follows:

ENGL 1101- Composition I, 3 credits
NSCI 1110-Issues in the Environment, 3 credits
PSYC 1101-Intro to Psychology, 4 credits
Humanities Electives, 3 credits: Art, Foreign Language, Literature, Music, Philosophy, Theatre, Western Civilization

General Education Electives - 5 credits as follows:

English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

Total Credits 72

Automotive Technician, Diploma

Locations: Jackson

The automotive technician inspects, tests and diagnoses vehicles to determine repairs required. Technicians start engines and listen for sounds indicative of malfunctions. They drive vehicles noting performance of parts such as clutch, gears and brakes. They also analyze the motor for cylinder compression, fuel consumption, wheel alignment, and steering using a variety of testing devices. The automotive technician plans work procedures using charts, technical manuals and experience. A variety of lifting devices are used to gain access to the underside of vehicles.

Disassembling units, such as engines, transmissions and differentials to inspect parts for wear is also done by technicians. Wear will be measured by using micrometers, calipers, and thickness gauges. Technicians may repair and replace parts. General auto service of vehicles may also be a part of the automotive technician's duties.

AUTO 1100	Intro to Transportation	2
AUTO 1111	Electrical	4
AUTO 1120	Air Conditioning	2
AUTO 1121	Adv. Heating & Air Conditioning	2
AUTO 1145	Engine Performance I	2
AUTO 1126	Steering/Suspension/Alignment	4
AUTO 1131	Brakes	4
AUTO 1136	Engine Technology & Lab	5
AUTO 2190	Summer Internship (after 2nd semester)	4
AUTO 2106	Automatic Transmissions	5
AUTO 2112	Manual Drive Train & Axles	5
AUTO 2121	Engine Performance II	5
AUTO 2122	Advance Engine Performance III	5
AUTO 2145	Body Computer Controlled Electrical Systems	5

General Education or Related 10

credits would include the following classes:

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

Technical Writing or the following General Education classes:

English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

Total Credits 64

Automotive Advanced Engine Performance & Electrical, Certificate

Locations: Canby and Jackson

AUTO 2121	Engine Performance II	5
AUTO 2122	Advance Engine Performance III	5
AUTO 2145	Body Computer Controlled Electrical Systems	5
AUTO 2190	Summer Internship (after 2nd semester)	4
Total Credits		19

Automotive Drivetrain Systems, Certificate

Locations: Canby and Jackson

AUTO 1126	Steering and Alignment	4
AUTO 1131	Brakes	4
AUTO 2106	Automatic Transmissions	5
AUTO 2112	Manual Drive Train Axles	5
Total Credits		18

Automotive Engine Repair & Electrical, Certificate

Locations: Canby and Jackson

AUTO 1100	Introduction to Transportation	2
AUTO 1111	Electrical	4
AUTO 1120	Air Conditioning	2
AUTO 1121	Adv. Heating & Air Conditioning	2
AUTO 1145	Engine Performance I	2
AUTO 1136	Engine Technology & Lab	5
Total Credits		17

Aviation - PreAirway Science, A.S.

Location: Worthington

The pre-airway science curriculum prepares students to transfer into airway science majors at transfer institutions. Students are awarded an A.S. degree in Pre-Airway Science upon successful completion of the following requirements:

1. Successful completion of 64 semester credits of which at least 20 must be earned at Minnesota West Community & Technical College.

2. A Grade Point Average of 2.0 ("C") or better.

3. Meet the general education requirements of the A.S. Degree.

- A. Communications
ENGL 1101 and 2276 6 cr.
SPCH 1101 3 cr.
- B. Math/Science
MATH 1105, 1111 and 1113 11 cr.
PHYS 1201 and 1202 8 cr.
CHEM 1101 4 cr.
- C. Behavioral/Social Science* - a minimum of 3 credits from the following areas:
Economics
Political Science
Geography
Psychology
History
Sociology
- D. Humanities** - a minimum of 3 credits from the following:
Art
Philosophy
Literature
Theater
Humanities
Western Civilization
Music

4. Physical Education/Health
PHED activity required 1 cr.

5. Computer Science
CSCI 1102 Intro to Microcomputer 3 cr.
CSCI 2240 Fund. of Programming I 4 cr.

6. Geography
GEOG 2140 - Meteorology 3 cr.

7. Electives sufficient to total 64 credits
(Electives to be taken from the General Education categories)

***Students should take behavioral/social science classes based on the institution to which they intend to transfer. Some institutions may require more than 4 credits in this category. Some courses recommended, depending on the transfer institution are:**

- ECON 2201 Principles of Macroeconomics
- ECON 2202 Principles of Microeconomics
- History courses - American History and Western Civilization
- PSCI 1101 Intro to Political Science
- PSYC 1101 Intro to Psychology
- SOC 1101 Intro to Sociology

****Students should take humanities classes based on the institution to which they intend to transfer. Some institutions may require more than 3 credits in this category.**

Pre-Airway Science students should consult with a Minnesota West counselor concerning the specific requirements at the school to which they plan on transferring.

Biofuels Technology, A.A.S.

Location: Granite Falls

Today's process plants are highly technical and completely automated. A Biofuels Technician is responsible to ensure that the plant continues to operate in the most efficient and economic way possible. To do so, the technician needs to develop a basic understanding of the biological and chemical conversion processes, industrial water treatment, as well as compound separation through distillation, molecular sieve dehydration, and evaporation. A basic understanding of instrumentation, mechanical fundamentals, laboratory techniques, and computerized process control systems are covered in this program. The Biofuels Technology, A.A.S., program has a science-based curriculum carried out over four semesters. Two 17-credit certificate programs are also offered in an online format and can be completed in one year. These certificate programs emphasize ethanol or biodiesel production.

BIOL 1110	Principles of Biology	4
ENGL 1101	Composition I	3
MATH 1111	College Algebra	3
	Social Science Elective	3
FLPW 1100	Hydraulic Theory	4
RNEW 1100	Process Dynamics	3
RNEW 1101	Ethanol Process Fundamentals	2
RNEW 1102	Biodiesel Fundamentals	2
RNEW 1103	Biodiesel Fundamentals Lab	1
RNEW 1105	Introduction to OSHA	1
RNEW 1110	Boiler Systems	1
RNEW 1115	Mechanical Fundamentals	3
RNEW 1125	P & ID, PFD	1
RNEW 1130	Pollution Control Fundamentals	2
RNEW 1140	Process Chemistry	2
RNEW 1145	Seminar	1
RNEW 1155	Process Optimization Lab	2
RNEW 1160	Instrumentation & Control	3
RNEW 1170	Microbial Ecology	2
RNEW 1171	Microbial Ecology Lab	1
RNEW 1175	Industrial Water Treatment	2
RNEW 1185	Ethanol Process Fund. Lab	1
RNEW 1195	Biodiesel Technologies & Regulatory Issues	2
RNEW 2120	Ethanol Separation Technology	2
RNEW 2121	Distillation & Evapor Theory Lab	2
RNEW 2165	Instrumentation Control Lab	1
	Technical Electives (must be approved by Advisor)	3
	General Education Elective	3
Approved Technical Electives:		
CSCI 1102	Introduction to Microcomputers	3
CST 1180	Data Security Awareness	1
ELWT 1100	Wind Energy Fundamentals	3
FLPW 1120	Pneumatics & Accessories Theory	3
ROBT 1135	Electromechanical Theory	2
RNEW 1300	Intro to Traditional and Renewable Energy	3
RNEW 1165	Company Internship	4
	Total Credits	60

Biofuels Technology; Biodiesel, Certificate

Location: Granite Falls and Virtual

This 17-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 1105	Introduction to OSHA	1
RNEW 1115	Mechanical Fundamentals	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
Total Credits		17

Biofuels Technology; Ethanol, Certificate

Location: Granite Falls and Virtual

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 1105	Introduction to OSHA	1
RNEW 1115	Mechanical Fundamentals	3
RNEW 1125	P & ID, PFD	1
RNEW 1160	Instrumentation & Control	3
RNEW 1175	Industrial Water Treatment	2
RNEW 2120	Ethanol Separation Technology	2
Total Credits		17

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 counselors at Minnesota West-Worthington campus for assistance with curriculum planning. This degree meets the Associate in Arts and MnTC requirements and will take five or six semesters to complete. Students desiring the Associate in Science degree may be able to complete the program in four semesters.

ENGL 1101	Composition I	3
Choose two of the following:		7-9
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
MATH 1121	*Calculus I	4

CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
BIOL 1110	Principles of Biology	4
SPCH 1101	Introduction to Speech	3
Choose one of the following:		3
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
BIOL 2220	Animal Biology	4
BIOL 2230	Plant Biology	4
BIOL 2270	*Microbiology	4
Social Science Electives**		6-9

Choose one or two:

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
Total Credits		60

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.

Biotechnology Lab Technician, A.A.S.

Location: Worthington

Biotechnology is the application of biological organisms, systems, and/or processes to learn about the science of life and the improvement of the value of materials and organisms such as pharmaceuticals, crops, and livestock. Biotechnology is a relatively new and fast-developing field that integrates knowledge from several traditional sciences: biochemistry, chemistry, microbiology, and chemical engineering. Graduates may work in labs for companies in the areas of pharmaceuticals, food processing, molecular biology, agricultural research, and product analysis.

CSCI 1102	Introduction to Microcomputers	3
BIOL 1110	Principles of Biology	4
CHEM 1101	General Inorganic Chemistry I	4
MATH 1105	Statistics	4
ENGL 1101	Composition I	3
BIOL 2270	Microbiology	4
BIOT 1101	Introduction to Biotechnology	3
PHYS 1100	Survey of Physics	3
Recommended Electives		3
SPCH 1101	Introduction to Speech	3
BIOT 2205	Molecular and Cellular Biology	3
BIOT 2210	Biotechnology Methods I	4
CHEM	Organic and Biological Chemistry	3
Recommended Electives		3
ENGL 2276	Technical Writing	3
BIOT 2220	Biotechnology Methods II	4
BIOT 2225	Analytical and Investigative Lab Techniques	4
BIOT 2297	Internship	2
*	Recommended Electives	4
Total Credits		64

* For recommended electives, choose from:

Genetics, Animal Science, Agronomy, Animal Biology, Plant Biology, and College Algebra

Business, A.S.

Location: Worthington and Online

This is a pre-professional degree made up of a minimum of 30 transfer-level general education credits and 30 occupational or pre-professional credits. The program is designed to transfer to a B.S. program in business, marketing, management, or accounting. To complete the degree students must fulfill the following requirements:

- Successful completion of a minimum of 64 credits of which at least 20 must be earned at Minnesota West Community & Technical College.
- A grade point average of 2.0 ("C") or better.
- Students should select general education credits that will allow them to substantially complete 8 or 10 of the areas listed under the A.A. Degree, Minnesota Transfer curriculum.

Recommended Area:

- Area 1: Communications
- Area 2: Critical Thinking
- Area 3: Natural Science
- Area 4: Mathematical/Logical Reasoning
 - MATH 1111 College Algebra or MATH 1105 Intro to Probability and Statistics
- Area 5: History and the Social and Behavioral Sciences - ECON 2201 Macroeconomics and either Psychology or Sociology
- Area 6: The Humanities and Fine Arts
 - One humanities or natural science course
- Area 7: Human Diversity
- Area 8: Global Perspective
- Area 9: Ethical and Civic Responsibility
- Area 10: People and the Environment.

Some courses should be selected to meet two areas. Students will be required to take general education courses in at least two areas (natural science and humanities) at the receiving institution.

- 30 Credits of technical courses (see below)
 - A. Required Electives**
 - 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
 - BUS 2242 Business Communications 3
 - B. Electives - Choose 3 of the following**
 - BUS 1104 Business Mathematics 3
 - BUS 2200 Intro to Management Info Sys 3
 - BUS 2232 Professional Selling 3
 - BUS 2241 Business Law 3
 - BUS 2275 Human Resource Management 3
 - ECON 2202 Principles of Microeconomics 3
- Physical Education/Health- a minimum of one course
- CSCI 1102 Introduction to Microcomputers, 3 credits required

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 in Arts and MnTC requirements.

ENGL 1101	Composition I	3
Choose one of the following:		
ENGL 1102	Composition II	3
ENGL 2276	Composition: Technical Writing	3
ENGL 2243	Composition: Creative Writing	3
	Biology	3-4
MATH 1111	College Algebra	3
	or	
SPCH 1101	Introduction to Speech	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	Introduction to Probability and Statistics	4
	Social Science Elective***	3
	Humanities Electives	9
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

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

Note: See advisor/counselor 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 Education, A.A.

Location: Worthington

This curriculum is designed for students who plan to teach Business Education courses in high school. The general education courses will vary depending upon the students interest and the requirements of the College or university to which the student intends to transfer. The student may take a somewhat reduced load from what is listed below. This program meets the Associate in Arts degree and MnTC requirements. It is based on the Board of Teaching approved major at Winona State University. All students who plan to enroll in education programs MUST complete the PPST (Pre-Professional Skills Test) before enrolling in junior level education courses. The PPST bulletin is available in the Student Services Office.

ENGL 1101	Composition I	3
MATH 1111	College Algebra	3
	or	
MATH 1113*	Pre-Calculus	4
	Biology	3-4
CSCI 1100	**Microcomputer Keyboarding	2
PSYC 1101	Introduction to Psychology	4
	Chemistry or Physics	3-4
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:

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
CSCI	1131	Word Processing I	2

Choose one of the following:

NSCI	1100	Issues in the Environment	3
PSCI	2210	Environmental Politics	3
GEOG	1101**	Intro to Physical Geography	4
BUS	1101	Introduction to Business	4
MATH	1105*	Introduction to Probability and Statistics	4
SPCH	1101	Introduction to Speech	3
		Social Science Elective***	3
		Humanities Electives	9
		Total Credits	60

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

- * Placement depends on the students starting proficiency.
- ** Depends on transfer institution.
- *** If either PSCI 2210 or GEOG 1101 is taken to meet areas 5 and 10, the SOC SCI requirement is completed.

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:

NOTE: Keyboarding proficiency or a course in keyboarding is strongly recommended.

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	2242	Business Communications	3
CSCI	1102	Introduction to Microcomputers	3
CSCI	2100	Advance Microcomputer Applic	4
		General Education Electives	20
		Electives	13
		Total Credits	64

* 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 64 credits of which at least 20 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.

Business Management - 30 credits (see below table)

BUS	1101	Introduction to Business	4
**BUS	1104	Business Mathematics	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	2242	Business Communications	3

Choose a minimum of six (6) electives credits from the following:

BUS	2200	Intro to Mgmt. Info. Sys.	3
BUS	2232	Professional Selling	3
BUS	2233	Advertising	3
BUS	2241	Business Law	3
BUS	2275	Human Resource Mgmt.	3
BUS	2297	Internship	2-8
ECON	2201	Principles of Macroeconomics	3
ECON	2202	Principles of Microeconomics	3

4. Physical Education/Health - a minimum of one course.
5. CSCI1102 Introduction to Microcomputers, 3 credits required.

*Transfer with validation by the receiving institutions:

Methods of validation:

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

**Course may be waived by petition.

Business Management Computer Emphasis, A.S.

Location: Worthington

This Business Management Computer Science Emphasis Program is a cooperative effort between the Business Department and the Computer Science Department. The program is designed to prepare students academically with an interdisciplinary background in business decision-making and computer science. Students earn an A.S. Degree in Business Management Computer Emphasis upon successful completion of the following requirements:

1. Successful completion of a minimum of 64 credits of which at least 20 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 of the A.S. degree.

4. Business Management Computer Emphasis - a minimum of 30 credits including: (See below)

A. Required (Core) Courses

BUS	1101	Introduction to Business	4
*BUS	1104	Business Mathematics	3
BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4
BUS	2221	Principles of Management	3
CSCI	2100	Advance Micro Applications	4
CSCI	2130	Data Base Management Systems	3
CSCI	2140	Elec. Spreadsheets/Graphics	3

B. Choose a minimum of 2 credits of electives from the following:

BUS	2200	Intro to Management Info Systems	3
BUS	2230	Principles of Marketing	3
BUS	2232	Professional Selling	3
BUS	2233	Advertising	3
BUS	2241	Business Law	3
BUS	2275	Human Resource Management	3
CSCI	2120	Publishing Web Pages	1
CSCI	2200	Visual Basic Programming	4
CSCI	2215	Web Programming I	3
CSCI	2240	Fundamentals of Programming I	4
CSCI	2250	Java Programming	4
CSCI	2290	Tech. Capstone Seminar	1

5. Physical Education/Health - a minimum of one course.

6. CSC1102 Introduction to Microcomputers, 3 credits required.

NOTE: Students who did not take two years of a world language in high school may need one year of college credit in a language to meet state university preparation requirements.

Business – PreBusiness Preparation, A.A.

Location: Worthington

The associate in arts degree is a liberal arts transfer degree. While an A.A. degree might include a core of courses appropriate to a major field at the baccalaureate level, its focus is on general education or the first two years of a four-year preparation. To complete the degree, students must fulfill the following requirements:

1. Successful completion of a minimum of 60 credits of which at least 20 must be earned at Minnesota West Community & Technical College.
2. A grade point average of 2.0 ("C") or better.
3. A minimum of 40 credits of General education. This fulfills the MN Transfer Curriculum.

Recommended Areas:

- Area 1: Communications
- Area 2: Critical Thinking
- Area 3: Natural Science
- Area 4: Mathematical/Logical Reasoning - MATH
1111 College Algebra is the required math class.
- Area 5: History and the Social and Behavioral Sciences
- ECON 2201 Macroeconomics
and either Psychology or Sociology.
- Area 6: The Humanities and Fine Arts
- Area 7: Human Diversity

- Area 8: Global Perspective
- Area 9: Ethical and Civic Responsibility
- Area 10: People and the Environment

4. 18 credits selected from the list below:

BUS	2201	Principles of Accounting I	4	
BUS	2202	Principles of Accounting II	4	
ECON	2202	Principles of Microeconomics	3	
MATH	1105	Intro to Probability & Statistics	4	
			Total Required Credits	15

Electives in business chosen from the following:

BUS	1101	Introduction to Business	4
BUS	2221	Principles of Management	3
BUS	2230	Principles of Marketing	3
BUS	2241	Business Law	3
BUS	2242	Business Communications	3

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

World Language (Students who did not take two years of a world language in high school may need one year of college credits in a language to meet state university preparation requirements.)

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
			Total Credits	16

Carpentry I, Diploma

Location: Pipestone

The Carpentry major prepares students for careers as carpenters in residential and commercial construction. The program provides individuals with the knowledge and skills to practice safe work habits, solve carpentry math functions, read blueprints, as well as design and draw residential house plans. In addition, students will estimate materials for construction projects and apply framing and finishing methods or techniques common to the building trades industry in actual construction projects. 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 good 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.

Students in the Carpentry program will also be exposed to 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 efficiency building design to enhance the well-being of occupants, and

to minimize negative impact on the community and natural environment.

CRPT 1101	Tool Safety, Construction Terms & Materials	2
CRPT 1105	Floor and Wall Framing	4
CRPT 1110	Roof Framing Part I	2
CRPT 1115	Insulation, Ventilation, Vapor Barriers & Dry Wall	2
CRPT 1120	Roof Framing Part II	2
CRPT 1125	Estimating and Blueprint Reading	3
CRPT 1130	Stairway Construction	2
CRPT 1135	Exterior Finishing Wall & Roof Covering	2
CRPT 1140	Proj Planning, Estimation, Layout	4
CRPT 1145	Interior Trim	2
CRPT 1150	Site Layout, FO, Blueprint Reading	4
CRPT 2271	Construction Drafting & Design Electives	3
	Total Credits	34

Carpentry II, Diploma

Location: Pipestone

The Carpentry major prepares students for careers as carpenters in residential and commercial construction. This program prepares individuals to apply technical knowledge and skills to layout, fabricate and repair wooden structure and fixtures by using hand and power tools. The program includes instruction in areas such as common systems of framing construction materials, estimating, blueprint reading, and finish carpentry techniques. Carpentry I is a prerequisite to entering the Carpentry II program.

Students in the Carpentry program will also be exposed to 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 efficiency building design to enhance the well-being of occupants, and to minimize negative impact on the community and natural environment.

CRPT 2205	Foundations and Floors	3
CRPT 2215	Concrete Technology	2
CRPT 2235	Wall and Roof Framing	3
CRPT 2237	Exterior Finish and Shingling	4
CRPT 2242	Deck and Porch Construction	2
CRPT 2245	Cabinet Layout and Design	1
CRPT 2250	Cabinet Construction	5
CRPT 2249	Cabinet Installation	4
CRPT 2260	Interior Finish and Staircase Const.	3
CRPT 2270	Construction Business Mgt.	2
CRPT 2280	Insulation & Interior Wall Cover	3
	Total Credits	32

Chemistry, A.A.

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 in Science degree.

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
CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
	Humanities Electives	6
	Social Science Electives	6
CHEM 2201	Organic Chemistry I	5
CHEM 2202	Organic Chemistry II	5
PHYS 2121	General Physics I	5
PHYS 2122	General Physics II	5
	Choose one of the following:	3
ENGL 1102	Composition II	3
ENGL 2276	Composition: Technical Writing	3
ENGL 2243	Composition: Creative Writing	3
SPCH 1101	Introduction to Speech	3
	Total Credits	60

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, CSCI 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. Successful completion of 64 credits of which at least 20 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 from the four general education categories listed below:

- A. Communications - a minimum of 6 credits
ENGL 1101 Composition I, (3) required
ENGL 1102 Composition II, (3) required
SPCH 1101 Speech (3), required

- B. Four or more credits from each of the following areas to total 21.
- Science/Math
 MATH1107 Concepts in Math (3) suggested
- Behavior/Social Science
 PSYC 1101 Intro to Psychology (4) required
 SOC 1101 Intro to Sociology (3) required
- Humanities
 PHIL 2201 Ethical Theory (1) required
4. Physical Education/Health:
 EMS 1112 AHA CPR (1) – required
5. CSCI1102 – Intro to Microcomputers (3) – required
6. 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	2220	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
Total Credits			30

(Suggested Electives: NSCI1100 Issues in the Environment, SOC 2210 Marriage & Family, PHIL101 Intro. to Philosophy, ART 1120 Art Appreciation, ART 2240 Art History, GEOG 1100 Geography, HIST1111 Western Civ, MATH1107, MUSC1105 Enjoying Music, PSYC1140 Child & Adolescent Psych, HLTH 2220 Drugs, HLTH 1101 Personal Wellness)

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. 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 with Lab	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, Nutr. & Safety	2
CDEV	1269	Guidance, Managing the Physical	

		& Social Environment Lab	1
HSER	1269	Guidance: Managing the Physical and Social Environments	2
Total Credits			16

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. 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.

GSCM	1120	Technical Writing	2
CDEV	2200	Infant & Toddler Dev. with lab	4
CDEV	1340	Planning and Implementing with lab	4
CDEV	1510	Internship	2
EMS	1112	AHA CPR Healthcare Provider	1
HSER	1267	Special Needs	2
CDEV	2560	Language & Literature Learning Experiences	3
Total Credits			34

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 in Science degree graduates.

ENGL	1101	Composition I	3
Choose one of the following 2:			3-4
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
Choose one of the following 3:			3
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

Humanities Electives*		3
SPCH 1101	Introduction to Speech	3
CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
Choose two of the following 3:		8-10
BIOL 2250	Anatomy and Physiology I	4
BIOL 2260	Anatomy and Physiology II	4
BIOL 2245	**Medical Terminology	2
SOC 1101	Introduction to Sociology	3
PSYC 1101	Introduction to Psychology	4
	Total Credits	60

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

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:

1. Successful completion of 64 credits of which at least 20 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 from the four general education categories listed below:
 - A. Communications - a minimum of 6 credits
ENGL 1101 Composition I, required,
ENGL 2276 or SPCH 1101.
 - B. Four or more credits from each of the following areas to total 24.
 - a. Science/Math – MATH1111 or PHIL 1200 required.
 - b. Behavior/Social Science - PSYC 1101 or ECON 2201 or ECON 2202 required.
 - C. Humanities.
4. Fulfill at least a 30 credit core of technical courses unique to the Computer Applied Technology Program (see table below)

A minimum of 24 credits:

CSCI 2100	Adv Microcomputer Applications	4
CSCI 2140	Spreadsheets & Graphics	3
CSCI 2200	Visual Basic Programming	4
CSCI 2250	Java Programming	4
CSCI 2255	Java Programming II	4
CSCI 2290	Technology Capstone Seminar	1
Plus one additional Programming Language:		
CSCI 2215	Web Programming I	3
CSCI 2240	Fundamentals of Programming I	4

CSCI 2260	Assembly Language Programming	4
A minimum of eight credits in related area:		
BUS 1101	Introduction to Business	4
BUS 2201	Principles of Accounting I	4

5. Physical Education/Health- a minimum of one course.

6. CSCI 1102 Introduction to Microcomputers, 3 credits required.

Computer Engineering Technology, A.A.S.

Location: Jackson

The Computer Engineering Technology program prepares individuals to apply basic engineering principles and technical skills in designing and developing computer systems and installations. Includes instruction in computer electronics and programming, prototype development and testing, systems installation and testing, peripheral equipment and report preparation.

CSCI 1102	Introduction to Microcomputers	3
CST 1111	File Structures	3
ELCO 1100	Electrical Circuits Fundamentals	3
ELCO 1105	Electrical Circuits Fund Lab	3
CST 1190	Introduction to Networking	3
CST 1125	Operating Systems	3
CST 2224	Windows Client/Server Admin	4
CST 2110	PC Maintenance and Repair I	3
CSCI 2200	Visual Basic Programming	4
CST 2215	PC Maintenance and Repair II	3
ELTW 1104	Basic Digital Circuits	2
CST 2310	Info Technology Customer Service	2
GSCL 1105	Job Seeking Skills	1
	Technical Electives	3

General Education-20 credits as follows:

ENGL 1101	Composition I	3
MATH 1111	College Algebra	3
PSYC 1101	Intro to Psychology	4
	or	
SOC 1101	Intro to Sociology	3
SPCH 1101	Intro to Speech	3

Humanities Electives, 3 credits:

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

General Education Electives - 4 or 5 credits as follows:

English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

Total Credits 64

Computer Engineering Technology, Diploma

Location: Jackson

The Computer Engineering Technology program prepares individuals to apply basic engineering principles and technical skills in designing and developing computer systems and installations. Includes instruction in computer electronics and programming, prototype development and testing, systems installation and testing, peripheral equipment and report preparation.

CSCI 1102	Introduction to Microcomputers	3
CST 1111	File Structures	3
CST 1190	Introduction to Networking	3
CST 2224	Windows Client/Server Admin	4
CST 1125	Operating Systems	3

ELCO	1100	Electrical Circuits Fundamentals	3
ELCO	1105	Electrical Circuits Fund Lab	3
CST	2110	PC Maintenance and Repair I	3
CSCI	2200	Visual Basic Programming	4
CST	2215	PC Maintenance and Repair II	3
ELTW	1104	Basic Digital Circuits	2
Total Credits			48

General Education or Related-10 credits would include the following classes:

GSSS 1100 Human Relations
 GSCL 1105 Job Seeking Skills
 English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

For 7 credits of suggested Electives, choose from the following:

ADSA	1100	College Keyboarding I	3
ADSA	1122	Word Processing I	2
ADSA	1190	Presentation Graphics	2
CST	2326	Web Page Concept	2
ELTL	1101	Basic Telecommunications	3

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 counselors, faculty and/or advisors at Minnesota West and the transfer institution of their choice.

ENGL	1101	Composition I	3
MATH	1111	College Algebra	3
PHYS	1201	Fundamentals of Physics	4
SPCH	1101	Introduction to Speech	3

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
PHIL	2231	Western Religions: Christianity, Islam & Judaism	1
PHIL	2232	Eastern Religions: Hinduism,	

		Buddhism & Confucianism	1
PHIL	2233	Natural Religions: Taoism, Shamanism & Native American Elective	1

Required Core Courses

CST	1111	File Structures	3
CST	1190	Introduction to Networking	3
CST	2110	PC Maintenance & Repair I	3
CST	2215	PC Maintenance & Repair II	3
CST	2220	Windows NT Administration I	3
CST	2310	Info Technology Customer Service	2
CST	2199	Internship	
		or	
CSCI	2290	Technology Capstone Seminar	
		or	
CSCI	2297	Computer Science Internship	1-8
ENGL	2276	Composition: Technical Writing	3
CSCI	1102	Introduction to Microcomputers	3
CSCI	2200	Visual Basic Programming	4
CSCI	2202	Computers, Technology & Society	4
CSCI	2250	Java Programming	4
CSCI	2255	Java Programming II	4
Select one of the following courses			
CSCI	2240	Fundamentals of Programming I	4
CSCI	2260	Assembly Programming	5
MATH	1121	**Calculus I	5
Total Credits			64

*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 Information Science (CIS), A.A.

Location: Worthington

The Associate in Arts degree is a Liberal Arts transfer degree. While an Associate in Arts degree might include a core of courses appropriate to the transfer track to a major in Computer Information Science at the baccalaureate level, its focus is on general education.

To complete the degree students must fulfill the following requirements:

1. Successful completion of a minimum of 60 semester credits.
2. A grade point average of 2.0 ("C") or better.
3. A minimum of 40 credits of general education. This fulfills the Minnesota Transfer Curriculum.

- A. Communications - required ENGL1101, ENGL2276 and SPCH1101.
- B. Critical Thinking: Any student who completes the general education curriculum will have completed the requirements for this goal.
- C. Natural Science
- D. Mathematical/Logical Reasoning: required MATH1105 and MATH1111 or MATH1121.
- E. History and the Social and Behavioral Sciences.
- F. The Humanities and Fine Arts.
- G. Human Diversity.
- H. Global Perspective.
- I. Ethical and Civic Responsibility.

J. People and the Environment.

4. Computer Information Science core: 16 (Baccalaureate admission requires a 2.50 or higher GPA in core courses, including a minimum of a "B" in CSCI2250 and a minimum of a "C" in CSCI2255) (listed below)

CSCI	2250	Java Programming I	4
CSCI	2255	Java Programming II	4
CSCI	2280	Systems Analysis & Design	4

Choose one of the following courses

CSCI	2200	Visual Basic Programming	4
CSCI	2240	Fundamentals of Programming I	4
CSCI	2260	Assembly Language Programming	4

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

6. World Language: (Students who did not take two years of a world language in high school may need one year of college credits in a language to meet state university preparation requirements.)

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 64 credits, 20 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)

CSCI	1150	Presentation Development	3
CSCI	2100	Advanced Microcomputer Applications	4
CSCI	2130	Database Management	3
CSCI	2140	Electronic Spreadsheets/Graphics	3
CSCI	2200	Visual BASIC Programming	4
CSCI	2215	Web Programming I	3
CSCI	2290	Technology Capstone Seminar	1

Nine credits of electives from the following:

BUS	1101	Introduction to Business	4
BUS	2200	Intro Management Info Systems	3
CSCI	2150	Multimedia for the Web	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
CSCI	2260	Assembly Language	4
Total Credits			21

5. CSCI 1102 Introduction to Microcomputers, 3 credits required.

6. Electives sufficient to total 64 credits.

Computer Support Technician, A.A.S.

Location: Granite Falls

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. This training provides the students with practical knowledge needed to solve computer problems.

		*General Education Electives	13
CSCI	1102	Introduction to Microcomputers	3
CST	1111	File Structures	3
CST	1125	Operating Systems	3
CST	1135	Unix Operating System	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	3
CST	1200	Introduction to Information Security	3
CST	1500	Routers and Switches	3
CST	2110	PC Maintenance and Repair	3
CST	2215	PC Maintenance and Repair II	3
CST	2224	Windows Client/Server Admin. I	4
CST	2310	Info Technology Customer Service	2
ENGL	1101	Composition I	3
GSCL	1105	Job Seeking Skills	1
		**Technical Electives	13
Total Credits			64

* Additional credits of electives in 3 General Education areas with the approval of the advisor.

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

Computer Support Technician, Diploma

Location: Granite Falls

		*General Education Electives	7
CSCI	1102	Introduction to Microcomputers	3
CST	1111	File Structures	3
CST	1125	Operating Systems	3
CST	1135	Unix Operating System	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	3
CST	1200	Introduction to Information Security	3
CST	1500	Routers and Switches	3
CST	2110	PC Maintenance and Repair	3
CST	2215	PC Maintenance & Repair II	3
CST	2224	Windows Client/Server Admin.	4
CST	2310	Info Technology Customer Service	2
ENGL	1101	Composition I	3
GSCL	1105	Job Seeking Skills	1

**Technical Electives	19
Total Credits	64

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

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

(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.

CSCI	1102	Introduction to Microcomputers	3
CST	1111	File Structures	3
CST	2110	PC Maintenance & Repair	3
CST	1125	Operating Systems	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	3
CST	2215	PC Maintenance & Repair II	3
CST	2310	Info Technology Customer Services	2
GSCL	1105	Job Seeking Skills	1

Electives from the following to total 4 credits:

ADSA	1122	Word Processing I	2
GSSS	1100	Human Relations	2
CST	1135	Unix Operating System	3
CST	2326	Web Page Concepts	2
CST	2999	Special Topics: (1-3 Credits)	2
Total Credits			26

Successful candidates may complete more than the required 26 credits.

(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.

		General Education Electives	13
ENGL	1101	Composition I	3
CSCI	1102	Introduction to Microcomputers	3
CST	1111	File Structures	3
CST	1125	Operating Systems	3
CST	1135	Unix Operating Systems	3
CST	1180	Data Security Awareness	1
CST	1190	Introduction to Networking	3
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	2310	Information Technology Customer Service	2
CST	2224	Windows Client/Server Admin. I	4
CST	2520	Ethical Hacking	2
		Technical Electives	12
Total Credits			64

* 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 Administration, Certificate

Location: Granite Falls

The Information Security Administration Certificate addresses the actual setup and maintenance of a secure environment designed in the Information Security Management Certificate courses. This certificate will include authentication and securing servers, workstations, and their file systems. Students will set up routers and firewalls and study computer forensics. This course is designed for the technician who will be responsible for the setup and maintenance of a secure environment.

CSCI	1111	File Structures	3	
CST	1127	Windows Desktop Operating Syst.	3	
or				
CST	1125	Operating Systems	4	
CST	1250	Information Security Administration	3	
CST	1300	Computer Forensics	3	
			Electives	3
Total Credits			15	

(Computer) Information Security Management, Certificate

Location: 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. This certificate is offered in an online format and can be completed in two semesters.

CSCI	1102	Introduction to Microcomputers	3	
CST	1190	Introduction to Networking	3	
or				
CST	1195	Information Security Network Basics	2	
CST	1200	Introduction to Information Security	3	
CST	1220	Information Security Management	3	
			Electives	3
Total Credits			14	

(Computer) Management Information Systems (MIS), A.A.

Location: Worthington

The Associate in Arts degree is a liberal arts transfer degree. While an Associate in Arts degree might include a core of courses appropriate to a transfer track in the major field of Management Information Systems at the baccalaureate level, its focus is on general education. To complete the degree students must fulfill the following requirements:

1. Successful completion of a minimum of 60 semester credits.
2. A grade point average of 2.0 ("C") or better.
3. A minimum of 40 credits of general education. This fulfills the Minnesota Transfer Curriculum.
 - A. Communications ENGL 1101, ENGL 2276 and SPCH 1101 required.
 - B. Critical Thinking: Any student who completes the general education curriculum will have completed the requirements for this goal.
 - C. Natural Science.
 - D. Mathematical/Logical Reasoning: required MATH 1111 or higher.
 - E. History and the Social and Behavioral Sciences.
 - F. The Humanities and Fine Arts.
 - G. Human Diversity.
 - H. Global Perspective.
 - I. Ethical and Civic Responsibility.
 - J. People and the Environment.
4. Management Information Systems core: 16 (Baccalaureate admission requires a 2.50 or higher GPA in core courses, including a minimum of a "B" in CSCI2250 and a minimum of a "C" in CSCI2255) See required courses below.

CSCI 2250	Java Programming I	4
CSCI 2255	Java Programming II	4
BUS 2201	Principles of Accounting I	4
BUS 2202	Principles of Accounting II	4

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

6. World Language: (Students who did not take two years of a world language in high school may need one year of college credits in a language to meet state university preparation requirements.)

7. The following electives will also transfer into MIS at a state university.
 CSCI 2280 Systems Analysis & Design
 BUS 2200 Intro to Mgt Info Systems

(Computer) Networking Specialist, A.S.

Location: Worthington

The Networking Specialist AS program is designed to provide students with specialized skills in Microsoft technologies including preparedness for the MCSE Microsoft certification exams. Students will also gain knowledge in programming languages for local and wide area networking. Upon completion, students will be ready to enter the information technology (IT) job market or optionally transfer to Colorado Technical University, Sioux Falls, SD, to complete the Bachelor of Science in Information Technology (BSIT) degree.

To complete the degree students must fulfill the following requirements:

1. Successful completion of 64 credits of which at least 20 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 from the four general education categories listed below:
 - A. Communications - a minimum of 9 credits ENGL 1101 and ENGL 2276 and SPCH 1101 required.
 - B. Four or more credits from each of the following areas to total 21.
 - a. MATH 1111 and a lab science course from either Chemistry or Physics – required.
 - b. Behavior/Social Science – PSYC 1101 and ECON 2201 ECON 2202 required.
 - c. Humanities ART 2230 and ART 2232 required.
 - d. General Education electives to total 30 credits.

4. Fulfill at least a 30 credit core of technical courses unique to the program. (see below)

MCSE Track:

CST	2224	Windows Client/Server Admin	4
CST	2284	Microsoft Exchange Server	3
CST	2291	Windows Network Infrastructure I	3
CST	2293	Windows Network Infrastructure II	3
CST	2294	Windows Directory Service Infrastructure	3
CST	2298	Windows Network Security	3

Programming Languages:

CSCI	2200	Visual Basic Programming	4
CSCI	2215	Web Programming I	3
CSCI	2250	Java Programming I	4

Optional Transferable Electives:

CSCI	2240	Fundamentals of Programming I – C++	4
CSCI	2245	Fundamentals of Programming II – C++	4
CSCI	2255	Java Programming II	4

5. Physical Education/Health - a minimum of one course.

6. CSCI 1102 Introduction to Microcomputers, 3 credits required,

7. 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 preparation requirements).

Total Credits 64

(Computer) Networking Specialist, A.A.S.

Location: Jackson

This program prepares students to install, administer and troubleshoot networks. The network specialist courses will provide the student with the knowledge and skills necessary to provide support to a variety of network operating system platforms. This course begins with the entry-level workstation and server classes, which will introduce the student to the network environment. Once this knowledge is obtained, the student will move on to upper level classes including TCP/IP and Internet Information Server. Topics covered also include hardware and software implementation and operation and maintenance, and various software packages.

CSCI	1102	Introduction to Microcomputers	3
CST	1111	File Structures	3
CST	1125	Operating Systems	3
CST	1135	Unix Operating Systems	3

CST	1190	Introduction to Networking	3
CST	1500	Rotor Admin	3
CST	2110	PC Maintenance and Repair I	3
CST	2224	Window Client/Server Admin	4
CST	2291	Window Network Infrastructure	3
CST	2298	Windows Network Security	3
CST	2310	Information Technology Customer Service	2
CST	2340	Web Server Concepts	3
CST	2108	Structured Communication System	3

General Education Requirements			20
ENGL	1101	Composition I	3
MATH	1111	College Algebra	3
		or	
		Math/Science Elective	
PSYC	1101	Introduction to Psychology	4
		or	
SOC	1101	Introduction to Sociology	3
SPCH	1101	Speech	3

Humanities Electives choose from: **3**
Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization

General Education Electives choose from: **4-5**
English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

ELTL	1108	Structured Communication Syst	3
		Technical Electives	9
Total Credits			68

(Computer) Networking Specialist, Diploma

Location: Jackson

ACCT	1120	Spreadsheet Concepts and Apps.	2
ACCT	1122	Database Concepts	2
CSCI	1102	Introduction to Microcomputers	3
CST	1111	File Structures	3
CST	1125	Operating Systems	4
CST	1190	Introduction to Networking	3
CST	2110	PC Maintenance & Repair	3
CST	2298	Windows Network Security Infrastructure	3
CST	2224	Windows Client/Server Admin.	4
CST	2310	Information Technology Customer Service	2
GSCL	1105	Job Seeking Skills	1

General Education or Related-10 credits from the following:
GSSS 1100-Human Relations, GSCM 1110-Composition, GSCM 1120-Technical Writing

or the following General Education Classes:
English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

9 Credits of Technical Electives from the suggested following courses:
ACCT 1120-Spreadsheets, ACCT 1122 - Database, ADSA 1100 - College Keyboarding I, ADSA 1122 - Word Processing I, ADSA

1190 - Presentation Graphics, CSCI 2200 - Visual Basic, CST 2215 - PC Maintenance and Repair II	48
Total Credits	48

(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 firms, software development, banking, financing and insurance companies, government agencies, colleges, and universities. The program involves the analysis, design, development, and maintenance of source code supporting an Internet presence. 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 a minimum of 65 credits, 20 of which must be earned at Minnesota West.
2. A grade point average of 2.00 ("C") or better.
3. A minimum of 30 credits from the four general education categories listed below.
 - A. Communications - a minimum of 9 credits ENGL 1101, ENGL 2276, and SPCH 1101 – required.
 - B. Four or more credits from each of the following areas to total 21 credits:
 - a. Science/Math: MATH 1111 - required. A lab science course from either Chemistry or Physics - required.
 - b. Behavior/Social Science: PSYC 1101 or ECON 2201 – required.
 - c. Humanities
 - d. General Education electives total 30 credits.
4. Fulfill at least a 30 credit core of technical courses unique to program from the table below.

Web Development

CSCI	2130	Database Management	3
CSCI	2150	Multimedia for the Web	3
CSCI	2215	Web Programming I	3
CSCI	2250	Java Programming	4

Business and Web Commerce

BUS	2201	Principles of Accounting I	4
BUS	2202	Principles of Accounting II	4
CSCI	2135	Advanced Web Techniques (ASP, VBScript/Java Script)	3
CSCI	2140	Spreadsheets and Graphics	3

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

CSCI	2200	Visual Basic Programming	4
CSCI	2240	Fundamentals of Programming I C++	4
CSCI	2245	Fundamentals of Programming II C++	4
CSCI	2255	Java Programming II	4

5. Physical Education/health - a minimum of one course.
6. CSCI1102, 3 credits, required.

7. World Language - Students who did not take two years of a world language in high school may need one year of college credits in a language to meet state university preparation requirements.

Plus 3 additional CSCI credits 3
Total Credits 16

(Computer) Applications Specialist, Certificate

Location: Granite Falls, Jackson, Pipestone, Worthington, and Virtual

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

CSCI	1102	Intro to Microcomputers	3
CSCI	1150	Presentation Development	3
CSCI	2100	Adv. Microcomputer Applications	4
CSCI	2130	Database Management Systems	3
CSCI	2140	Electronic Spreadsheets and Graphics	3
		Total Credits	16

(Computer) Computer Specialist, Certificate

Location: Granite Falls, Jackson, Pipestone, Worthington, and Virtual

Provides students with a background in the specialized areas of Unix, gaming and Web programming. CSCI certificates recognize student achievement and encourage lifelong learning.

CSCI	1102	Intro to Microcomputers	3
CSCI	1135	UNIX Operating Systems	3
CSCI	1160	Introduction to Gaming	3
CSCI	2215	Web Programming	4
		Plus 3 additional CSCI credits	3
		Total Credits	16

(Computer) Data Entry Specialist, Certificate

Location: Granite Falls, Jackson, Pipestone, Worthington, and Virtual

Defines an essential role in today's information producing industry with student abilities to accurately enter, manipulate and maintain digital data using computer documents and databases. CSCI certificates recognize student achievement and encourage lifelong learning.

CST	1180	Data Security Awareness	1
CSCI	1100	Microcomputer Keyboarding	2
CSCI	1102	Intro to Microcomputers	3
CSCI	2100	Adv Microcomputer Applications	4
CSCI	2140	Electronic Spreadsheets and Graphics	3
		Plus 3 additional CSCI credits	4
		Total Credits	16

(Computer) IT Workplace Specialist, Certificate

Location: Granite Falls, Jackson, Pipestone, Worthington, and Virtual

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	1102	Intro to Microcomputers	3
CSCI	1135	UNIX Operating Systems	3
CSCI	1190	Introduction to Networking	3
CSCI	2200	Visual Basic Programming	4

(Computer) IT Workplace Assistant, Certificate

Location: Granite Falls, Jackson, Pipestone, Worthington, and Virtual

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	1102	Intro to Microcomputers	3
CSCI	1190	Introduction to Networking	3
CSCI	2100	Adv Microcomputer Applications	4
SCCI	2140	Electronic Spreadsheets/Graphics	3
		Plus 3 additional CSCI credits	3
		Total Credits	16

(Computer) Programmer Specialist, Certificate

Location: Granite Falls, Jackson, Pipestone, Worthington, and Virtual

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	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
		Total Credits	16

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. Areas of study include sanitation and sterilization techniques, hygiene, and grooming. Upon successful completion of hours and quota requirements mandated by the Board of Cosmetologist Examiners, students must also take a written and a skills certification test for licensure. Under the option plan, cosmetology provides extra hours for licensure in states that require more hours. Career opportunities include beauty salon owner, beauty salon manager, make-up artist, specialist in a particular branch of cosmetology, colorist, hair and scalp specialist, esthetician, stylist, manufacturer's representative and others.

COSM	1100	Preclinic Introduction	4
COSM	1105	Preclinic Hair Care	4
COSM	1110	Preclinic Nail Care	4
COSM	1115	Preclinic Chemical Control	3
COSM	1120	Preclinic Skin Care	3
COSM	1125	Preclinic Hair Care	3
COSM	1135	Salon Preparation	4
COSM	1130	Advanced Hair Care	4
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	4
COSM 1170	Clinic VII	4
COSM 1175	Clinic VIII	3
COSM 1181	License Prep. for Cosmetology I	2
COSM 1182	License Prep. for Cosmetology II	2
Total Credits		63

Esthetician, Certificate

Locations: Jackson and Pipestone

Opportunities include specializing in a particular branch of cosmetology and preparation for Estheology Clinic/Licensure.

COSM 1100	Preclinic Introduction	4
COSM 1120	Preclinic Skin Care	3
COSM 1135	Salon Preparation	4
COSM 1140	Clinic I	4
COSM 1145	Clinic II	4
COSM 1181	License Prep. for Cosmetology I	2
COSM 1182	License Prep Cosmetology II	2
ESTH 1100	Estheology Clinic/ License Preparation	3
Total Credits		26

Manicurist, Certificate

Locations: Jackson and Pipestone

This certificate provides the opportunity to specialize in a particular branch of cosmetology and prepares the student for Nail Clinic and Licensure.

COSM 1100	Preclinic Introduction	4
COSM 1110	Preclinic Nail Care	4
NAIL 1200	Nail Technology	4
NAIL 1101	Nail Clinic/License Preparation	4
Total Credits		16

Dental Assistant, A.A.S.

Location: Canby

The Dental Assisting program is designed to prepare individuals for Dental Assisting careers in a dental office. This may be as an assistant to either a dentist or a dental hygienist in a dental practice. 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 their field. The coursework is in bio-medical studies, dental sciences, clinical practices, and expanded functions allowed by the State of Minnesota. Students will spend ten weeks in extramural clinical experiences in area dental offices.

BIOL 1110	Principles of Biology	4
ENGL 1101	Composition I	3
PSYC 1101	Introduction to Psychology or	4
SOC 1101	Introduction to Sociology	3
SPCH 1101	Speech	3
	Humanities Electives	3
General Education Electives		5 or 6
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	2
DEN 1125	Chairside Assisting II	4

DEN 1130	Preclinical Dental Assisting	4
DEN 1135	Dental Practice Management	3
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
Total Credits		64

Dental Assistant, Diploma

Location: Canby

ENGL 1101	Composition I	3
SPCH 1101	Speech	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	2
DEN 1125	Chairside Assisting II	4
DEN 1130	Preclinical Dental Assisting	4
DEN 1135	Dental Practice Management	3
DEN 1140	Dental Materials	3
DEN 1145	Expanded Functions A	3
DEN 1150	Expanded Functions B	3
DEN 1155	Extramural Clinical Experience I	2
DEN 1160	Extramural Clinical Experience II	2
DEN 1180	Jurisprudence	1
DEN 1185	Nitrous Oxide Inhalation Admin	1
Total Credits		48

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	4
BIOL 2270	Microbiology	4
CHEM 1102	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 Humanities electives **	4
	Social Science electives***	3
SOC 1101	Introduction to Sociology Humanities Electives**	3
	Free Electives*****	5
Total Credits		60

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 counselor/advisor for appropriate courses.

** Includes literature course for University of Minnesota. See counselor/advisor for appropriate courses.

*** Includes a history course for University of Minnesota. See counselor/advisor for appropriate courses.

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

***** See counselor/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 in Science degree requirements.

ART	1120	Art Appreciation	3
ART	1101	Beginning Drawing	3
		or	
ART	1115	Beginning Painting	3
BIOL	1110	Principles of Biology	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
CSCI	1102	Introduction to Microcomputers	3
ENGL	1101	Composition I	3
ENGL	1102	Composition II	3
		or	
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
		Health/Physical Education	1
		Total Credits	64

Third Year

BIOL	2250	Anatomy & Physiology I	4
BIOL	2260	Anatomy & Physiology II	4
PSYC	1101	Introduction to Psychology	4
SPCH	1101	Introduction to Speech	3
		Remaining MnTC Requirements	14-18
		Total **	29-33

An additional semester is required to complete the Associate in 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

18

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	1150	Internship	4
DSL	2106	Advanced Powertrain Theory	3
DSL	2111	Advanced Powertrain Lab	4
		Technical Electives	16
		Total Credits	70

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
GSSS	1100	Human Relations	2
		Total Credits	33

Diesel Mechanics (Ag & Truck), Diploma

Location: Canby

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
GSCL	1105	Job Seeking Skills	1

GSCM 1120	Technical Writing	2
Total Credits		35

Chemistry or Physics Electives	3-4
Humanities Electives	9
Total Credits	60

Advanced Diesel, Certificate

Location: Canby

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
Total Credits		27

Basic Diesel, Certificate

Location: Canby

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
Total Credits		17

Diesel Powertrain and Hydraulics, Certificate

Location: Canby

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
Total Credits		20

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 counselors to determine their exact program. This program meets the MnTC and the Associate in Arts requirements.

BIOL		3-4
BUS 1101	Introduction to Business	4
BUS 2201	Principles of Accounting I	4
BUS 2202	Principles of Accounting II	4
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
SPCH 1101	Introduction to Speech	3

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 in Arts degree and MnTC requirements for MnSCU, 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	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
	or	
PSYC 1101	Introduction to Psychology	4
	and	
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
SPCH 1101	Introduction to Speech	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

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 counselor/ 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.

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
SPCH	1101	Introduction to Speech	3
		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
		Total Credits	60

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 Develop	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
		Total Credit	12

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	1111	College Algebra or higher	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	2205	Electric Motor Control I	4
ELEC	2225	Electric Motor Control II	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	3
ELUT	2116	Reclosures & Protective Equipment	2
ELUT	2110	Transformer Banking II	2
ELEC	2230	Programmable Logic Controllers	4
ELUT	2100	Metering I	2
ELUT	2105	Metering II	2
ELUT	2126	Regulators and Capacitors	3
ELWT	1170	Wind Energy OSHA Standards	1
		Technical Elective	1

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

Technical Electives suggested from:

ADSA	1100	College Keyboarding I	3
ADSA	1122	Word Processing I	2
ADSA	1190	Presentation Graphics	2

AUTO 1195	Commercial Drivers	2
ELEC 1130	Electric Motor Theory	3
ELUT 2135	Enrichment I	2
ELUT 2140	Enrichment II	2
	Total Credits	64

Electric Utility Substation Technician, Diploma

Location: Jackson

General Education and/or

GSCL1105 Job Seeking Skills, GSCM1120 Technical Writing, GSSS1100 Human Relations 4

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 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	2
ELUT 2105	Metering II	2
ELUT 2110	Transformer Banking II	2
ELUT 2116	Reclosures and Protective Equipment	2
ELUT 2121	Protective Relays	3
ELUT 2126	Regulators and Capacitors	3
ELWT 1170	Wind Energy OSHA Standards	1
EMS 1112	AHA CPR Healthcare Provider, AED First Aid Certification	1
	Electives	9
	Total Credits	64

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 21
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 1101	DC Circuits and	3
ELCO 1106	AC Circuits	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	4
ELEC 1230	Safety Principles and OSHA	1
ELEC 1235	Applied Electrical Calculations	2

ELEC 1240	Commercial Wiring	5
ELEC 2200	Low Voltage	3
ELEC 2205	Electric Motor Controls I	4
ELEC 2210	National Electrical Code III	2
ELEC 2220	Industrial Wiring	2
ELEC 2225	Electric Motor Controls II	4
ELEC 2230	Programmable Logic Controllers	4
ELEC 2235	National Electric Code IV	2
ELEC 2250	Heating/Air Conditioning Controls	3
ELUT 1110	Transformer Banking I	3
EMS 1112	AHA CPR Healthcare Provider	1
HVAC 1100	Refrigeration Fundamentals or	3
ELEC 2260	Basic Refrigeration	3
HVAC 1140	Heating Fundamentals/ Hydronics/Heat Pumps or	3
ELEC 2250	Heating and Air Cond. Controls	3
	Total Credits	88

Electrician, Diploma

Locations: Canby and Jackson

ELCO 1100	Electrical Circuits Fundamentals and	3
ELCO 1105	Electrical Circuits Fund. Lab or	3
ELCO 1101	DC Circuits and	3
ELCO 1106	AC Circuits	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	4
ELEC 1230	Safety Principles and OSHA	1
ELEC 1240	Commercial Wiring	5
ELEC 1235	Applied Electrical Calculations	2
ELEC 2200	Low Voltage	3
ELEC 2205	Electric Motor Controls I	4
ELEC 2210	National Electrical Code III	2
ELEC 2220	Industrial Wiring	2
ELEC 2225	Electric Motor Controls II	4
ELEC 2230	Programmable Logic Controllers	4
ELEC 2235	National Electric Code IV	2
ELEC 2250	Heating/Air Conditioning Controls	3
ELUT 1110	Transformer Banking I	3
EMS 1112	AHA CPR Healthcare Provider	1
HVAC 1100	Refrigeration Fundamentals or	3
ELEC 2260	Basic Refrigeration	3
HVAC 1140	Heating Fundamentals/ Hydronics/Heat Pumps or	3
ELEC 2250	Heating and Air Cond. Controls	3

General Education, or Related, of 11 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

Note: ELCO 1101 and ELCO 1106 can be taken
Fall Semester instead of ELCO 1100 and ELCO 1105

Total Credits 78

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 Basic	2
EMS	1102	EMT Basic Completion Course	4
EMS	1108	Basic Trauma Life Support	2
EMS	1109	Advanced Cardiac Life Support	1
EMS	1110	Ambulance Operation/Maintenance	2
HC	1165	Medical Terminology	1
HC	1110	Anatomy/Physiology	2
		Recommended Elective	1
Total Credits			16

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 in 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
CSCI	2235	C++ Programming	3
ECON	2201	Principles of Macroeconomics	3
ENGL	1101	Composition I	3
ENGL	2276	Technical Writing	3
ENGR	1101	Intro Engineering	1
ENGR	2215	Engineering Mechanics-Dynamics	3

GEOG	1100	Intro to Geography	3
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
PHED	1130	Fitness for Life	1
PHIL	2201	Introduction to Ethical Theory	1
PHIL	2205	Business Ethics	2
PHYS	2121	General Physics and Laboratory	5
PHYS	2122	General Physics II and Lab	5
ENGR	2214	Engineering Mechanics-Statics	3
SPCH	1101	Fundamentals of Speech and Lab	3
Total Credits			64

Energy Technical Specialist, A.A.S.

Location: Canby, Granite Falls and Virtual

This degree will convey the skills and knowledge necessary to be successful in the traditional and renewable energy fields. The degree will prepare students for work as technicians in the following industries: coal-fired electric power generation, natural gas distribution, ethanol production, biodiesel production, wind turbine maintenance, and solar energy.

Required Courses

SHA	1600	Industrial Safety	2
		or	
RNEW	1105	Introduction to OSHA	1
		and	
EMS	1112	AHA CPR Healthcare Provider, AED First Aid Certification	1
RNEW	1300	Intro to Traditional & Renewable Energy	3
ELCO	1101	DC Circuits	3
ELCO	1106	AC Circuits	3
MECA	1210	Digital/Solid State Electronics	3
MECA	1220	Mechanical Fundamentals	3
		or	
RNEW	1100	Process Dynamics	3
RNEW	1115	Mechanical Fundamentals for Process Control	3
ENTS	2550	Programmable Logic Control Fundamentals	3
		or	
FLPW	2136	Program Logic Controls	3
ENTS	2555	Pneumatics	3
		or	
FLPW	1120	Pneumatics Theory	3
FLPW	1103	Basic Hydraulics	3
RNEW	1160	Instrumentation & Control	3
ECAD	1020	Print Reading	3
		or	
RNEW	1125	P&ID and PFD Reading	1
		and	
FLPW	1115	Auto CAD	2

Specialty Emphasis/Certificate Courses (select 10 credits)

Biodiesel Fuel			
RNEW	1102	Biodiesel Process Fundamentals	2
RNEW	1100	Process Dynamics	3
RNEW	1105	Intro to OSHA	1
RNEW	1115	Mechanical Fundamentals	3
RNEW	1125	P&ID and PFD Reading	1
RNEW	1160	Instrumentation & Control	3

RNEW	1175	Industrial Water Treatment	2
RNEW	1195	Biodiesel Feedstocks, Technologies & Regulatory Issues	2

Ethanol Fuel

RNEW	1100	Process Dynamics	3
RNEW	1101	Ethanol Process Fundamentals	2
RNEW	1105	Intro to OSHA	1
RNEW	1115	Mechanical Fundamentals	3
RNEW	1125	P&ID and PFD Reading	1
RNEW	1160	Instrumentation & Control	3
RNEW	1175	Industrial Water Treatment	2
RNEW	2120	Ethanol Separation Technology	2

Wind Power

ELCO	1101	DC Circuits	3
ELCO	1106	AC Circuits	3
ELWT	1100	Wind Energy Fundamentals	3
ELWT	1160	Environmental Health/Safety Wind Energy	1
ELWT	1170	Wind Energy OSHA Standards & Climbing Lab	2
FLPW	1103	Basic Hydraulics	3
RNEW	1105	Introduction to OSHA	1

General Education Requirements (15 credits)

MATH	1111	College Algebra	3
ENGL	1101	Composition I	3
PHSY	1100	Survey of Physics	3
		or	
CHEM	1100	Intro to Chemistry	3
NSCI	1100	Issues in the Environment	3
		General Education Elective	3
		Total Credits	60

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	4
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	
		or	
PSCI	2202	State and Local Government	
		or	
PSCI	2210	**Environmental Politics	3-9
SPCH	1101	Introduction to Speech	3
		Humanities Electives	9
		Social Services Electives	6

Courses to fulfill remaining MnTC/AA Degree 0-6

AGRI	1103	Introduction to Soil Science	3
AGRI	2204	Introduction to GPS/GIS	3
		Electives	2
		Total Credits	60

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

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		18	
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
		Total Credits	72

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
Total Credits		67

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 in 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 in Arts degree and the MnTC.

BIOL 1110	Principles of Biology	4
BIOL 2250	Anatomy & Physiology I	4
BIOL 2260	Anatomy & Physiology II	4
BIOL 2270	Microbiology	4
CHEM 1101	General Inorganic Chemistry I	4
CHEM 1102	General Inorganic Chemistry II	4
CHEM 2201	Chemistry I	5
CHEM 2202	Chemistry II	5
CSCI 1102	Introduction to Microcomputers	3
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
HLTH 2240	**Basic Nutrition	3
Choose two of the following:		
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
SPCH 1101	Introduction to Speech	3
	Health/Physical Education	1
	Humanities Electives***	4
Total Credits		64

* Depends on high school preparation

** Depends on transfer institution

*** Minimums only BIOL 2250 and 2260 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 and PHED Activity for one credit (if not previously taken); 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	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
CSCI 1102	Introduction to Microcomputers	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
	Health/Physical Educ Electives	1
	Humanities Electives***	3
SPCH 1101	Introduction to Speech	3
Total Credits		64

* 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); three credits in HLTH 1100; one credit of PHED Activity (if not previously completed); 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.

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
	Total Credits	19

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.

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

1. Successful completion of 64 semester credits of which at least 20 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:

CSCI 1102	Introduction to Microcomputers	3
	Physical Education/Health-minimum of one course	1
	General Education Requirements	30
	Total Credits	64

Heating, Ventilation, Air Conditioning/Refrigeration (HVAC/R), A.A.S.

Location: Pipestone

The Heating, Ventilation, Air Conditioning/Refrigeration (HVAC/R) program offers training in current technology for diagnosing, servicing, repairing, installing, and managing heating and cooling energy systems. Students are trained to diagnose and repair malfunctions: size, fabricate and install a duct air system; and estimate cooling and heating loads for selection of the most efficient systems. Introductory courses in electricity, electric motors, and theory of refrigeration are included with advanced work in the commercial area. Other areas of study include uses of air conditioning, temperature and humidity control, air circulation, cleaning, and installation of equipment.

ENGL 1101	Composition I	3
NSCI 1100	Issues in the Environment	3
PSYC 1101	Introduction to Psychology	4
SPCH 1101	Speech	3
	Humanities Elective	3
	General Education Electives	4
ELCO 1100	Electrical Circuits Fundamentals	3
HVAC 1100	Refrigeration Fundamentals	3
HVAC 1110	Refrigeration Controls & Comp.	3
HVAC 1120	Domestic Refrigeration	3
HVAC 1130	Air Conditioning	3
HVAC 1135	Commercial Refrigeration	4
HVAC 1140	Heating Fundamentals/ Hydronics/ Heat Pumps	3
HVAC 1145	Basic Electronics	2
HVAC 1150	Heating Systems	3
HVAC 1155	Sheetmetal Technology	3
HVAC 1160	Blue Print Reading	2
	Electives	12
	Total Credits	64

Heating, Ventilation and Air Conditioning/Refrigeration (HVAC/R), Diploma

Location: Pipestone

	General Education and/or	
GSC1105	Job Seeking Skills, GSCM1120 Technical Writing, GSSS1100 Human Relations	4

ELCO 1100	Electrical Circuits Fundamentals	3
HVAC 1100	Refrigeration Fundamentals	3
HVAC 1110	Refrig. Controls & Components	3
HVAC 1120	Domestic Refrigeration	3
HVAC 1130	Air Conditioning	3
HVAC 1135	Commercial Refrigeration	4
HVAC 1140	Heating Fundamentals/ Hydronics/ Heat Pumps	3
HVAC 1145	Basic Electronics	2
HVAC 1150	Heating Systems	3
HVAC 1155	Sheetmetal Technology	3
HVAC 1160	Blue Print Reading	2
	Electives	7
	Total Credits	43

Heating, Ventilation and Air Conditioning/ Refrigeration (HVAC/R), Certificate

Location: Pipestone

HVAC 1100	Refrigeration Fundamentals	3
HVAC 1120	Domestic Refrigeration	3
HVAC 1130	Air Conditioning	3
HVAC 1140	Heating Fundamentals/ Hydronics/ Heat Pumps	3
HVAC 1145	Basic Electronics	2
HVAC 1150	Heating Systems	3
HVAC 1155	Sheetmetal Technology	3
HVAC 1160	Blueprint Reading	2
ELCO 1100	Circuit Fundamentals	3
	Total Credits	26

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 in 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
	or	
MUSC 1105	Enjoying Music	3
	or	
THTR 1101	Introduction to Theater	3
BIOL 1110	Principles of Biology	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
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	
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		
	or		
SOC 1102	Social Problems	3	
	or		
SOC 2210	Marriage and the Family	3	
	or		
SOC 2220	Family Life Dynamics	3	
SPCH 1101	Introduction to Speech	3	
	Humanities Electives	4	
	Total Credits	60	

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

Human Services, A.S.

Location: Worthington

The Human Services Program is designed for students interested in the helping professions. Academic and skills-oriented classes, agency visits, and supervised work experiences prepare students for employment in a variety of settings, or for continuing their education in four-year colleges. Human Services majors may choose one of two tracks:

1. Students selecting the Generalist track design their programs of study according to their areas of interest. While taking a core of foundation courses, students prepare for entry-level work or for later specialization in fields such as social welfare, special education, disabilities, family services, or counseling.
2. Students in the Child Development track prepare to work with young children in their own homes, in day care centers, preschools, or other specialized settings; or for future careers in education, child development and related fields. Courses and internship experiences are designed to help students work toward credentials as a child care professional.

Qualifications: To be admitted to internships, students must have an overall GPA of 2.00 ("C"); a 2.50 in career courses; complete outlined courses outlined in the first three terms; complete a four-hour seminar in the fall semester of the second year; complete a formal application process; and be approved following an interview with the Human Services Coordinator.

Students are awarded an A.S. degree in Human Services upon successful completion of the following requirements.

1. Successful completion of 64 semester credits of which at least 20 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 from six general education categories listed below.
 - A. Communications – Minimum of 9 credits
 - a. ENGL 1101
 - b. ENGL 2276
 - c. SPCH 1101
 - B. Science/Math – Minimum of 3 credits
 - a. BIOL 1115
 - C. Social/Behavioral Sciences – Minimum of 7 credits
 - a. PSYC 1101
 - b. SOC 1101
 - D. Humanities/Fine Arts – Minimum of 3 credits
 - E. Human Diversity – Minimum of 3 credits
 - a. SOC 2210
 - F. Ethic/Civic Responsibility – Minimum of 2 credits
 - a. PHIL 2201
 - b. PHIL 2202

and 3 general education credits to equal 30 credits.

Recommended courses: SPAN 1101 or higher; PSCI 2202.

4. Health
 - a. EMS 1112
5. CSCI 1102 – Introduction to Microcomputers, 3 credits, required

Generalist Track

HSER 1101	Introduction to Human Services	2
HSER 2297	Human Services Generalist Internship	6
PHIL 2223	Ethics for Human Services Workers	1
PSYC 1111	Psychology of Adjustment	3
PSYC 1150	Developmental Psychology	3
PSYC 2210	Basic Counseling Skills	3
PSYC 2221	Abnormal Psychology	3
PSYC 2230	Behavior Modification	3
SOC 1102	Social Problems	3
SOC 2224	Racial & Ethnic Minorities	3

Child Development Track

HSER 1101	Introduction to Human Services	2
HSER 1262	Creative Activities for Young Children	2
HSER 1266	Foundations of Child Development	2
HSER 1267	Special Needs of Children	2
HSER 1268	Child Health, Safety, & Nutrition	2
HSER 1269	Community & Guidance: Techniques for Young Child	2
HSER 2298	Human Services Child Development Internship	8
PHIL 2223	Ethics for Human Services Workers	1
PSYC 1111	Psychology of Adjustment	3
PSYC 1140	Child & Adolescent Psychology	3
PSYC 2230	Behavior Modification	3
Total Credits:		64

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 in Arts degree and that whatever the intended major, it include the following courses:

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
Choose one of the following:		3-4
NSCI 1100	Issues in the Environment	3
GEOG 1101	Physical Geography	4

PSCI 2210	Environmental Politics	3
SPCH 1101	Introduction to Speech	3
	Free Electives***	6-10
	Biology Electives	3-4
	Social Science Electives**	3
Total Credits		60

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, A.S.

Location: Worthington

The Law Enforcement program is designed with a set of core courses, which have been designed to be flexible and to assist students in preparing for a variety of careers in Law Enforcement. The Law Enforcement program being offered at Minnesota West will provide persons in southwest Minnesota the opportunity to complete a quality peace officer training program without having to leave the area. The curriculum has been designed in collaboration with the Minnesota POST learning objectives and is Minnesota POST Board approved. Students will have the option to pursue certification and begin their career upon completing the

Associate degree or transfer to a university to complete a four-year degree. There is an articulation agreement in place with Minnesota State University - Mankato for this major. The curriculum has been designed in collaboration with other programs to meet the "learning objectives" approved by the board and based on the following subject areas:

- A. History and overview of the criminal justice system
- B. Minnesota Statute law
- C. Criminal law and criminal procedures
- D. Juvenile justice system and procedures
- E. Patrol procedures
- F. Criminal investigation and testifying
- G. Human behavior and crisis intervention
- H. Defensive tactics and use of force
- I. Cultural awareness and response to crime victims

Program Requirements:

LAWE 1101	Introduction to Criminal Justice	3
LAWE 1110	Criminal Law	3
LAWE 1150	Homeland Security and Terrorism	2
LAWE 1160	Minnesota Criminal Code	2
LAWE 1170	Minnesota Traffic Code	2
LAWE 1180	Juvenile Justice Procedures	3
LAWE 2201	Criminal Investigation/ Interview and Interrogation	3
LAWE 2210	Evidence Collection & Preservation	2
LAWE 2223	Applied Writing: Law Enforcement	2
LAWE 2232	Patrol Operations	3
LAWE 2251	Psychology of Law Enforcement	3
LAWE 2290	Civil Service Preparation	1
LAWE 2294	Community Leadership	2
EMS 1110	First Responder Basic	2

General Education Requirements:

ENGL 1101	Composition I	3
ENGL 2276	Composition: Technical Writing or	3
ENGL 1102	Composition II	3
PHIL 2201	Introduction to Ethical Theory	1
PHIL 2202	General Applied Ethics	1
PSCI 1201	American Government & Politics	3
PSCI 2202	State and Local Government	3
PSYC 1101	Introduction to Psychology	4
SOC 1101	Introduction to Sociology	3
SOC 2224	Racial & Ethnic Minorities	3
SPCH 1101	Introduction to Speech	3

Choose one of the following MATH/SCIENCE courses:

BIOL 1110	Principles of Biology	4
CHEM 1100	Introduction to Chemistry	4
MATH 1105	Intro to Probability & Statistics	4
NSCI 1100	Issues in the Environment	3

Students must choose one of the following AS degree options:

1. A.S. Degree Requirements:

CSCI 1102	Introduction to Microcomputers	3
HLTH 2220	Drugs, Society and the Individual or	3
PHED 1114	Physical Agility and Self Defense	2

OR

2. Minnesota P.O.S.T. Licensure Requirements*

CSCI 1102	Introduction to Microcomputers	3
PHED 1114	Physical Agility and Self Defense	2

A.S. Degree:

CSCI 1102	Introduction to Microcomputers	3
PHED 1114	Physical Agility and Self Defense	2

Skills Training (provided by Hibbing Community College)

10

* Option 2 is required if planning to work in Minnesota

Total Credits

64

Recommended Program Courses:

LAWE 1100	Law Enforcement Orient/Practicum	1
LAWE 1140	Cyber Crimes	2
LAWE 2215	CSI, MN (Basic Criminal Forensics)	3
LAWE 2295	POST Seminar	1
SOC 2230	Juvenile Delinquency	3
SPAN 1150	Conversational Spanish for Law Enforcement Personnel	1

Law Enforcement - Corrections, A.A.

Location: Worthington

Students planning to pursue the Associate in Arts degree option will attend Minnesota West for two years and upon completion of a liberal arts degree, transfer on to a four year college or university. Students who pursue the Associate in Arts degree do not participate in skills training. This degree option is suitable for students who are not seeking immediate employment in the law enforcement field.

An Associate in Arts degree will prepare you for employment in the following career fields: FBI, ATF, DEA, or Criminal Justice. This program meets the MnTC and the Associate in Arts requirements.

ENGL 1101	Composition I	3
ENGL 2276	Composition: Technical Writing or	3
ENGL 1102	Composition II or	3
ENGL 2243	Composition: Creative Writing	3
SPCH 1101	Introduction to Speech	3
BIOL 1115	Human Biology or	3
BIOL 1110	Principles of Biology CHEM/PHYS (choose one course) MATH 1105 or higher	4 3-4 3-4
PHIL 1200	Logic	3
SOC 1101	Introduction to Sociology	3
PSYC 1101	Introduction to Psychology	4
PSCI 1201	American Government and Politics or	3
PSCI 2202	State and Local Government	3
PHIL 2201	Introduction to Ethical Theory	1
PHIL 2202	General Applied Ethics	1
Humanities Electives (chosen from 2 different areas)		7
PSYC 1150	Developmental Psychology	3
NSCI 1100	Issues in the Environment	3

Electives to total 60 credits. Suggested electives include:

EMS 1110	First Responder Basic	2
HLTH 2220	Drugs, Society, and the Individual	3
LAWE 1100	Law Enforcement Orientation/Pract	1
LAWE 1101	Introduction to Criminal Justice	3
LAWE 1110	Criminal Law	3
LAWE 1140	Cyber Crimes	2
LAWE 1150	Homeland Security and Terrorism	2
LAWE 1160	Minnesota Criminal Code	2
LAWE 1170	Minnesota Traffic Code	2

LAWE 1180	Juvenile Justice Procedures	3
LAWE 2215	CSI, MN (Basic Criminal Forensics)	3
LAWE 2251	Psychology of Law Enforcement	3
LAWE 2294	Community Leadership	2
SOC 2230	Juvenile Delinquency	3
SPAN 1150	Conversational Spanish of Law Enforcement Personnel	1

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

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 in Arts Degree and Minnesota Transfer Curriculum. The Associate in 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 in 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	
	or	
ENGL 2243	Composition: Creative Writing	3
	or	
ENGL 2276	Composition: Technical Writing	3
	Total Credits for First Year	32-33
SOPHOMORE		
SPCH 1101	Introduction to Speech	3
MATH/PHIL 1200		3-5
	Social Science Electives*	9
CHEM/PHYS		3-5
	Free Electives**	6-10
	Total Credits for Second Year	32
	Total Credits	60

Fulfill a minimum of 4 credits from two of the three areas. HLTH 1101, 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.

Massage Therapy, Diploma

Location: Luverne

Massage Therapy will provide graduates with a strong background for a career as a Massage Therapist in a variety of settings such as spas, salons, wellness centers, resorts, chiropractic offices, long term care facilities, rehabilitation centers, physicians offices, etc. Students in the Massage Therapy program will undergo a background study as required by Minnesota law. Prior to completion of the fall semester, students must show evidence of CPR certification.

HC 1100	Nutrition	1
HC 1151	Body Structure & Function	3
HC 1290	Healthcare & Society	1
HC 2120	Disease Conditions	3
MSTH 1100	Intro to Massage	3
MSTH 1105	Kinesiology	2
MSTH 1110	Basic Massage I	6
MSTH 1115	Massage Therapy	6
MSTH 1120	Client Massage	3
MSTH 1125	Massage Therapy Business Practices	3
MSTH 1130	Spa Techniques	1
	Total Credits	32

Mathematics, A.A.

Location: Worthington

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

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 2205	Differential Equations and Linear Algebra	5
PSYC 1101	Introduction to Psychology	4
PHYS 2121	General Physic I	5
PHYS 2122	General Physic II	5
SPCH 1101	Speech	3
BIOL	Biology Lab Course	3-4
	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
	Total Credits	64

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 a counselor/advisor about the chemistry/physics requirements at transfer institutions.

Medical Administrative Secretary, A.A.S.**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Virtual**

A medical secretary 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. Medical secretaries 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.

General Education Requirements:			20
ENGL	1101	Composition I	3
NSCI	1100	Issues in the Environment	3
PSYC	1101	Introduction to Psychology	4
		or	
SOC	1101	Introduction to Sociology	3
SPCH	1101	Speech	3

Humanities Electives choose from: **3**
 Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization

Gen Ed Electives choose from: **4-5**
 English, Biology, Chemistry, Math above 1000 level, Physics, Natural Science, Art, Foreign Language, Literature, Music, Philosophy, Theater, Western Civilization, Economics, Geography, History, Political Science, Psychology, and Sociology

ADSA	1100	College Keyboarding I	3
ADSA	1105	College Keyboarding II	3
ADSA	1145	Supervisory Management	3
ADSA	1176	Business Communications	3
ADSM	1105	Medical Insurance and Coding	2
*ADSM	1110	Anatomy & Physiology/Disease Conditions I	2
*ADSM	1115	Anatomy & Physiology/Disease Conditions II	2
ADSM	1120	Medical Office Procedures I	3
ADSA	1122	Word Processing I	2
ADSM	1140	Applied Medical Terminology	2
ADSA	1123	Word Processing II	2
ADSM	1125	Medical Office Procedures II	3
ADSM	1130	Medical Machine Transcription I	3
ADSM	1135	Medical Machine Transcription II	3
BIOL	2245	Medical Terminology I	2
CSCI	1102	Introduction to Microcomputers	3
Total Credits			64

***Approved substitutions for ADSM 1110 and ADSM 1115 are HC 1151 and HC 2120**

Medical Secretary, Diploma**Locations: Canby, Granite Falls, Jackson, Pipestone, Worthington, and Virtual**

BIOL	2245	Medical Terminology I	2
ADSM	1105	Medical Insurance and Coding	2
*ADSM	1110	Anatomy & Physiology/Disease Conditions I	2
ADSM	1120	Medical Office Procedures I	3
ADSM	1130	Medical Machine Transcription I	3
ADSA	1100	College Keyboarding I	3
ADSA	1122	Word Processing I	2
ADSA	1176	Business Communications	3
*ADSM	1115	Anatomy & Physiology/Disease	

		Conditions II	2
ADSM	1125	Medical Office Procedures II	3
ADSM	1135	Medical Machine Transcription II	3
ADSM	1140	Applied Medical Terminology	2
ADSA	1141	Customer Service for Office Prof	2
CSCI	1102	Introduction to Microcomputers	3
Total Credits			35

***Approved substitutions for ADSM 1110 and ADSM 1115 are HC 1151 and HC 2120**

Medical Coding Specialist, Diploma**Location: Canby, Granite Falls, Jackson, Pipestone, Worthington and Virtual**

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

BIOL	2245	Medical Terminology I	2
ADSM	1105	Medical Insurance/Coding	2
*ADSM	1110	Anatomy & Physiology/ Disease Conditions I	2
ADSM	1120	Medical Office Procedures I	3
ADSA	1176	Business Communications	3
*ADSM	1115	Anatomy & Physiology/Disease Conditions II	2
ADSM	1125	Medical Office Procedures II	3
ADSM	1140	Applied Medical Terminology	2
ADSM	1165	Disease Coding	3
ADSM	1170	Procedure Coding	3
CSCI	1102	Introduction to Microcomputers	3
		Technical Electives	4
Total Credits			32

***Approved substitutions for ADSM 1110 and ADSM 1115 are HC 1151 and HC 2120**

Suggested Technical Electives:

ADSA	1122	Word Processing I	2
ADSM	1130	Medical Machine Transcription I	3
ADSM	1135	Medical Machine Transcription II	3

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
ADSM	1125	Medical Office Procedures II	3
BIOL	2245	Medical Terminology	2
BIOL	1110	Principles of Biology	4
		or	
BIOL	1115	Human Biology	3
CSCI	1102	Introduction to Microcomputers	3
ENGL	1101	Composition I	3
HC	1151	Body Structure and Function	3
HC	2120	Disease Conditions	3
HC	1100	Nutrition	1
EMS	1112	CPR/AED for the Professional Rescuer	1
MDLT	1100	Intro to Med Lab Science	3
MDLT	2145	Electrocardiogram	1
MEDA	1105	Clinical Procedures I	2
MEDA	1135	Laboratory Skills	2
MEDA	2100	Dosage Calculations	1
MEDA	2110	Clinical Procedures II	3
MEDA	2135	Pharmacology	3
MEDA	2140	Practicum	7
PSYC	1101	Introduction to Psychology	4
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)	
		Total Credits	64

Medical Assistant, Diploma

Location: Luverne

ADSM	1120	Medical Office Procedures I	3
ADSM	1125	Medical Office Procedures II	3
BIOL	2245	Medical Terminology	2
CSCI	1102	Introduction to Microcomputers	3
ENGL	1101	Composition I	3
HC	1100	Nutrition	1
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
MDLT	2145	Electrocardiogram	1
MEDA	1105	Clinical Procedures I	2
MEDA	1135	Laboratory Skills	2
MEDA	2110	Clinical Procedures II	3
MEDA	2100	Dosage Calculations	1
MEDA	2135	Pharmacology	3
MEDA	2140	Practicum	7
STSK	0091	Basic Math (if needed)	1
		Total Credits	44

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	1110	Principles of Biology	4
		or	
BIOL	1115	Human Biology	3
BIOL	2245	Medical Terminology	2
CHEM	1150	Survey of Chemistry	4
ENGL	1101	Composition I	3
		Behavioral/Social Science Elective	3
		Humanities Electives	3
		General Electives	2-3
MDLT	1100	Introduction to Laboratory Science	3
MDLT	1105	Microbiology I	3
MDLT	1110	Medical Lab Calculations	1
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	3
MDLT	2120	Hematology II	3
MDLT	2125	Externship I	12
MDLT	2131	Externship II	7
MDLT	2145	Electrocardiogram	1
		Total Credits	72

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	2
CSCI	1102	Introduction to Microcomputers	3
GSCL	1105	Job Seeking Skills	1
GSSS	1100	Human Relations	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	2
		Electives	2
		Total Credits	23

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: nursing assistant course, computer science course or successful test out, medical terminology, BIOL 1115 Human Biology or equivalent biology course is required before taking Anatomy, and EMS 1112 AHA CPR for Healthcare Provider, AED First Aid Certification 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 certified through the completion of the program.

The following courses are 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. Nursing courses must be taken in sequence.

Prerequisites

CSCI	1102	Intro to Microcomputers	3
BIOL	2245	Medical Terminology	2
BIOL	1115	Human Biology	3
HC	1175	Nurse Assistant/Home Health Aid	3
EMS	1112	AHA CPR Healthcare Provider	1
		Total Prerequisites	12

BIOL	2201	Anatomy	4
ENGL	1101	Composition I	3
PSYC	1150	Developmental Psychology	3
NURS	1100	Principles & Practices of Nursing	3
NURS	1120	Nursing of the Adult I	3
NURS	1130	Pharmacology	2
NURS	1140	Nursing Skills Lab	2
NURS	1180	*Clinical Applications I	2
NURS	1220	Nursing of the Adult II	5
NURS	1280	*Clinical Applications II	6
NURS	1250	Family Nursing	2
		Total Credits	37

NURS 1295	PN Integration	2
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Prior to graduation, a licensure preparation exam (HESI) is required. A student with a HESI score over 900 or HESI remediation with four weeks of completion of the spring semester progresses toward graduation. The HESI is an indicator of success on the NCLEX-PN test.

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

Nursing A.S. – Registered Nurse

Location: Pipestone, Worthington and Distance

Nursing, A.S. is designed for Licensed Practical Nurses who wish to obtain the Associate in Science in 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 degree in Nursing and are then eligible to take the NCLEX-RN examination. At this point, students are also eligible to articulate to BSN/BAN program in the MnSCU system. Admission requirements include: a minimum decision score of 80 on the NLN exam, a grade of C or higher in all required coursework, a minimum GPA of 2.5, and completion of the courses described below. NURS 2100, Professional Nursing Transition 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 (exception NURS 2100) in 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-NURS courses shown may be taken either before or during the program.

Prerequisites

Practical Nursing Diploma
or
Completion of practical nursing program
(Advanced Standing) 9

CSCI	1102	Intro to Microcomputers	3
BIOL	2245	Medical Terminology	2
BIOL	2201	Anatomy	4
PSYC	1150	Developmental Psychology	3
NURS	2100	Professional Nursing Transition (required if you are from another nursing program)	2
		Total Prerequisites	24-26

BIOL	2202	Physiology	4
ENGL	1101	Composition I	3
NURS	2120	Nursing Across Lifespan	4
NURS	2140	Professional Nursing Skills Lab	2
NURS	2180	*Clinical Applications	2
		Sociology Elective Course	3
PHIL	2201	Intro to Ethical Theory	1
PHIL	2222	Medical Ethics	1
		Humanities Elective Course	3
NURS	2220	Nursing Across Lifespan II	4

NURS 2230	Trends and Issues	1
NURS 2280	*Clinical Applications	3
NURS 2240	Manager of Care	2
SPCH 1101	Introduction to Speech	3
	General Education Electives	3-5
	Total Credits	36-38

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

Recommended electives include: ENGL 1102, humanities, social sciences (HIST 1101, 1102, geography, political science or economics), chemistry, NSCI 1100, BIOL 1115, PSYC 1101.

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

Prior to graduation, a licensure preparation exam (HESI) is required. A student with a HESI score over 900 or HESI remediation within four weeks of completion of the spring semester progresses toward graduation. The HESI is an indicator of how well a student will do on the NCLEX-RN test.

Three Year Nursing Plan. A.S.

Location: Worthington and Distance

The Three Year Nursing plan (distance learning nursing) is a six-semester program that begins with general education courses required in the nursing program. The second year of coursework educates one to practice as a practical nurse. The third year of coursework leads to the Associate in Science degree in Nursing. The plan is delivered online and via ITV, with the exception of the lab and clinical settings which are located in southwest Minnesota or eastern South Dakota.

PREREQUISITE: PSB Nursing Aptitude Test must be completed before February 15 of the year in which one wishes to be considered for acceptance in the Three Year Nursing plan; 75 hour nursing assistant course and AHA CPR Healthcare Provider must be completed before the beginning of the 3rd semester. BIOL 1115, Human Biology, or equivalent biology course is required before taking Anatomy.

The following courses are 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 with the exception of pre-requisite courses. Nursing courses must be taken in sequence.

1st Semester

BIOL 2201	Anatomy	4
BIOL 2245	Medical Terminology	2
CSCI 1102	Intro to Microcomputers	3
PSYC 1150	Developmental Psychology	3

2nd Semester

BIOL 2202	Physiology	4
ENGL 1101	Composition I	3
SOC 1101	Introduction to Sociology	3
SPCH 1101	Introduction to Speech	3

3rd Semester

	Humanities Elective	3
NURS 1100	Principles & Practices of Nursing	3
NURS 1120	Nursing of the Adult I	3
NURS 1130	Pharmacology	2

NURS 1140	Nursing Skills Lab	2
NURS 1180	*Clinical Applications I	2

4th Semester

NURS 1220	Nursing of the Adult II	5
NURS 1280	Clinical Applications II	6
NURS 1250	Family Nursing	2

5th Semester

	General Education Electives	3-5
NURS 2120	Nursing Across Lifespan	4
NURS 2140	Professional Nursing Skills Lab	2
NURS 2180	*Clinical Applications	2

6th Semester

PHIL 2201	Intro to Ethical Theory	1
PHIL 2222	Medical Ethics	1
NURS 2220	Nursing Across Lifespan II	4
NURS 2230	Trends and Issues	1
NURS 2240	Manager of Care	2
NURS 2280	*Clinical Applications	3
	Total Credits	76-78

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

Recommended electives include: ENGL 1102, humanities, social sciences (HIST 1101, 1102, geography, political science or economics), chemistry, NSCI 1100, BIOL 1115, PSYC 1101.

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

Prior to graduation, a licensure preparation exam (HESI) is required. A student with a HESI score over 900 or HESI remediation within four weeks of completion of the spring semester progresses toward graduation. The HESI is an indicator of how well a student will do on the NCLEX-RN test.

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 in Arts or the Associate in Science degree depending on the transfer institution. The program listed meets MnTC and is an Associate in Arts program.

ART 1118	Arts and Crafts	3
BIOL 1110	Principles of Biology	4
BIOL 2250	Anatomy & Physiology I	4
BIOL 2260	Anatomy & Physiology II	4
CHEM 1101	General Inorganic Chemistry I	5
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
SPCH	1101	Introduction to Speech	3
THTR	1101	Introduction to Theater	3
NSCI	1100	Issues in the Environment	3
		or	
PSCI	2210	Environmental Politics	3
		Social Science Course*	3
		Total Credits	60

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 in Arts degree or the Minnesota Transfer Curriculum requirements. **THIS WILL TAKE ONE ADDITIONAL SEMESTER.** To complete the Associate in 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; one credit of PHED Activity (if not previously completed); three credits HLTH 1101; HLTH 1110 (three credits) is also strongly recommended. This is a total of 18-29 additional credits

FRESHMAN

ENGL	1101	Composition I	3
MATH	1113	**Pre-Calculus	4
		or	
MATH	1121	**Calculus I	4
CHEM	1101	General Inorganic Chemistry I	4
CHEM	1102	General Inorganic Chemistry II	4
BIOL	1110	Principles of Biology	4
		*Humanities Electives	3
ENGL	1102	Composition II	3
SPCH	1101	Introduction to Speech	3

SOPHOMORE

CHEM	2201	Organic Chemistry I	5
PHYS	1201	Fundamentals of Physics I	4
PSYC	1101	Introduction to Psychology	4
BIOL	2250	Anatomy and Physiology I	4
BIOL	2260	Anatomy and Physiology II	4
BIOL	2270	Microbiology	4
		Math Electives	3
		**Social Science Electives	3
		Health/Physical Educ Electives	1
		Total Credits	64

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

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 in Science degree requirements. Students are encouraged to complete the Associate in 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	4
BIOL	2220	Animal Biology	4
BIOL	2250	Anatomy & Physiology I	4
BIOL	2260	Anatomy & Physiology II	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
CSCI	1102	Introduction to Microcomputers	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	5
		Health/Physical Education Activity	1
PHYS	1201	Fundamentals of Physics I	4
PHYS	1202	Fundamentals of Physics II	4
SPCH	1101	Introduction to Speech	3
PSYC	1101	Introduction to Psychology	4
SOC	1101	Introduction to Sociology	3
		Humanities Elective**	
		Total Credits	64

* Depends on transfer institution

** Minimums only

*** Depends on high school preparation and placement. To complete the Associate in 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	2250	Anatomy & Physiology I	4
BIOL	2260	Anatomy & Physiology II	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
		Total Credits	60

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

* Recommended electives: PHED 2297 (Cooperative Education) and other PHED Activity courses.

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

Plumbing Technology, A.A.S.

Location: Pipestone

The Plumbing Technology Program prepares students for work in all phases of plumbing, heating and air conditioning using a variety of hand and power tool skills. Course work includes training in assembly, installation and repair of pipes, fittings and fixtures which make up water supply or waste disposal systems. Minnesota State plumbing license and other certification is attained upon completion of the program.

The Plumbing Technology graduate studies building plans and working drawings to determine work aids and plans the sequence of installation according to print specifications and codes. The majority of plumbers enter the trade as apprentices, working toward journeyman and master status in residential, commercial and industrial work. Plumbers work in various sized shops in many communities, and employment exists nationwide.

ENGL	1101	Composition I	3
NSCI	1110	Issues in the Environment	3
PSYC	1101	Introduction to Psychology	4
SPCH	1101	Speech	3
		Humanities Elective	3
		General Education Electives	4
HVAC	1100	Refrigeration Fundamentals	3
HVAC	1140	Heating Fundamentals	3
PLMB	1100	Code	3
PLMB	1106	Plumbing Installation	3
PLMB	1110	Introduction to Plumbing	3
PLMB	1115	Plumbing Welding	3
PLMB	1120	Plumbing Piping Water	3
PLMB	1130	Blueprint and Estimate	2
PLMB	1135	Sewage Disposal and Survey	2
PLMB	1140	Plumbing Pipefitting	3
PLMB	1145	Plastic Installation	3
PLMB	1150	Water Treatment Methods/Codes	2
		Electives	11
		Total Credits	64

Plumbing Technician, Diploma

Location: Pipestone

General Education and/or GSCL1105 Job Seeking Skills, GSCM1110 Composition, GSCM1120 Technical Writing, GSSS1100 Human Relations

HVAC	1100	Refrigeration Fundamentals	3
HVAC	1140	Heating Fundamentals	3
PLMB	1100	Code	3
PLMB	1106	Plumbing Installation	3
PLMB	1110	Introduction to Plumbing	3
PLMB	1115	Plumbing Welding	3
PLMB	1120	Plumbing Piping Water	3
PLMB	1130	Blueprint and Estimate	2
PLMB	1135	Sewage Disposal and Survey	2
PLMB	1140	Plumbing Pipefitting	3
PLMB	1145	Plastic Installation	3
PLMB	1150	Water Treatment Methods/Codes	2
		Electives	8
		Total Credits	45

Plumbing, Diploma

Location: Pipestone

PLMB	1100	Code	3
PLMB	1106	Plumbing Installation	3
PLMB	1110	Introduction to Plumbing	3
PLMB	1115	Plumbing Welding	3
PLMB	1120	Plumbing Piping Water	3
PLMB	1130	Blueprint and Estimate	2
PLMB	1135	Sewage Disposal and Survey	2
PLMB	1140	Plumbing Pipefitting	3
PLMB	1145	Plastic Installation	3
PLMB	1150	Water Treatment Methods/Codes	2
		Electives	5
		Total Credits	32

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.

TRPS	1100	Engine Technology	4
TRPS	1105	Fuel Systems I	3
TRPS	1110	Fuel Systems II	3
TRPS	1115	Power Train	3
TRPS	1112	Electrical Systems	3
TRPS	1120	Shop Operations	2
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
		Total Credits	32

Powerline Technology, A.A.S.

Location: 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 16 credits of General Education required are:

ENGL	1101	Composition I	3
MATH	1111	College Algebra	3
		Humanities Electives	3
		General Education Electives	7

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	3
ELUT	2100	Metering I	2
ELUT	2105	Metering II	2
ELUT	2126	Regulators and Capacitors	3

Humanities Electives 3 credits from:

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

General Education Electives 7 credits from:

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 64

Powerline Technician, Diploma

Location: 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	2
ELUT	2105	Metering II	2
ELUT	2110	Transformer Banking II	2
ELUT	2121	Protective Relays	3
ELUT	2126	Regulators and Capacitors	3
EMS	1112	1st Aid/CPR	1
		Electives	5
		Total Credits	64

Powerline, Diploma

Location: 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	1
		Electives	1

Suggested Electives from:

MATH 1111-College Algebra, MATH 1100-Integrated Math, AUTO 1195 Commercial Drivers License, ELUT 2100-Metering I (with Instructor's Permission), ELUT 2115-Reclosures and Protective Equipment, ELUT 2125-Regulators and Capacitors, HLTH 1115-Community CPR/First Aid.

Total Credits 38

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 in Arts degree requirements.

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
SPCH	1101	Introduction to Speech	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
		Total Credits	60

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 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 skill necessary to perform various radiologic procedures through didactic and clinical experiences. The Radiologic Technologist carries out these functions under the supervision or direction of a Registered Radiologic Technologist. Includes instruction in conducting CAT scan, and x-ray procedures; equipment operation and maintenance; patient preparation; and record keeping.

Prerequisites

BIOL	1115	Human Biology	3
CSCI	1102	Introduction to Microcomputers	3
BIOL	2245	Medical Terminology	2
BIOL	2201	Anatomy	4
		Total Prerequisites	12
BIOL	2202	Physiology	4
PSYC	1150	Developmental Psychology	3
MATH	1111	Algebra	3
ENGL	1101	Composition	3
RADT	1100	Intro Radiography & Patient Care	3
PHYS	1201	Fundamentals of Physics II	4

		or	
PHYS	1100	Survey of Physics	3
RADT	1110	Radiological Procedures I	4
RADT	1130	Radiological Exposures I	3
RADT	1150	Clinical Radiography I	6
RADT	1120	Radiological Procedures II	3
RADT	1160	Clinical Radiography II	6
RADT	1140	Radiological Exposures II	3
RADT	2210	Radiological Procedures III	3
RADT	2250	Clinical Radiography III	6
RADT	2220	Radiological Equipment	3
		Humanities Elective	3
RADT	2240	Principles of Radiobiology	3
RADT	2230	Radiological Pathology	2
RADT	2260	Clinical Radiography IV	7
RADT	2270	Clinical Radiography V	6
RADT	2280	Board Review	2
		Total Credits	91

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
		Total Credits	23

Surgical Technology , Diploma

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 and record-keeping.

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	2245	Medical Terminology	2
BIOL	1115	Human Biology	3
BIOL	2201	Anatomy	4
BIOL	2202	Physiology	4
PSYC	1150	Developmental Psychology	3
SURG	1100	Biomedical Science	1
SURG	1110	Surgical Microbiology	2
SURG	1120	Surgical Pharmacology	2
SURG	1130	Operating Room Theory	3
SURG	1140	Operating Room Practices	4
SURG	1150	Operating Room Procedures	7
SURG	1160	Clinical I	2
SURG	1170	Clinical II	6
SURG	1180	Clinical III	5
SURG	1190	Clinical IV	4
HC	1290	Health Care and Society	1
Total Credits			53

Truck Driver, Certificate

Location: Worthington

The Truck Driving Training major is designed to provide students with the knowledge and skills that are necessary to obtain a commercial class A driver's license (CDL). The program offers a well rounded curriculum that begins with basic operating principles and continues through advanced driving techniques. Students will receive range training in backing and maneuvering and over-the-road driving practice. As students advance in their training, they will learn high level skills such as coping with various road hazards and heavy traffic. Students will operate trucks that are empty and fully loaded on flat terrain and on various grades and strive for optimum fuel economy and vehicle efficiency. Also included in student training will be non-driving skills such as time and money management, trip planning, log maintenance, and techniques for coping with a driver's life style. An emphasis will be placed on projecting an appropriate image expected by future employers.

Prerequisites: New applicants must be able to pass a Department of Transportation physical examination submit to a DOT Drug Test and Motor Vehicle Record check. They must also possess a valid driver's license and provide a printout of their driving record which must be free from any serious violation within the past 12 months.

Program Information: Students under 21 years of age are restricted to driving within the state of their residence (intra-state driving).

TRDR	1100	Basic Vehicle Operation and Control Systems	3
TRDR	1110	Safe Operation Fundamentals	3
TRDR	1126	Managing Personal Resources	1
TRDR	1130	Vehicle Maintenance	1
TRDR	2297	Advanced Operating Procedures Internship	8
Total Credits			16

Wind Energy Technology, A.A.S.

Location: Canby

As energy costs continue to escalate, the demand for lower cost, more efficient, and renewable energy sources continue to be explored. The career of Wind Energy Technician includes everything from installation and repair to troubleshooting of wind

energy towers. This technician will be capable of working closely with clients with an understanding of environmental issues and politics, written technical skills, and data interpretation.

General Education 16 Total Credits

Goal Area 1 (Communication)	3
Goal Area 4 (Mathematics)	3
General Education Electives	10

General Education Elective course selection for an A.A.S. Degree must include courses from a minimum of three goal areas of the Minnesota Transfer curriculum.

CSCI	1102	Introduction to Microcomputers	3
ELCO	1101	DC Circuits and	3
ELCO	1106	AC Circuits	3
ELEC	1235	Applied Electrical Calculations	2
ELEC	2205	Electric Motor Control I	4
ELEC	2230	Programmable Logic Controllers	4
ELWT	1100	Wind Energy Fundamentals	3
ELWT	1110	Mechanical Systems	3
ELWT	1120	Air Foils, Blades, and Rotors	1
ELWT	1150	Wind Turbines	2
ELWT	1160	Environmental, Health, & Safety Wind Energy	1
ELWT	1170	Wind Energy OSHA Standards And Climbing Lab	2
ELWT	1180	Wind Generation/Transmission/ Distribution	3
ELWT	1250	Fundamentals of Electric Motors	2
ELWT	2110	Turbine Siting & Construction	3
ELWT	2130	Data Acquisition & Communication	3
EMS	1112	AHA, CPR Healthcare Provider	1
FLPW	1103	Basic Hydraulics (Lecture)	3
FLPW	1104	Basic Hydraulics (Lab)	1
RNEW	1105	Intro to OSHA	1
Total Credits			64

Wind Energy Mechanic, Diploma

Location: Canby

CSCI	1102	Introduction to Microcomputers	3
ELCO	1101	DC Circuits	3
ELCO	1106	AC Circuits	3
ELEC	1235	Applied Electrical Calculations	2
ELWT	1100	Wind Energy Fundamentals	3
ELWT	1110	Mechanical Systems	3
ELWT	1120	Air Foils, Blades, and Rotors	1
ELWT	1150	Wind Turbines	2
ELWT	1160	Environmental, Health, and Safety Wind Energy	1
ELWT	1170	Wind Energy OSHA Standards Climbing Lab	2
ELWT	1180	Wind Generation/Transmission/ Distribution	3
EMS	1112	AHA, CPR Healthcare Provider	1
FLPW	1103	Basic Hydraulics (Lecture)	3
FLPW	1104	Basic Hydraulics (Lab)	1
RNEW	1105	Intro to OSHA	1
Total Credits			32

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	1101	DC Circuits and	3
ELCO	1106	AC Circuits	3

ELWT	1100	Wind Energy Fundamentals	3
ELWT	1160	Environmental, Health, and Safety Wind Energy	1
ELWT	1170	Wind Energy OSHA Standards and Climbing Lab	2
FLPW	1103	Basic Hydraulics (Lecture)	3
RNEW	1105	Intro to OSHA	1
		Total Credits	16

Management Programs

More information on Minnesota Management programs is available at www.mgt.org

Computerizing Small Business Management, Diploma

Location: Granite Falls and Pipestone

Computerizing Small Business is a program designed to assist the small business owner in maximizing the effectiveness of office computerization and accounting applications. Program instructors target instruction to areas that will 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 on-site 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
	Total Credits	32

Farm Business Management, Diploma

Locations: Canby, Jackson, and Pipestone

Sites: Canby, Fulda, Granite Falls, Jackson, Lakefield, Luverne, Marshall, Mt. Lake, Okabena, Pipestone, Slayton, St. James, Truman, Tyler, Welcome, Worthington

This diploma program is designed to provide education to farm owners and operators or persons interested in farming. The purpose of the program is to assist students in meeting their business and personal goals. This is best accomplished through the use of quality records and sound business decisions. Effective financial management in the business is the best way for the business to maintain that competitive edge. Instructors in Minnesota's Farm Business Management Education Programs deliver the program using a variety of methods. The primary delivery method is through individualized instruction at the student's business. Instructors meet with the students on a regular basis to evaluate the business and develop individual educational plans. Instruction is also delivered via the traditional classroom, small group meetings, field trips, and tours.

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
	Total Credits	60

Advanced Farm Business Management, Certificate

Locations: Canby, Jackson, and Pipestone

Sites: Canby, Fulda, Granite Falls, Jackson, Lakefield, Luverne, Marshall, Mt. Lake, Okabena, Pipestone, Slayton, St. James, Truman, Tyler, Welcome, Worthington

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 2100	Fundamentals of Financial Management as it relates to Risk Management	3
FBMA 2101	Applied Financial Management as it Relates to Risk Management	3
FBMA 2110	Fundamentals of Financial Management/Strategic Planning Emphasis	3
FBMA 2111	Applied Financial Management/Strategic Planning Emphasis	3
FBMA 2120	Fundamentals of Financial Management/Business Plan Emphasis	3

FBMA	2121	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
		Total Credits	30

Applications in Farm Business Management, Certificate

Locations: Canby, Jackson, and Pipestone
Sites: Canby, Fulda, Granite Falls, Jackson, Lakefield, Luverne, Marshall, Mt. Lake, Okabena, Pipestone, Slayton, St. James, Truman, Tyler, Welcome, Worthington

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
		Total Credits	30

Essentials of Farm Business Management, Certificate

Locations: Canby, Jackson, and Pipestone
Sites: Canby, Fulda, Granite Falls, Jackson, Lakefield, Luverne, Marshall, Mt. Lake, Okabena, Pipestone, Slayton, St. James, Truman, Tyler, Welcome, Worthington

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 Suggested Farm Business Management Electives	6
		Total Credits	30

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
	Total Credits	30

Small Business Management, Diploma

Location: Granite Falls and Pipestone

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
	Total Credits	39

**For more information on
Small Business Management go to:
www.sbmprogram.org**

Customized Training Services

Customized Training Services offers short term, part time credit and clock hour courses, continuing education units, and customized training to individuals, businesses, industries and agencies. Customized Training Services provides access to a wide array of experts and consultants in many fields.

Courses are provided days, evenings, and weekends. Training can be provided on-site, on any Minnesota West Community and Technical College campus, at the Minnesota West Marshall Center or at a convenient off-site meeting location.

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

Customized Training Services Program Areas:

Services fall into 5 program areas:

- Computer Technology
- Management and Professional Development
- Manufacturing and Applied Technology
- Health and Wellness
- Public Safety

COMPUTER TECHNOLOGY:

Computer training enables an organization or individual to get the maximum productivity from a most important business tool, the computer. A mobile lap-top personal computer laboratory, instructor and training in various Windows and Microsoft Office applications is available. Training can be customized to meet company and individual needs. The campus locations and customized options put quality computer instruction within reach. The classes are offered at the campus sites or can be customized to target the specific applications and skill levels of employees.

MANAGEMENT AND PROFESSIONAL DEVELOPMENT:

Personal and professional growth is an important component in maintaining managers, management trainees, and skilled employees.

Customized Training Services provides the training foundation for:

- Organizational Development
- Performance Management
- Project Management
- Supervisory and Human Resource Mgt.

MANUFACTURING AND APPLIED TECHNOLOGY:

The training that is available through Manufacturing and Applied Technology include such areas as OSHA, Safety, Welding, Automation Skills, Fluid Power Fundamentals, AutoCAD, Machine Tool, Manufacturing Practices and Quality

Control, Contractors Continuing Education, Commercial Vehicle Inspection Recertification, Steam Boiler and much more.

OSHA and Safety:

OSHA and Safety training programs for businesses, industries, and municipalities are designed to meet or exceed standards set forth by regulatory agencies.

Welding:

Minnesota West's mobile welding unit has twelve wire feed welding stations and has the capability of bringing welding and blueprint reading for welder training direct to the customer's doorstep.

HEALTH AND WELLNESS:

Minnesota West Community and Technical College offers diverse health programming for individuals, facilities, and persons seeking professional CEU's. Programs are offered on the various campuses or at work sites.

Today's health care personnel are challenged by increased technology and expanded levels of accountability. Programs are customized to work with all members of the health care team in an effort to assist them in meeting these challenges.

Continuing Dental Education:

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

PUBLIC SAFETY:

Customized Training Services provides training to Fire and Rescue personnel as well as Law Enforcement officers within the service area. The wide range of training programs in these areas also provides unique opportunities for business and industry as well as municipalities.

Safety Programs:

First Aid and CPR courses are readily available or may be customized to meet an organization's needs. All courses have been designed to meet or exceed the recommendations of the American Heart Association, the American Red Cross, The National Safety Council, and the American Medical Association.

Fire and Rescue:

The wide range of training programs in Fire and Rescue offer unique opportunities for industry personnel as well as fire and rescue personnel in communities. This training is highly mobile and many courses encompass hands-on learning. The mobile Confined Space, Live Burn, and Ventilation Training Simulators can be brought on-site to provide valuable training to municipalities as well as industries. Training programs can be designed that will meet OSHA and other state and federal requirements.

Law Enforcement and Personal Safety:

Minnesota West is a POST Board accredited educational institution for Law Enforcement continuing education. Training

may be customized for Law Enforcement Agencies, Security Organizations, and Business and Industry.

Minnesota West Marshall Center/MERIT Center:

Marshall Emergency Response & Industrial Training Center is located at 1001 Erie Road, Marshall, MN. The purpose of the MERIT Center is to provide a site and equipment for the training of emergency responders including fire fighters, city and county law enforcement personnel, emergency medical service personnel, regional emergency managers, business and industry personnel and other related persons in southwest-west central Minnesota. The city of Marshall owns the actual building site and Minnesota West Customized Training Services is mandated to provide the training through a number of venues at the site. The training is available as open enrollment classes or classes for specific companies and industries. Minnesota West personnel maintain offices at the site.

Customized Training Services for Minnesota West Community and Technical College are delivered at the Marshall Center. The Center is located within the Minnesota Emergency Response and Industrial Training Center located at 1001 Erie Road/County Road 33 in Marshall, MN.

The Center provides highly specialized hour-based and credit-based technical courses which are designed to upgrade the skills of the incumbent workforce in the area. The center is fully staffed with Customized Training coordinators and support staff, and includes a classroom complex. For more information about the training possibilities offered through Minnesota West Customized Training Services, call the Marshall Center at 507-537-7051 or 1-800-576-6728.

Check out our web site at:

<http://training.mnwest.edu/>

COURSE DESCRIPTIONS

ACCOUNTANT (ACCT)

ACCT 1104	1 cr.
Special Projects	
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 with ACCT 1102 or BUS 2201.	
ACCT 1110	3 cr.
Payroll Accounting	
Covers the various state and federal laws pertaining to the computation of payment of salaries and wages.	
ACCT 1115	2 cr.
Computerized Accounting Applications I	
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, general ledger accounting, payroll procedures, accounts receivable, and accounts payable. Prerequisite: BUS 2201 or high school/college bookkeeping or accounting coursework.	
ACCT 1120	2 cr.
Spreadsheet Concepts and Applications	
Uses a computerized spreadsheet system for business applications. Topics include document creation, storage and retrieval, editing, printing, and file distribution.	
ACCT 1122	2 cr.
Database Concepts and Applications	
Uses a database system for business applications. Topics include electronic files, file creation and flexible stored procedures.	
ACCT 2100	4 cr.
Intermediate Accounting I	
Explores accounting theory and concepts with an analysis of the influence on financial accounting by various boards, associations, and governmental agencies. Prerequisite: BUS 2202.	
ACCT 2101	2 cr.
Intermediate Accounting II	
Continues the comprehensive study of accounting theory and concepts. Prerequisite: ACCT 2100.	
ACCT 2105	3 cr.
Auditing	
Studies 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.	
ACCT 2110	4 cr.
Income Tax I	
Explains and interprets the Internal Revenue Code as applied to individual and business returns. Computerized software will be used to prepare actual income tax returns.	
ACCT 2115	4 cr.
Cost Accounting I	
Studies 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.	
ACCT 2120	3 cr.
Fund/Nonprofit Accounting	
Focuses on the application of generally accepted accounting principles for state and local governmental units. Prerequisite: BUS 2202.	
ACCT 2125	2 cr.
Computerized Accounting Applications II	
Continues the use of computers and related software used in the accounting function of a business. Prerequisite: BUS 2202.	

ACCT 2130 **2 cr.**
Intermediate Accounting III
 Studies accounting theory and concepts. Prerequisite: ACCT 2101.

ACCT 2135 **2 cr.**
Internship
 Provides practical experience with a business utilizing skills/knowledge learned in accounting programs.

ADMINISTRATIVE ASSISTANT (ADSA)

ADSA 1100 **3 cr.**
College Keyboarding I
 Covers basic skill development and the use of a computer keyboard to produce various business documents including letters, envelopes, reports, memos, tables, and employment documents. In addition to formatting business documents, focus will be placed on keyboarding speed, accuracy, and proofreading skills.

ADSA 1105 **3 cr.**
College Keyboarding II
 Covers production keyboarding using a computer to complete a variety of business applications. Business documents will be produced including letters, envelopes, reports, memos, tables, and forms. Also included is the continued development of keyboarding speed, accuracy, and proofreading skills. Prerequisite: ADSA 1100.

ADSA 1111 **3 cr.**
Office Management
 Covers general office principles, practices, and procedures in theory with practical applications. Various topics will be covered including: office equipment, computer skills, communication skills, administrative duties, 'typical' office duties, and personal and professional development.

ADSA 1116 **2 cr.**
Machine Transcription
 Covers the use of computer equipment, transcription units, and word processing software to transcribe dictated business documents. Emphasis will be placed on preparing realistic forms and materials, building speed and accuracy, proofreading, correcting errors, using punctuation, grammar, and spelling rules, and using reference materials. Prerequisite: ADSA 1100.

ADSA 1122 **2 cr.**
Word Processing I
 Covers using a computer system with word processing software to perform basic word processing applications. Topics covered include preparing and managing documents, formatting and enhancing documents, and customizing documents.

ADSA 1123 **2 cr.**
Word Processing II
 Continues Word Processing I with a focus on increased proficiency in operating word processing software. Topics covered include enhancing and organizing text along with realistic word processing projects. Prerequisite: ADSA 1122.

ADSA 1126 **2 cr.**
Advanced Office Applications
 Designed to integrate and reinforce the skills and knowledge learned in previous business courses in the Administrative Secretary program. Keyboarding skills, computer knowledge, transcription skills, and word processing skills will be utilized through the use of simulations or in-basket projects to give the student experience in daily routines, making decisions, setting priorities, dealing with work pressure, developing interpersonal relationships, and becoming aware of work quality and quantity requirements. Project emphasis should develop the student's awareness of work flow and chain of command. Prerequisites: ADSA 1100, ADSA 1122 or instructor approval.

ADSA 1130 **3 cr.**
Office Accounting Concepts
 Provides students with a basic knowledge of accounting concepts and procedures. The accounting cycle for service and merchandising businesses will be covered by analyzing business transactions, recording transactions in

a variety of journals, preparing financial reports, and accounting for cash and payroll.

ADSA 1131 **2 cr.**
Office Accounting Concepts II
 Provides the opportunity to apply basic knowledge of accounting concepts and procedures. Students will apply basic accounting procedures through the use of simulations, software packages, etc. Prerequisite: ADSA 1130.

ADSA 1132 **1 cr.**
Calculators
 Introduces the development of the touch system on calculator keyboards and microcomputer number pad keyboards. Students will develop speed and accuracy using the touch system for the four basic arithmetic operations and solving business problems.

ADSA 1136 **2 cr.**
Desktop Publishing
 Introduces students 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 cr.**
Customer Service for the Office Professional
 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 cr.**
Supervisory Management
 Introduces 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 1150 **2 cr.**
Personal Finance
 Provides students with the basic concepts of personal financial management. It covers budgeting, consumer credit, personal financial planning, effective purchasing of consumer goods and services, insurance, investment, and retirement planning.

ADSA 1176 **3 cr.**
Business Communications
 Covers oral and written communication skills needed in the professional work force.

ADSA 1180 **2 cr.**
Records Management
 Covers the flow of records utilized for client/customer information processing.

ADSA 1190 **2 cr.**
Presentation Graphics
 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.

ADSA 1195 **2 cr.**
Intro to Voice Recognition Software
 Covers basic skill development and the use of voice recognition software. Topics covered include creating personal profiles; learning voice commands and proper techniques; and creating, proofreading, navigating, and editing documents.

ADSA 1200 **1-3 cr.**
Special Projects
 Involves shadowing various employees at business sites. Approximately three visits will be involved and reports will be done on each.

MEDICAL ADMINISTRATIVE ASSISTANT (ADSM)

ADSM 1100 **2 cr.**
Medical Terminology I
 Introduces word analysis, spelling, and usage of word roots, prefixes, suffixes, and abbreviations common to the medical profession. Emphasis on understanding, pronouncing, and spelling diagnostic terms.

ADSM 1105 **2 cr.**
Medical Insurance and Coding
 Provides an introduction to medical and dental claim forms preparation and processing. It will include CPT, ICD-9-CM, MCPC, and ADA coding, terminology, and forms preparation.

ADSM 1110 **2 cr.**
Anatomy & Physiology/Disease Conditions I
 Introduces human anatomy and systems with emphasis on terminology, abbreviations, and diagnostic tests for the human body through study of diseases by anatomical systems. The emphasis is on terminology, abbreviations, and symptomatic, diagnostic, and operative terms.

ADSM 1115 **2 cr.**
Anatomy & Physiology/Disease Conditions II
 Continues human anatomy and disease with emphasis on terminology, abbreviations, and disease process. The study of diseases follows anatomical systems.

ADSM 1117 **4 cr.**
Anatomy & Physiology/Disease Conditions
 Covers the relevant structures, functions, and diseases of body systems. It emphasizes clinical applications and medical terminology. Emphasis will be placed on the signs, symptoms, diagnostic measures, and treatment regimens of diseases.

ADSM 1120 **3 cr.**
Medical Office Procedures I
 Provides medical office career information, with emphasis upon medical ethics, and professional liability. Additional topics covered include: medical receptionist tasks; working with patient files, medical records, word processing, and billing.

ADSM 1125 **3 cr.**
Medical Office Procedures II
 Continues Medical Office Procedures I. Medical topics covered include: medical insurance, DRGS, HMOs, CPT and HCPCS coding. This also covers the integration of medical office tasks: basics of computer operation, mail handling, medical document production, insurance forms completion, and making meeting and travel arrangements.

ADSM 1130 **3 cr.**
Medical Machine Transcription I
 Teaches transcription of dictated medical material into a variety of usable medical documents. The emphasis is on authentic forms and material; building typing speed and accuracy; and proofreading and correcting errors. Must be taken concurrently with ADSA 1100.

ADSM 1135 **3 cr.**
Medical Machine Transcription II
 Continues Medical Machine Transcription I. Transcription of dictated medical material into a variety of usable medical documents is continued, using word processing equipment. The emphasis is on experience with authentic medical material, continuing to build typing speed and accuracy, advanced editing, advanced proofreading, and enhancement of the ability to find and correct errors.

ADSM 1137 **1 cr.**
Medical Machine Transcription III
 Provides advanced medical transcription training in various medical and surgical specialty units.

ADSM 1140 **2 cr.**
Applied Medical Terminology
 Explores the meaning for Latin and Greek elements or word parts. This increased knowledge will enable you to interpret and understand complex medical terms, providing a basic knowledge of the language of medicine and

an understanding of how complex medical terms are formed. Included will be pharmaceutical terms, generic, and brand name drugs, and abbreviations common to the medical profession.

ADSM 1165 **Diagnosis Coding** **3 cr.**
Provides students with an understanding of ICD-9-CM diagnostic coding; a statistical classification system for selecting diagnoses in healthcare settings. Students will learn how to apply official guidelines to provide the most accurate codes for billing and statistical analysis. Prerequisites: BIOL 2245 or ADSM 1100; ADSM 1105, ADSM 1140, and either ADSM 1110 and ADSM 1115 or HC 1151 and HC 2120.

ADSM 1170 **Procedure Coding** **3 cr.**
Provides an entry-level background for using procedural classification systems in healthcare settings. The course presents coding format and basic and specific coding principles. Exercises will be used to demonstrate requirements for accurate coding. Prerequisites: BIOL 2245 or ADSM 1100; ADSM 1105, ADSM 1140, and either ADSM 1110 and ADSM 1115 or HC 1151 and HC 2120.

ADSM 2297 **Internship** **1-2 cr.**
Designed to provide the student with occupational experience in the Medical Administrative Secretarial field. It is designed to provide on-the-job experience in an approved health setting as the training site. Prerequisite: Instructor approval.

AGRICULTURE (AGRI)

AGRI 1101 **Introduction to Animal Science** **3 cr.**
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 **Principles of Agronomy** **3 cr.**
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 **Introduction to Soil Science** **3 cr.**
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 **Introduction to Horticulture** **3 cr.**
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 1121 **Dairy Technician** **2 cr.**
Provides for introduction to the Dairy Industry as a technician. The emphasis will be on employment skills and milking skills.

AGRI 1125 **Custom Application** **2 cr.**
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 **Farm Records & Business Analysis** **4 cr.**
Emphasizes the maintenance and analysis of farm records. Special attention is given to the use of the Minnesota Farm Account Book and the analysis

procedure. Topics include calculation of earnings, efficiency factors, total business and enterprise analysis.

AGRI 1152 **Agricultural Marketing and Prices** **3 cr.**
Explores the economics of agricultural marketing, organization of markets and marketing enterprises, marketing policy, and price trends of agricultural commodities.

AGRI 2201 **Principles of Animal Nutrition** **3 cr.**
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 **Weed Control** **3 cr.**
Surveys the principles and methods of weed control and the modes of action of herbicides.

AGRI 2203 **Soil Fertility and Fertilizers** **3 cr.**
Explores the chemical elements in the soil and plants, soil testing and tissue testing, fertilizer and lime recommendations, and fertilizer nutrients.

AGRI 2204 **Intro to GPS/GIS** **3 cr.**
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 2212 **Corn and Soybean Production** **3 cr.**
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 marketing.

AGRI 2214 **Machinery Principles and Management** **3 cr.**
Covers the utilization of farm equipment from the purchasing of equipment and managing the costs to the operation and maintenance of agricultural equipment.

AGRI 2216 **Introduction to Meat Science** **3 cr.**
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 2235 **Special Topics in Agriculture** **1-3 cr.**
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 **Principles of Farm and Ranch Management** **4 cr.**
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 **Agriculture Production Management Internship** **2-8 cr.**
Places students on a farm operation to gain further experience in agricultural production management under the supervision of the agriculture department staff.

AGRI 2298 **Agriculture Lab Tech Internship** **2-8 cr.**
Places students in area businesses or industries specializing in the appropriate technology to gain practical experience. Students may select an emphasis area in food technology, soil and water, or plant science.

AGRI 2299 **Agri-Business Internship** **2-8 cr.**
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 (Meets Goal Area: 6) **3 cr**
Beginning Drawing
Combines work in various drawing mediums. This includes experimentation with traditional and contemporary styles, problems in perspective, composition, and imagination.

ART 1103 (Meets Goal Area: 6) **1 cr.**
Display and Exhibition
Exposes the student to organization, management and the design and hanging of gallery displays. Students will be responsible for the pre-organization and arrangement of displays. The course will cover both theory and practical experience with gallery management.

ART 1114 (Meets Goal Area: 6) **3 cr.**
Watercolor
Introduces traditional and contemporary techniques of transparent watercolor with practical experiences in solving painting problems in various styles.

ART 1115 (Meets Goal Area: 6) **3 cr.**
Beginning Painting
Introduces traditional and contemporary painting techniques. Students will explore their own visual communication style. Students will learn processes for canvas preparation.

ART 1118 (Meets Goal Area: 6) **3 cr.**
Arts and Crafts
Teaches basic skills using art materials and supplies. Encourages a creative approach to the application of these skills through a variety of techniques. Students will learn appropriate methods of presenting art experiences to individuals with various learning levels and/or disabilities. A resource book containing step by step methods and procedures of instructing others will be produced by each student. Prerequisite: STSK 0090 or evidence of college level reading ability through assessment test or prior college coursework.

ART 1120 (Meets Goal Area: 6) **3 cr.**
Art Appreciation
Offers an investigation into the creative process as it exists for the artist, the art historian, and the 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 evidence of college level reading ability through assessment test or prior college coursework.

ART 1124 (Meets Goal Area: 6) **3 cr.**
Introduction to Ceramics
Creating clay objects using the potter's wheel and hand building techniques. Students also learn to operate a kiln and apply glaze finishes.

ART 2201 **3 cr.**
Intermediate Drawing
Uses materials from ART 1101 with increased emphasis on individual creativity and artistic development. Prerequisite: ART 1101.

ART 2215 **3 cr.**
Intermediate Painting
Emphasizes technical and creative application of paint. Students will be encouraged to explore the creative process using a wide variety of painting surfaces, techniques and subject matter. Prerequisite: ART 1115.

ART 2224 **3 cr.**
Intermediate Ceramics
Reinforces beginning design experiences by combining methods of construction. Greater emphasis will be placed on glazing and finishing. Prerequisite: ART 1124.

ART 2230 (Meets Goal Area: 6) **3 cr.**
Computer Graphics
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.

ART 2232 **3 cr.**
Advanced Computer Graphics
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.

ART 2235 (Meets Goal Area: 6) **1-3 cr.**
Special Topics
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.

ART 2240 (Meets Goal Area: 6, 8) **3 cr.**
Art History
Includes the study of painting, sculpture and architecture from the Paleolithic (Stone Age) period through the Early Renaissance.

ART 2245 (Meets Goal Area: 6, 8) **3 cr.**
Art History II
Includes the study of painting, sculpture and architecture from Renaissance through the Post Modern Era: Art since 1980.

AUTOMOTIVE TECHNOLOGY (AUTO)

AUTO 1100 **2 cr.**
Introduction to Transportation
Covers the correct procedures for servicing and maintaining vehicles. Shop safety, use of service manuals and bulletins, writing repair orders, and parts requisitions will be addressed.

AUTO 1111 **4 cr.**
Electrical
Presents the basic fundamentals of electricity and electronics, sources of electricity, circuits, magnetism, resistance, coils, capacitance, instruments, diodes, and solid-state devices. 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.

AUTO 1120 **2 cr.**
Air Conditioning
Covers the theory, principles, diagnosis, testing, and repairs of the air conditioning systems operations.

AUTO 1121 **2 cr.**
Advanced Heating & Air Conditioning
Covers the theory, principles, diagnosis, testing, and repairs of the air conditioning and heater systems. Also covered is the automatic temperature control systems and operations.

AUTO 1126 **4 cr.**
Steering and Alignment
Prepares students with 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. It also covers the principles of operation, disassembly, checks and adjustments of power and manual steering gears, and manual and power rack and pinion systems. Also taught are the procedures required for checking and adjusting wheel alignment.

AUTO 1131 **4 cr.**
Brakes
Covers the basic principles of brakes, hydraulic systems, disc and drum brakes, parking brakes and power assist units. Emphasis will be placed on operation, diagnosis, and repair of various types of braking systems.

AUTO 1136 **Engine Technology & Lab** **5 cr.**
Covers the fundamentals of internal combustion engine operation, repair, and maintenance, the procedures for removal, replacement, diagnosing, rebuilding, and assembly. Proper tool and equipment application and failure diagnosis are emphasized in this course.

AUTO 1140 **Special Projects** **1 cr.**
Encourages students to identify, develop, explain, and complete their own automotive projects. The special projects course must receive the approval of the instructor prior to implementing the project. Special projects must challenge the student's current level of technical skills.

AUTO 1145 **Engine Performance I** **2 cr.**
Enables students to master the proper techniques necessary to diagnose and repair computer systems by using diagnostic computer systems and scanners. This course will also cover emission control components testing and repair.

AUTO 1194 **Commercial Drivers License Permit** **1 cr.**
Prepares students with the necessary content to pass the required test for the State of Minnesota to receive a Class A permit. The tests the State requires are: General Knowledge, Air Brakes, Combination and Pre-trip Inspection.

AUTO 1195 **Commercial Drivers License** **2 cr.**
Allows 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.

AUTO 2106 **Automatic Transmissions** **5 cr.**
Prepares students with the necessary skills to diagnose and repair automatic transmissions and transaxles. This course teaches the theory of operation of automatic transmissions and transaxles and the related components. The fundamentals of service of the components of the transmissions will be introduced and practiced in this course.

AUTO 2112 **Manual Drive Train & Axles** **5 cr.**
Prepares students with the necessary skills to diagnose and repair manual driveline components. This course covers standard automotive and light truck clutches, drivelines, differential/4x4 and manual transmissions/transaxles. The clutch section includes design, adjustment, overhaul, diagnosis and repair of mechanical and hydraulic systems. The driveline section includes phasing alignment and balance. The manual transmission/transaxle section teaches the operation theory and repair.

AUTO 2121 **Engine Performance II** **5 cr.**
Prepares students with the necessary skills to diagnose and repair all systems related to engine performance. It teaches the theory and repair of automotive engine systems. It includes ignition systems, emission controls, electronic engine controls, and engine performance diagnosis.

AUTO 2122 **Engine Performance III** **5 cr.**
Prepares students with the necessary skills to diagnose and repair all systems related to engine performance. It teaches the theory and repair of automotive engine systems. It includes ignition systems, emission controls, electronic engine controls, and engine performance diagnosis.

AUTO 2135 **Ford Computer Controls and Fuel Injection** **3 cr.**
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 2145 **Body Computer Controlled Electrical Systems** **5 cr.**
Covers the advanced 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. Prerequisite: AUTO 1145.

AUTO 2150 **Special Problems II** **2 cr.**
Intended to provide training in service 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 automotive industry.

AUTO 2160 **Special Projects** **6 cr.**
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 **Summer Internship** **4-6 cr.**
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 **Survey of Biological Science** **3 cr.**
Introduces major concepts of biology which include cell structure and function, reproduction, development, interrelationships among organisms, classification, heredity, adaptation and evolution. Special emphasis will be placed upon understanding of the science of biology and its significance to everyday life.

BIOL 1110 (Meets Goal Area: 3) **4 cr.**
Principles of Biology
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 structure and function, metabolism emphasizing bioenergetics and biosynthesis, the cell cycle, and genetics. Prerequisite: STSK 0090 or evidence of college level reading ability through assessment test or prior college coursework.

BIOL 1115 (Meets Goal Area: 3) **3 cr.**
Human Biology
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 evidence of college level reading ability through assessment test or prior college coursework.

BIOL 2201 (Meets Goal Area: 3) **4 cr.**
Human Anatomy
Covers structures of the human body from the cellular to organ system level. This course includes study of the human body organization, tissues, and organ systems: integumentary, skeletal, muscular, nervous, endocrine, circulatory, lymphatic, respiratory, urinary, digestive, and reproductive. Laboratory exercises support the lecture and include hands-on dissections that coincide with the organ systems covered in the lecture topics. Prerequisite: BIOL 1110 or BIOL 1115.

BIOL 2202 (Meets Goal Area: 3) **4 cr.**
Human Physiology
Covers through 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 dissections that coincide with the systems covered in the lecture topics. Prerequisite: BIOL 2201.

BIOL 2220 (Meets Goal Area: 3) **4 cr.**
Animal Biology
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 (Meets Goal Area: 3) **4 cr.**
Plant Biology
Covers the fundamental concepts of plant biology, 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 cr.**
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 (Meets Goal Area: 3) **3 cr.**
Genetics
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 cr.**
Medical Terminology
Provides students in any of the health science disciplines or pre-professional studies with working knowledge of the terminology used in the health professions. Prerequisite: STSK 0090 or evidence of college level reading ability through assessment test or prior college coursework.

BIOL 2270 (Meets Goal Area: 3) **4 cr.**
Microbiology
Introduces students to the science of microorganisms, including bacteria, viruses, fungi, pathogenic protozoans and multi-cellular organisms. Laboratory experience will introduce students to basic microbiological apparatus, tests, and techniques. BIOL 1110 and CHEM 1101 or 1150. One of these courses are recommended.

BIOTECHNOLOGY (BIOT)

BIOT 1101 **3 cr.**
Introduction to Biotechnology
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.

BIOT 2201 **3 cr.**
Organic and Biological Chemistry
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.

BIOT 2205 **3 cr.**
Molecular and Cellular Biology
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.

BIOT 2210 **4 cr.**
Biotechnology Methods I
Introduces the student to the equipment commonly used to support a modern biologicals 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.

BIOT 2220 **4 cr.**
Biotechnology Methods II
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.

BIOT 2225 **4 cr.**
Analytical and Investigative Lab Techniques
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.

BIOT 2297 **2-8 cr.**
Biotech Internship
Provides the student with on the job experience in the field of biotechnology.

BUSINESS (BUS)

BUS 1101 **4 cr.**
Introduction to Business
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 such areas as management, marketing, financing and information systems.

BUS 1104 **3 cr.**
Business Mathematics
Emphasizes mathematical concepts through practical applications in business situations covering percentages in business (mark-ups, discounts), payroll and taxes, finance charges, inventory and depreciation).

BUS 1105 **2 cr.**
Introduction to Entrepreneurship
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.

BUS 2105 **2 cr.**
Introduction to Entrepreneurship
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.

BUS 2200 **3 cr.**
Introduction to Management Information Systems
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.

BUS 2201 **4 cr.**
Principles of Accounting I
Includes an introduction to the accounting system; the processing of accounting data, the purpose and construction of financial statements, and the development of accounting theory and techniques. This course is a prerequisite to all other courses in accounting.

BUS 2202 **4 cr.**
Principles of Accounting II
Continues Accounting I. Transactions advance from sole proprietorship to partnership and corporate account practices. Examines corporations and stockholders equity. Includes accounting as a planning, analysis, and control tool facilitating the decision-making process of management. The analysis and comparison of financial statements are emphasized. Prerequisite: BUS 2201.

BUS 2221 **3 cr.**
Principles of Management
Studies the general principles of management planning, organizing, staffing, directing and controlling the establishment. 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 problem-solving process are emphasized.

BUS 2230 3 cr.
Principles of Marketing
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.

BUS 2232 3 cr.
Professional Selling
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.

BUS 2233 3 cr.
Advertising
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 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 cr.
Business Law
Involves the study of the practical aspects of contracts, negotiable instruments, agency, and other legal matters of importance to business men and women. The proper procedures in connection with adequate evidence in cases of legal proceedings will be considered. Business ethics are an integral part of every aspect of law.

BUS 2242 3 cr.
Business Communications
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. Prerequisite: ENGL 1101 or consent of instructor.

BUS 2275 3 cr.
Human Resource 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's proper relationship with labor unions, governmental authorities, and the total community is studied.

BUS 2297 2-8 cr.
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 cr.
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 cr.
Family and Community Relations
Guides 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 effective communication. Community organizations and networks which support families will be studied.

CDEV 1262 4 cr.
Creative Activities
Explore 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. Requires Department of Human Services background study.

CDEV 1266 1 cr.
Foundations of Child Development I Lab
Provides an overview of typical and atypical child development across cultures, from prenatal to school age including physical, social, emotional, language, cognitive, aesthetic, and identity development. It integrates developmental theory with appropriate practices in a variety of early childhood and education settings. Emphasis is on application of theory in a variety of Early Childhood settings. It must be taken concurrently with HSER 1266. Requires Department of Human Services background study.

CDEV 1268 1 cr.
Children's Health, Nutrition and Safety Lab
Examines how to provide a healthy and safe environment while providing 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. Requires Department of Human Services background study.

CDEV 1269 1 cr.
Guidance, Managing the Physical & Social Environment Lab
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 child guidance methods in a variety of early childhood settings. Must be taken concurrently with HSER 1269. Requires Department of Human Services background study.

CDEV 1340 4 cr.
Planning and Implementing
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. Requires Department of Human Services background study.

CDEV 1510 2 cr.
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. Requires Department of Human Services background study.

CDEV 2200 4 cr.
Infant and Toddler Development and Learning Experiences
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.

CDEV 2235 1-4 cr.
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 2560 3 cr.
Language & Literature Learning Experiences
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 (Meets Goal Area: 3) 3 cr.
Introduction to Chemistry
Covers the metric system, atomic structure, periodic law, formulas, nomenclature, chemical bonding, chemical equations, solutions, acids, bases, and a little nuclear chemistry. This course is designed for students who are

not planning to major in the science field. It can be used as a stepping stone to get ready for CHEM 1101.

CHEM 1101 (Meets Goal Area: 3) **4 cr.**

General Inorganic Chemistry I

Introduces students to fundamental concepts of chemistry, equations and reactions, stoichiometry, the periodic table and properties, atomic structure, molecular orbitals, hybridization, gas laws, solutions, colloids and active metals. Prerequisite: High school Algebra or MATH 0099, or concurrent enrollment in MATH 0099 and high school Chemistry.

CHEM 1102 **4 cr.**

General Inorganic Chemistry II

Continues CHEM 1101 with emphasis on chemical kinetics, equilibrium, acids and bases, ionic equilibria, solubility products, electrochemistry (Redox), coordination compounds, transition elements and nuclear chemistry. Prerequisite: CHEM 1101.

CHEM 1150 (Meets Goal Area: 3) **4 cr.**

Survey of Chemistry

Prepares students in pre-health science programs requiring one course of chemistry. The specific intent of the course is to provide the necessary chemistry background for students to proceed into introductory survey courses of such areas as biochemistry, microbiology and physiology, as well as to furnish a broader and deeper basis for understanding the related techniques and problems in today's society. Selected topics given special emphasis are: state, properties and phase changes, acid-base concepts, use of pH, aqueous equilibria, families of carbon compounds, typical organic reactions, and macromolecules of biological importance.

CHEM 2201 **5 cr.**

Organic Chemistry I

Studies the chemistry of carbon and its compounds with emphasis on structure, properties, reactions of alkanes, alkenes, dienes, alkynes, alkyl halides, alcohols, cyclic hydrocarbons. Includes mechanisms and stereochemistry. Prerequisite: CHEM 1101.

CHEM 2202 **5 cr.**

Organic Chemistry II

Continues CHEM 2201 with emphasis on benzene, aromatic substitution reactions, aldehydes, ketones, carboxylic acids, amines, phenol, carbohydrates, amino acids and proteins. Prerequisite: CHEM 2201.

COSMETOLOGY (COSM)

COSM 1100 **4 cr.**

Preclinic Introduction

Provides an introduction to cosmetology, nail technology or skin care, including professional image, Minnesota laws and rules, safety, sanitation, anatomy, electricity and light, and chemistry. This course will contribute 80 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements.

COSM 1105 **4 cr.**

Preclinic Hair Care

Provides elementary hair service skills including trichology, shampooing, conditioning, cutting and styling. This course will contribute 80 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Completion of or concurrent enrollment in COSM 1100.

COSM 1110 **4 cr.**

Preclinic Nail Care

Provides an introduction to nail care including manicuring, pedicuring, and artificial nails. This course will contribute 80 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Completion of or concurrent enrollment in COSM 1100.

COSM 1115 **3 cr.**

Preclinic Chemical Control

Provides an introduction to cosmetology chemicals and their applications. This includes curl reformation--permanent waving, soft curl perming, and chemical relaxing. This course will contribute 64 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Completion of, or concurrent enrollment in COSM 1105 and COSM 1110.

COSM 1120 **3 cr.**

Preclinic Skin Care

Provides an introduction to dermatology, facials, and make-up. This course will contribute 80 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Completion of, or concurrent enrollment in COSM 1100.

COSM 1125 **3 cr.**

Preclinic Hair Color

Provides an introduction to temporary, semi-permanent and decolorization hair color services. This course will contribute 80 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in COSM 1115.

COSM 1130 **4 cr.**

Advanced Hair Care

Provides students with an opportunity 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 hair cutting and styling. This course will contribute 96 hours towards 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 **4 cr.**

Salon Preparation

Provides students with an opportunity to develop the practical skills necessary for entry-level salon work concentrating on chemical hair control, safety procedures and sanitation, hairshaping, hairstyling, haircoloring, 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, communication skills and retail operations. This course will contribute 96 hours towards 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 1140 **4 cr.**

Clinic I

Provides students with an opportunity to develop the practical skills necessary for entry-level salon work.

COSM 1140 **4 cr.**

Clinic I

Provides students with an opportunity to develop the practical skills necessary for entry-level salon work.

COSM 1145 **4 cr.**

Clinic II

Provides students with an opportunity 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 hair cutting and styling. This course will contribute 96 hours towards 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 1150 **4 cr.**

Clinic III

Provides students with an opportunity 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 hair cutting and styling. This course will contribute 96 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.

<p>COSM 1155 3 cr. Clinic IV Provides students with an opportunity 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 thermal pressing, artificial hair care, shampooing, conditioning/scalp care and draping. This course will contribute 96 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.</p>	<p>care, facials and makeup. This course will prepare students for their written state examinations and completion of skill certification. This course will contribute 64 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Successful completion of, or concurrent enrollment in preclinic courses.</p>
<p>COSM 1160 4 cr. Clinic V Provides students with an opportunity 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 contribute 96 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.</p>	<p>COSM 1185 1 cr. Salon Operations I This course gives students additional time to complete the required services and/or hours for licensure. (prerequisite: completion of concurrently enrolled in COSM1180, ESTH1000, NAIL1000.</p>
<p>COSM 1165 4 cr. Clinic VI Provides students with an opportunity 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 provide lecture hours concentrating on facial shape, facials, applying makeup, hair removal such as tweezing and waxing. This course will contribute 96 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.</p>	<p>COSM 1190 2 cr. Salon Operations II This course gives the students additional time to complete the required services and/or hours for licensure. (prerequisite: completion of concurrently enrolled in COSM1180)</p>
<p>COSM 1170 4 cr. Clinic VII Provides students with an opportunity 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 contribute 128 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.</p>	<p>COSM 1195 3 cr. Salon Operations III This course gives students additional time to complete the required services and/or hours for licensure. (prerequisite: completion or concurrently enrolled on COSM1180, ESTH1000, NAIL1000.</p>
<p>COSM 1175 3 cr. Clinic VIII Provides students with an opportunity 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 contribute 96 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisites: Successful completion of, or concurrent enrollment in preclinic courses.</p>	<p>COSM 1200 4 cr. Salon Operations IV This course gives students additional time to complete the required services and/or hours for licensure. (prerequisite: completion of concurrently enrolled in COSM1180, ESTH1100, NAIL1100.</p>
<p>COSM 1181 2 cr. License Preparation for Cosmetology I Provides students with an opportunity 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 prepare students for their written state examinations and completion of skill certification. This course will contribute 64 hours towards licensure. The State of Minnesota mandates the hours to go toward the hour requirements. Prerequisite: Successful completion of, or concurrent enrollment in preclinic courses.</p>	<p>COSM 1205 5 cr. Salon Operations V This course gives students additional time to complete the required services and/or hours for licensure. (prerequisite: completion of concurrently enrolled in COSM1180, ESTH1100, NAIL1100.</p>
<p>COSM 1182 2 cr. License Preparation for Cosmetology II This course is a continuation of COSM 1181. Provides students with an opportunity 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</p>	<p>COSM 1210 6 cr. Salon Operations VI This course gives the students additional time to complete the required services and/or hours for licensure. (prerequisite: completion or concurrently enrolled in COSM1180, ESTH1100, NAIL1100)</p>
	<p>COSM 1215 7 cr. Salon Operations VII This course provides the additional hours needed to complete licensure in states which require more lecture hours. (prerequisite: completion or concurrently enrolled in COSM1180)</p>
	<p>COSR 1100 2 cr. 40 Hour Refresher Course Provides students with the Minnesota 40 hour refresher course requirements needed for license renewal. Prerequisites: Previous Minnesota cosmetology license.</p>
	<p>COSR 1105 4 cr. 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.</p>
	<p>COSR 1110 3 cr. 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.</p>
	<p>COSR 1115 1 cr. 155 Hour Reactivation Course License Preparation Prepares students for their written and practical examinations required for reactivating a license. Prerequisite: Previous Minnesota cosmetology license.</p>

CARPENTRY (CRPT)

CRPT 1101 Tool Safety, Construction Terms & Materials Covers the different types of materials and terms used on all construction sites and how to maintain and use all hand and power tools.	2 cr.
CRPT 1105 Floor and Wall Framing Provides hands-on experience laying out building, straightening, bracing and leveling. Students layout and erect the supporting structures for residential floor and wall components.	4 cr.
CRPT 1110 Roof Framing Part I Covers the basics of roof framing. Students will learn theory behind trusses, stick framing and 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.	2 cr.
CRPT 1115 Insulation, Ventilation, Vapor Barriers and Dry Wall Covers insulation types and values, the importance of vapor barrier and its proper placement, drywall application, taping and texturing.	2 cr.
CRPT 1120 Roof Framing Part II Continues 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.	2 cr.
CRPT 1125 Estimating Blueprint Reading Covers how to estimate the cost of a house and gain in-depth knowledge of carpentry math. Students will learn the basic principles of interpreting blueprint reading and transferring the knowledge into a complete project.	3 cr.
CRPT 1130 Stairway Construction Covers stair terminology, layout and construction by building a straight stairway and a quarter turn stairway.	2 cr.
CRPT 1135 Exterior Finishing Wall and Roof Covering Finishing the exterior of a building includes the door and window units and all the materials that cover the roof and exterior. They must also give weathertight protection to the roof and exterior walls.	2 cr.
CRPT 1140 Project Planning, Estimation, Layout Students will 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. They will also supervise excavation, build forms and pour footings for a house project.	4 cr.
CRPT 1145 Interior Trim Finishing interior 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.	2 cr.
CRPT 1150 Sight Layout, FO, Blueprint Reading Exposes 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. The student will also be taught the skills needed to accurately read and interpret a complete set of working drawings for residential and light commercial construction projects.	4 cr.
CRPT 2205 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	3 cr.

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 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.	2 cr.
CRPT 2235 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. They will 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, and install roof sheathing and apply shingles and flashings.	3 cr.
CRPT 2237 Exterior Finish and Shingling Covers identification and application of all types of siding, shingles, soffit and fascia covers and rain gutters. Also cover attic ventilation equipment installation. These skills will be developed by the construction of an on-site built residential home.	4 cr.
CRPT 2242 Deck and Porch Construction 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.	2 cr.
CRPT 2245 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.	1 cr.
CRPT 2249 Cabinet Installation Covers the installation of all types of cabinets and countertops.	4 cr.
CRPT 2250 Cabinet Construction Explore the construction of a variety of kitchen, bathroom, utility, and specialty cabinets and countertops.	5 cr.
CRPT 2260 Interior Finish and Staircase Construction Covers identification and application 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.	3 cr.
CRPT 2270 Construction Business Management 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.	2 cr.
CRPT 2271 Construction Drafting and Design Covers the basic principles of mechanical drafting, architectural drafting, and designing floor plans. Auxiliary views, cross sections, and elevational views are studied.	3 cr.
CRPT 2280 Insulation and Interior Wall Covering Covers a variety of insulation materials and applications as well as insulating methods and ventilation requirements. The student will install interior wall and ceiling coverings and apply finishing materials.	3 cr.

COMPUTER SCIENCE (CSCI)

CSCI 1100 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 alphabetic and numeric entries. The course also teaches basic document formatting for various styles of personal and business documents such as letters, memorandums and compositions.	2 cr.
CSCI 1101 Introduction to Selected Operating Systems Provides an overview of computer hardware and the operating system. Specifically studies creation, manipulation, and editing of files, graphical environments, sharing and exchanging data among applications and problem solving using the accessories and utilities of the operating systems, MS DOS, Windows or MAC OS. May be repeated for different operating systems. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.	1 cr.
CSCI 1102 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, databases and document integration. Also introduces the basic concepts of graphics, telecommunications, the Internet and computer programming. Prerequisite: CSCI 1100 or prior keyboarding experience and evidence of college level reading ability through assessment test or prior college coursework.	3 cr.
CSCI 1131 Word Processing I Discusses the uses of electronic word processing. Covers basic line and text editing. Primary emphasis is on preparing and managing documents as well as formatting and enhancing. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.	2 cr.
CSCI 1150 Presentation Development Discusses and demonstrates the processes of designing, developing and producing a professional electronic presentation using automated presentation graphics software. The slide show production includes outlines, speaker notes, handouts, animation, audio resources, and coordination between overhead and video sources. Prerequisite: CSCI 1102.	3 cr.
CSCI 1160 Introduction to Game Programming Focuses on beginning level programming of computer games. Introduces basic programming concepts of looping, decision making, objects and events. Shows the importance of learning curves and difficulty curves in the design and development of 2D games. Explores music, sound and graphics in game implementation. This course is for students with no programming background.	3 cr.
CSCI 2100 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. Includes a component on the designing and creation of graphic presentations including word processing, database management, spreadsheets, integration tools and Power Point. Prerequisite: CSCI 1102.	4 cr.
CSCI 2120 Publishing Web Pages Provides basic knowledge about publishing on the World Wide Web. Topics covered include home pages, design techniques for creating an attractive page, elements of web pages, and using a web browser to tour sample sites. Hypertext Markup Language Editors and the browser editor will be used to develop and author web pages. Prerequisite: CSCI 1120 or knowledge of the internet.	1 cr.
CSCI 2130 Data Base Management Systems Provides an understanding of a computerized database as a structure for organizing and managing data and is designed to show the student the advantages in storing, retrieving, searching, and analyzing large amounts of	3 cr.

data electronically. Concepts include the design, creation, and manipulation of data files with emphasis on queries and reports, using SQL and Report generation. Explores web interfacing with data access pages, developing macros and programming with Visual Basic for applications. Prerequisite: CSCI 1102.

CSCI 2135 Advanced Web Techniques Introduces Web Programming. It covers scripting from both the Client and Server sides. Students are introduced to VBScript, JavaScript, and Active Server Pages (ASP). Students will also learn how ASP can be used so Web application can interact with Databases. Prerequisite: CSCI 1102.	3 cr.
CSCI 2140 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.	3 cr.
CSCI 2150 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 are employed through the development of a media-enhanced website. Prerequisite: CSCI 1102 or CSCI 2215.	3 cr.
CSCI 2200 Visual Basic Programming Creates graphical 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.	4 cr.
CSCI 2202 Computers, Technology and Society Writing intensive course. Technology is transforming the way society communicates, conducts business, manages personal and public information. Students will use technology to investigate complex social and ethical issues associated with the use of computers and technology. Prerequisite: CSCI 1102.	4 cr.
CSCI 2215 Web Programming I Discusses fundamentals of web servers, web sites and web programming in the context of using the technology to craft a conveying message to an Internet audience. An overview of the history and origins of web programming continues with the robust creation of HTML source code that supports and sustains the use of internal and external linking, multiple media elements, tables, image mapping, frames and input forms. The primary objective is to create and manage a multiple page website using HTML, DHTML, CGI and JavaScript programming code. Prerequisite: CSCI 1102.	3 cr.
CSCI 2235 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 evidence of college level reading ability through assessment test or prior college coursework.	1-3 cr.
CSCI 2240 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.	4 cr.

CSCI 2245 4 cr.
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 cr.
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 1102.

CSCI 2255 4 cr.
Java Programming II
Continues with 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 2260 4 cr.
Assembly Language Programming
Emphasizes concepts that provide a fundamental background for continued study in the area of computer science. Involves lower-level programming and the use of abstraction in program design. Prerequisite: CSCI 2245.

CSCI 2280 4 cr.
System Analysis and Design
Explores both structures and object oriented systems analysis and design methodologies and provides an understanding of the role of the systems analyst. Prerequisite: CSCI 2240 or CSCI 2250.

CSCI 2290 1 cr.
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.

CSCI 2297 2-8 cr.
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. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

COMPUTER SUPPORT TECHNICIAN (CST)

CST 1111 3 cr.
File Structures
Covers the fundamentals of personal computers including the Disk Operating System (DOS). Students will use DOS commands to perform operations such as managing file storage, creating and editing files, and understanding files and their purpose in relation to the operation of the computer. Prerequisite: Keyboard at 30 words per minute with 5 errors or less.

CST 1125 3 cr.
Operating Systems
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 1127 3 cr.
Windows Desktop Operating Systems
Uses the current Windows operating system. Specific concepts will include installing, configuring, troubleshooting and maintaining efficiency of the operating systems to meet end-user needs in a production environment.

CST 1135 3 cr.
Unix Operating Systems
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 cr.
Data Security Awareness
Introduces 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 1190 3 cr.
Introduction to Networking
Covers the fundamentals of current networking technology. A general introduction to networking including local and wide area network technology will be presented to students. This course is designed to help candidates prepare to successfully pass the Comp TIA Network + examination.

CST 1195 2 cr.
Network Basics
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 cr.
Introduction to Information Security
Introduces 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.

CST 1220 3 cr.
Information Security Management
Explores 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 set-up security policies. This course covers most of the objective in Comptia's Security + exam.

CST 1250 3 cr.
Information Security Administration
Explores 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 1270 3 cr.
Window XP Professional
Covers how to set up and support the Windows XP Professional operating system. Students will gain practical experience installing, configuring, and administering Windows XP Professional. As you build these real-world system support skills, you're also preparing for MCP Exam 70-270--a core requirement on the MCSE/MCSA tracks. Prerequisite: CSCI 1102 and CST 1190.

CST 1300 3 cr.
Computer Forensics
Introduces 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.

CST 1500 Routers and Switches 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.	3 cr.	CST 2284 Microsoft Exchange Server 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.	3 cr.
CST 2108 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.	3 cr.	CST 2291 Windows Network Infrastructure I Covers 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.	3 cr.
CST 2110 PC Maintenance and Repair I Provides the student experience with computer hardware. Specifically, the student will learn about what pieces of hardware a computer consists of, and how they work together to make a computer functional. Disassembly and re-assembly of different classes of computers will be offered. In addition, troubleshooting procedures and repair will be covered.	3 cr.	CST 2293 Windows Network Infrastructure II Prepares 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 IPSecurity (IPSec), Planning Network Access, Planning and Implementing Server Availability, Planning Server and Network Security, Problem Recovery. Prerequisite: CST 2291.	3 cr.
CST 2120 Computer Integrated Manufacturing Provides students with an opportunity to develop skills in designing, wiring, troubleshooting, and operation of electrical control circuits. Will provide 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.	4 cr.	CST 2294 Windows Active Directory Covers 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.	3 cr.
CST 2199 Internship Allows the student to secure "on-the-job" training and earn 2-8 semester elective credits. The student must find their own internship site and complete all paper work.	2-8 cr.	CST 2298 Microsoft Windows Security Prepares 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.	3 cr.
CST 2215 PC Maintenance and Repair II Designed to give students the opportunity to complete curriculum to become A+ certified. PC Maintenance and Repair I is a prerequisite. Software components of A+ exam will be covered. Students will also partake in business like atmosphere by troubleshooting and repairing computer problems on campus as assigned by instructor. A portfolio of repair projects completed will be maintained by the student.	3 cr.	CST 2310 Information Technology Customer Service 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.	2 cr.
CST 2223 Windows Network Administration I Introduces the student to Windows networking theories and practices. Will address concepts such as planning the network, installation, configuration, creating and managing folders, files, users and print service.	3 cr.	CST 2326 Web Page Concepts 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 instructor's approval.	2 cr.
CST 2224 Windows Client/Server Administration Covers 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.	4 cr.		
CST 2230 Novell NetWare Administration I Introduces 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.	3 cr.		
CST 2240 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.	2 cr.		

CST 2340 **Web Server Concepts** **3 cr.**
Introduces 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 2413 **Windows Network Administration II** **3 cr.**
Continues with the concepts learned in the Windows Network Administration I class. Concepts such as maintaining the network, installation and configuration of applications on the Network, creating and managing folders, files, users and print services are covered.

CST 2420 **Novell NetWare Administration II** **3 cr.**
Reviews the concepts learned in Novell Administration I. This course will also cover security administration, user, application and network management in addition to preparation for the Novell Netware Administration Exam.

CST 2500 **Incident Response and Disaster Recovery** **3 cr.**
Introduces 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 **Ethical Hacking** **2 cr.**
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. Prerequisite: CST 1250.

CST 2600 **Fundamentals of Wireless Networking** **3 cr.**
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 1500.

CST 2999 **Special Topics** **1-3 cr.**
Introduces students to specialized areas of computer science and computer usage. The class may be retaken for credit if the topic varies.

DENTAL ASSISTING (DEN)

DEN 1100 **Oral Radiology I** **3 cr.**
Assists the student in understanding how radiation is produced, how radiation exposes films, and how radiation affects people. The emphasis will be on understanding the principles of protection for the patient and the operator, the techniques for exposing, processing, and evaluating high quality diagnostic radiographs will also be taught and demonstrated.

DEN 1105 **Oral Radiology II** **3 cr.**
Provides the student the opportunity to clinically develop and improve their skills in exposing, processing and evaluating diagnostic radiographs with minimum exposure and discomfort to the patient. The course will also cover the laws set forth by the Minnesota Department of Health in relationship to exposing radiographs on patients. Prerequisite: DEN 1100; Student must be certified in CPR before taking this course.

DEN 1110 **Dental Science** **3 cr.**
Describes the histology and physiology of the muscular, skeletal, circulatory and nervous systems of the head and neck regions. Individual bones, muscles, arteries, veins and nerves will be identified. In addition the

structures, functions and development of oral cavity will be discussed and the varied methods of individual tooth identification will be covered.

DEN 1115 **Dental Health** **2 cr.**
Assists 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.

DEN 1120 **Chairside Assisting I** **2 cr.**
Assists 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 and introduction to oral evacuation. Prerequisites: DEN 1110 may be taken concurrently or with permission from the instructor.

DEN 1125 **Chairside Assisting II** **4 cr.**
Includes instructions in the areas of care of equipment, delivery systems, oral evacuation, tray set-ups, etc. The course will assist students through hands-on experience in the clinic. 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 these specialties and to gain skills in assisting the dentist in performing these procedures with minimal discomfort to the patient. Prerequisite: DEN 1120.

DEN 1130 **Preclinical Dental Assisting** **4 cr.**
Allows 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.

DEN 1135 **Dental Practice Management** **3 cr.**
Assists the student in identifying psychological variables that are significant in dealing 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, etc. Both manual and computerized systems will be examined.

DEN 1140 **Dental Materials** **3 cr.**
Covers materials used in dentistry. It will include information on properties as well as practical lab applications of the materials.

DEN 1145 **Expanded Functions A** **3 cr.**
Offers the student experience in mechanical polish, rubber dam application, topical applications, sealant application and endodontic expanded functions. (The Minnesota Dental Practice Act has made it legal for registered 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: Evidence of passing the National Certification exam or satisfactory progress in the dental assisting program, or special permission from the instructor. Student must be certified in CPR before taking this course.

DEN 1150 **Expanded Functions B** **3 cr.**
Offers the student experience in taking alginate impressions and related bite registrations for opposing and study models, 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 registered 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: Evidence of passing the National Certification exam or satisfactory progress in the dental assisting program, or special permission

from the instructor. Student must be certified in CPR before taking this course.

DEN 1155 3 cr.
Extramural Clinical Experience I
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.

DEN 1160 3 cr.
Extramural Clinical Experience II
Designed to provide further assistance to the student in developing the skills started in the classroom, laboratory or clinic by working in a dental office under the supervision of the dentist and his/her staff and the dental assisting faculty.

DEN 1165 2 cr.
Extramural Clinical Experience III
Provides further assistance to the student in developing the skills started in the classroom or laboratory by working in a dental office under the supervision of the dentist and his/her staff and the dental assisting faculty.

DEN 1180 1 cr.
Jurisprudence
Covers the moral and legal aspects of working in a dental office. Dental auxiliaries legal duties in Minnesota are included, as well as the various professional organizations that dental assistants find beneficial.

DEN 1185 1 cr.
Nitrous Oxide Inhalation Administration
Provides the student the skills and knowledge needed for safe and effective administration of nitrous oxide inhalation analgesia and the management of associated complications. The course will provide a minimum of 16 hours of didactic and supervised clinical experiences as required by the Minnesota Board of Dentistry. During the clinical portion of the class 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)

DSL 1100 3 cr.
Diesel Engine Theory
Explains the function of the diesel combustion, chamber designs, value train operation, rings, cylinders, pistons, crankshafts, connecting rods, and components that compliment each other.

DSL 1104 4 cr.
Introduction to Diesel Technology
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.

DSL 1105 4 cr.
Diesel Engine Lab
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.

DSL 1110 2 cr.
Electrical Theory
Covers circuits, magnetism, wiring diagrams, principles of operation of alternators, regulators, cranking motors; and batteries.

DSL 1115 2 cr.
Electrical Lab
Requires the students to disassemble, inspect, evaluate, repair and test electrical systems and components. Concurrent enrollment with DSL 1110.

DSL 1120 2 cr.
Powertrain Principles
Covers theory of clutch, pressure plate assembly, standard transmissions, differentials, power take-off, brakes, axles, and components that compliment powertrain operations.

DSL 1125 3 cr.
Powertrain Lab
Covers the disassembly, inspection, evaluation, repair and adjustments and reassembly of all components of the powertrain.

DSL 1130 3 cr.
Hydraulics Theory and Application
Covers principles and fundamentals of hydraulics. The student will work on various components and systems as related to diesel hydraulics within a laboratory environment.

DSL 1135 3
Fuel Injection Principles
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.

DSL 1140 2 cr.
Air Conditioning
Covers operation, inspection, repair and diagnostics of air conditioning systems.

DSL 1141 1 cr.
Air Conditioning Lab
Covers air conditioning, heating and ventilation systems in the cab, and repair of the climate control systems.

DSL 1142 3 cr.
Heating and Air Conditioning Systems
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 that need to be addressed when making repairs to the air conditioning system.

DSL 1145 4 cr.
Introduction to Shop Operations
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.

DSL 1150 4 cr.
Internship
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.

DSL 2106 3 cr.
Advanced Powertrain Theory
Covers the theory of operation of various power shift transmissions, power flow, and terminologies as related to various manufacturers. The theories of operation of electro hydraulic systems are covered in depth. This program will cover a wide variety of power train systems from Ag equipment, industrial, and trucks when available. Must be taken concurrently with DSL 2111.

DSL 2111 4 cr.
Advanced Powertrain Lab
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.

DSL 2131 3 cr.
Service Department Operations and Procedures
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.

DSL 2136 5 cr.
Fuel Systems Theory
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.

DSL 2137 5 cr.
Fuel Injection Lab
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 instructor recommendation.

DSL 2145 4 cr.
Advanced Diesel
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. Prerequisite: AUTO 1136.

DSL 2150 5 cr.
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. Prerequisite: AUTO 1136.

DSL 2155 3 cr.
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 cr.
Truck Braking System
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 cr.
Vehicle Steering and Suspension
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 cr.
Electronics Diagnoses of Power Train
Covers 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 cr.
Truck Inspection and Preventative Maintenance
Covers 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 cr.
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.

ECONOMICS (ECON)

ECON 1101 (Meets Goal Area: 5) 3 cr.
Introduction to Economics
Introduces the fundamentals of economics and the nature of economics as a discipline. Includes a description of the operation of resource markets and the American Economy. No credit if ECON 2201 or 2202 has been previously completed.

ECON 2201 (Meets Goal Area: 5) 3 cr.
Principles of Macroeconomics
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 (Meets Goal Area: 5) 3 cr.
Principles of Microeconomics
Analyzes the decision-making process of the individual firm. The concepts of pricing and the allocation of resources within different market structures are explored through the use of case studies of industries.

EDUCATION (EDUC)

EDUC 1100 3 cr.
Introduction to Education
Introduces students to early childhood, elementary and secondary education. Students will have the opportunity to examine their potential for the teaching profession. This course 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 included in the course. Twenty (20) hours of field experience is included. Prerequisite: Department of Human Services background study.

ELECTRICAL CORE (ELCO)

ELCO 1100 3 cr.
Electrical Circuits Fundamentals
Covers the basic concepts of electricity. Included in the course will be a brief overview of electricity and electronics, a study of resistors, Ohm's Law, series and parallel circuits, voltage and current dividers, dc meters, Kirchoff's laws and network theorems, conductors and insulators, batteries, magnetism and magnetic units, electromagnetic induction, alternating voltage and current, capacitance, capacitive reactance, capacitive circuits, inductance, inductive reactance, inductive circuits, RC and L/R time constants, ac circuits, complex numbers, resonance, and filters. Prerequisite: MATH 0092 or placement by exam.

ELCO 1101 3 cr.
DC Circuits
Covers the basic concepts of electricity, including a basic study of safety, metric notation, atomic structure, Ohm's Law, series, parallel, and complex circuits. Prerequisite: MATH 0092 or placement by exam.

ELCO 1105 3 cr.
Electrical Circuits Fundamentals Lab
Provides students with theoretical and practical experiences in electric circuits for both DC and AC using scientific method, analysis and deduction. Topics covered will be safety, resistor color code, meter use, Ohm's law, series and parallel circuits, complex circuits, oscilloscope operation, alternating current and voltage, capacitance, capacitive reactance, capacitive circuits, inductance, inductive reactance, inductive circuits, RC and L/R time

constants, ac circuits, resonance and filters, and transformers. Prerequisite: MATH 0092 or placement by exam.

ELECO 1106 3 cr.

AC Circuits

Covers the basic concepts of AC circuits. Included is a basic study of electromagnetic principles, sine wave principles and relationships, resistive circuits, inductive circuits, capacitive circuits, circuit analysis, and resonance. Prerequisite: MATH 0092 or placement by exam.

ELECTRICIAN (ELEC)

ELEC 1200 5 cr.

Residential Wiring I

Covers electrical safety, general safety, and the use and care of hand tools, specialty tools, and equipment used for residential wiring. The course introduces basic wiring circuitry and the related N.E.C. articles for residential wiring. Also covered is an introduction to Service Entrance Equipment and N.M. and U.F. cables and their uses.

ELEC 1205 2 cr.

National Electric Code I

Provides insight into an understanding of many of the technical rules of the NEC. Topics included are Minnesota licensing laws, definitions, requirements and calculations for electrical installations, grounded conductors, branch circuits, feeders and services. Other topics also included are overcurrent protection, grounding and bonding, wiring methods, temporary wiring, and conductors for wiring.

ELEC 1210 5 cr.

Residential and Farm Wiring II

Covers electrical and general safety. This course introduces blueprint reading for residential wiring. Students will learn to identify parts and their uses. The course will also relate N.E.C. articles on branch circuits, feeders, grounding, services, and overcurrent protection to residential and farm wiring. Also covered will be specialty circuits such as ranges, dryers, air conditioners, etc. using a variety of wiring methods found in residential wiring. Prerequisite: ELEC 1200.

ELEC 1215 2 cr.

National Electric Code II

Covers National Electric Code requirements for cabling, conduit, raceways and wireways, boxes, gutters, switches, and panelboards. Also included are the requirements for equipment such as cords and cables, fixtures and fixture wire, appliances, fixed space heating, motors and motor circuits, refrigeration equipment and transformers. Prerequisite: ELEC 1205.

ELEC 1220 4 cr.

Conduit Installation

Introduces the raceway types used in all types of wiring. Students will learn to thread, bend, and calculate raceway size and the number of wires permitted in a conduit. This course is also an introduction to hand benders and hydraulic benders. Students will also learn to identify fittings and other material used in installing a raceway system. Prerequisite: ELEC 1200.

ELEC 1225 4 cr.

Electric Motors

Covers alternating current (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. Prerequisite: ELECO 1100.

ELEC 1230 1 cr.

Safety Principles and OSHA

Covers various safety and laboratory practices that are common to the electrical trades and presents information on how to avoid unsafe practices.

ELEC 1235 2 cr.

Applied Electrical Calculations

Covers the necessary calculations for the solution of electrical circuit problems in the industry.

ELEC 1240 5 cr.

Commercial Wiring

Introduces the material and design aspects of commercial wiring. Students will learn to read commercial blueprints. This course also covers voltage-drop calculations, motor calculations and service installations. Students will be introduced to the take off and estimating of commercial jobs. Students will also study the N.E.C. as it relates to commercial wiring.

ELEC 2200 3 cr.

Low Voltage

Covers how electronic security systems and their various hardware components and sensors work. This course will also cover the rules and regulations of installation and termination of communication wire and components. Prerequisite: ELECO 1100.

ELEC 2205 4 cr.

Electric Motor Controls I

Covers electrical tools, instruments, safety, electrical symbols, line diagrams, AC manual contractors and motor starters, AC magnetic contractors and motor starters, time delay logic and control devices. Lab classes give students the opportunity to hard wire, test and trouble shoot common control circuits. Prerequisite: ELECO 1100.

ELEC 2210 2 cr.

National Electric Code III

Stresses the importance of safe, efficient and well designed systems for industrial, commercial, and residential locations. This course discusses material, methods, and components used in designing electrical systems. Prerequisite: ELEC 1205.

ELEC 2220 2 cr.

Industrial Wiring

Covers the installation methods and materials used in industrial wiring. Topics included are transformer and motor selection, busways, grounding, power factor correction, distribution, hazardous locations, and troubleshooting. Prerequisite: ELEC 1220.

ELEC 2225 4 cr.

Electric Motor Controls II

Covers reversing motor circuits, electromechanical and solid-state relays, photoelectric controls, proximity controls, reduced voltage starting, accelerating and decelerating methods and preventive maintenance. The lab class will give the student the opportunity to hard wire and operate the control circuits. Students design control circuits and program smart motor controllers and variable frequency drives. Prerequisite: ELEC 2205.

ELEC 2230 4 cr.

Programmable Logic Controllers

Covers the principles of how PLCs work and provides 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 cr.

National Electric Code IV

Covers electrical grounding and calculations. The course will give students a better understanding of grounding and simplify some of the code requirements for acceptable field installations of grounding. This will result in a safer electrical installation for people and equipment. Prerequisite: ELEC 1205.

ELEC 2250 3 cr.

Heating and Air Conditioning Controls

Introduces basic heating and cooling system installation and control. Topics included are installing heating and air conditioning systems, replacing controls, measuring instruments, and reading schematics.

ELEC 2260 3 cr.

Basic Refrigeration

Covers the theory and operation of refrigeration systems, air source and ground source heat pumps, heat gain and heat loss calculations. The student evacuates, charges, and troubleshoots a basic refrigeration system.

POWERLINE TECHNOLOGY (ELPL)

ELPL 1100 3 cr.
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 cr.
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 cr.
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 cr.
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 cr.
Electrical Distribution of Powerlines 2
Covers the application, care, and use of rubber goods, insulated cover up, 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 cr.
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 cr.
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 cr.
'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 cr.
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 cr.
Special Topics: Overhead Safety, Construction & Maintenance
Covers all the elements of underground installation and maintenance with a strong emphasis on safety.

ELPL 2236 2 cr.
Special Topics: Underground Safety, Construction, and Maintenance
Covers all the elements of underground installation and maintenance with a strong emphasis on safety.

ELECTRIC UTILITY (ELUT)

ELUT 1101 3 cr.
Electrical and Rigging Safety
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.

ELUT 1105 3 cr.
Blueprint, Schematics and Transit
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.

ELUT 1110 3 cr.
Transformer Banking I
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.

ELUT 1115 3 cr.
Generation Transmission and Distribution
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.

ELUT 1120 2 cr.
Specifications, Testing and Maintenance
Covers the procedures, specifications of testing methods, and maintenance used throughout the electrical industry for new and refurbished equipment.

ELUT 2100 2 cr.
Metering I
Covers single-phase metering principles, meter construction, component parts and the installation and testing of single-phase electric watt-hour meters. This course also includes the use of a meter test bench, test standards and an electric counter.

ELUT 2105 2 cr.
Metering II
Continues Metering I. More emphasis is put into metering with instrument transformers, identification, testing and installation of three phase meters.

ELUT 2110 2 cr.
Transformer Banking II
Continues 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.

ELUT 2116 Reclosures and Protective Equipment Covers reclosures, circuit breakers and protective devices such as fuses, lightening arrests, cut-outs, sectionalizers and the related equipment.	2 cr.
ELUT 2121 Protective Relays 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.	3 cr.
ELUT 2126 Regulators and Capacitors 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.	3 cr.
ELUT 2135 Enrichment 1 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.	2 cr.
ELUT 2140 Enrichment 2 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.	2 cr.

WIND ENERGY TECHNOLOGY (ELWT)

ELWT 1100 Wind Energy Fundamentals Surveys the historical application of wind energy. This course will discuss how wind works, its reliability, economics and environmental implications. Also studied will be wind energy applications and basic operating principles. The status of the industry's future will also be discussed.	3 cr.
ELWT 1104 Basic Digital Circuits 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.	2 cr.
ELWT 1105 OSHA Provides students with information regarding basic safety principles energy industry. A brief overview of the Occupational Safety and Health Administration (OSHA) and OSHA violations will be offered. The primary focus will be on several Occupational Safety and Health Administration (OSHA) regulations and standards. Students will examine various Federal and Minnesota OSHA regulations and complete the various lessons.	1 cr.
ELWT 1110 Mechanical Systems Studied at the component level. Students will be introduced to gearboxes and other mechanical systems that make up the subsystems of today's wind turbine. Fasteners, lubrications and preventative maintenance activities will receive the major emphasis.	3 cr.
ELWT 1120 Air Foils, Blades and Rotors 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.	1 cr.
ELWT 1130 Drive Trains, Yaw Systems and Towers Covers turbine drive train, yaw systems and tower systems. Sub-system component attachments, alignment, operating characteristics, dynamics, and	3 cr.

maintenance considerations will be presented. Nacelle layout and the interaction between sub-systems will be discussed.

ELWT 1140 Energy Systems Covers the various applications of wind generated power. Stand alone, water pumping and grid connected systems as well as hybrid power systems will be discussed.	3 cr.
ELWT 1150 Wind Turbines Presents turbine types, their development, and their current status. The evolution of current models and sizes offered by existing companies will be traced from 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.	2 cr.
ELWT 1160 Environmental, Health and Safety Wind Energy Focuses on avoiding, minimizing and controlling (Environmental, Health and Safety) issues during the construction and operation of a project or facilities. Some of the topics to be addressed will include proper climbing techniques and certification, working at heights, working in confined space, working with rotating machinery and falling objects. Community health and safety and environmental issues will also be addressed.	1 cr.
ELWT 1170 Wind Energy OSHA Standards & Climbing Lab Provides students with information regarding basic safety principles in the Wind Energy industry. A brief overview of the Occupational Safety and Health Administration (OSHA) will be discussed. The primary focus will be on OSHA regulations and standards that pertain to the construction and maintenance of wind turbines and the energy industry to include climb safety.	2 cr.
ELWT 1180 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.	3 cr.
ELWT 1250 Fundamentals of Electric Motors 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.	2 cr.
ELWT 2110 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.	3 cr.
ELWT 2130 Data Acquisition and Communication Introduces products and processes used to collect information to document and analyze turbine functions and wind farm productivity through the use of accurate, versatile and reliable electronic equipment that ranges from simple recorders to computer systems. SCADA (Supervisory Control and Data Acquisition) systems and interfacing techniques using in general RTU's (Remote Terminal Units) and PLC's (Programmable Logic Controllers) or other commercial modules will be covered.	3 cr.

EMERGENCY MEDICAL SERVICES (EMS)

EMS 1101 Introduction to EMT Basic Follows the American Heart Associations BLS CPR for Healthcare Provider standards and the first portion of the current National Standard Curriculum, which is a core curriculum to be presented within a 32-hour training course.	1.5 cr.
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The EMT-B serves as a vital link in the health care chain of survival. Includes all the introductory skills and classroom information necessary to begin the EMT Basic Course. The EMT-Basic can be utilized in a BLS Ambulance service, or other specialized rescue agency. Modules presented include: (1) Preparation of the EMT-B, (2) Airway, (3) Patient Assessment (Scene size up, Initial Assessment, Vital Signs and Sample History). Upon successful completion of the Introduction to EMT-Basic course, the student will be eligible to continue with the EMT Basic Completion Course.

EMS 1102 **EMT Basic Completion Course** **3.5 cr.**

Follows the current National standard Curriculum, which is a core curriculum to be presented within 84-hour training course, the EMT-B serves as a vital link in the health care chain of survival. This course will include all skills and classroom information necessary to provide emergency care at the Basic Life Support level. The EMT-Basic can be utilized in a BLS Ambulance service, or other specialized rescue agency. Modules presented include: (1) Patient Assessment (medical and trauma), (2) Medical Behavioral Emergencies and OBGYN, (3) Trauma (4) Infants and Children, (5) Ambulance operation, (6) Interventions (medications and semi-automatic defibrillation). Upon successful completion of the Introduction to EMT Basic and the EMT-Basic Completion course, the student will be eligible to take the National Registry of EMTs written and practical examinations.

EMS 1104 **EMS Wilderness Emergency Care** **1 cr.**

Designed to upgrade EMS personnel to function in a wilderness environment where transport is delayed if not impossible due to location and or circumstance. Long term patient care management and definitive care skills will be taught and practiced in both the classroom and field environments. Specialty skills and familiarity with SAR techniques, survival concepts, and situational assessment, as well as long view problem solving are the keys to extended patient care in often hostile environments placed on the body systems in both healthy individuals and those challenged by trauma or illness can be vital when you, the rescuer, are the only care available.

EMS 1105 **EMS Wilderness Outdoor** **1 cr.**

Completes the upgrade for EMS personnel to function in a wilderness environment where transport is delayed if not impossible due to location and or circumstance. The Long term patient care management and definitive care skills taught in the class room will be accomplished in the field environment. The ability to recognize and manage the stress that extreme environments place on the body systems in both healthy individuals and those challenged by trauma or illness can be vital when you, the rescuer, are the only care available.

EMS 1106 **American Heart CPR Instructor** **1 cr.**

Designed for the health care provider to take their BLS CPR certification to a new level. It will give the individual the skills and information necessary to be a certified instructor in CPR. In addition it will cover the new AHA2000 Guidelines and the science behind those changes. You will receive all the necessary information on the Customized Training Centers available for membership and the criteria to maintain this certification.

EMS 1107 **Emergency Response to Terrorism** **1 cr.**

Designed to benefit industry and emergency management personnel; addressing the first 4 hours of response to a terrorist event. The goal of the program is to emphasize the planning aspect of response. Terrorist incidents that involve biological, nuclear, incendiary, chemical or explosive materials are a daily occurrence in metropolitan areas, and with the current condition in our world today, could soon hit the rural areas. This timely course has been developed by the U.S. Department of Justice and The Federal Emergency Management Agency. In addition it will include instructional material on The Incident Command Center: its purpose, structure, personnel, and duties at a Critical Incident.

EMS 1108 **Basic Trauma Life Support** **1 cr.**

Designed for the health care provider who must evaluate and stabilize the trauma patient in or out of the hospital. The goal of the program is the planning and development of an organized approach to the treatment of trauma patients using a TEAM concept to manage this often emotional and difficult situation. Since time is critical in the management of the trauma patient, this course is intended to present the skills necessary for rapid assessment, resuscitation, and when necessary, the packaging and

preparation for transport to another facility. In addition this course covers information on Advanced Spinal Care issues and care for the adult and pediatric trauma patient.

EMS 1109 **Advanced Cardiac Life Support** **1 cr.**

Offered for the professional health care provider at any level. The class will focus on the management of acute cardiovascular emergencies that require rapid and decisive actions by the health care team. Emphasis will be placed on the TEAM approach so the effective continuum of cardiac care can be provided from the pre-hospital environment and emergency department through the more definitive care that is provided in the cardiac care unit. The material is presented in a logical order that lends itself to continuous reinforcement of previously learned information. The class will cover cardiac rhythm interpretation, drug dosages, electrical therapy, and intubation for airway control. The class is conducted in a non-threatening environment and at a pace that will provide enough time for the caregiver to gather key information to build a suitable knowledge base for comprehension of algorithms used in treating acute cardiac emergencies.

EMS 1110 **First Responder Basic** **2 cr.**

Designed to deliver essential training that will give individuals the knowledge and skills necessary to begin critical assessments and to provide immediate care for patients at the scene of an injury, illness or emergency. The didactic portion of this course is completed online through highly innovative technology including interactive full motion video, audio, text, virtual reality and scenarios. In addition, there are 4 skills training/check off blocks scheduled throughout the course. These Skill Blocks are mandatory and will be located at designated sites. Upon successful completion of this course the student will be registered with the State of Minnesota as a First Responder and will be eligible to take a First Responder to EMT Bridge course through any MNSCU institution.

EMS 1111 **IV Therapy & Shock Management** **1 cr.**

Prepares the health care provider to establish IV therapy for patients who need fluid volume replacement, blood draws, or venous access for the administration of medications. Upon completion of this 16 hour program the student will be able to select the IV fluid for initial volume replacement, compute IV flow rate calculations given the overall time period, and the administration set to be used. Complications of IV therapy and how to reduce the possibility of occurrence, will be presented. A major goal of the program will be recognizing the different stages of shock, the prevention of, and treatment for the low perfusion state. The definition of an treatment for respiratory acidosis will be explained and a review of the cardiovascular system, blood components, and their main function will be discussed.

EMS 1112 **AHA CPR Healthcare Provider, AED First Aid Certification** **1 cr.**

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 1115 **Emergency Medical Technician Bridge** **3.5 cr.**

Follows the current National Standard Curriculum, which is a core curriculum to be presented within an 84-hour training course. An Emergency Medical Technician serves as a vital link in the health care chain of survival. This course will include an initial review of EMT Intro and all skills and classroom information necessary to provide emergency care at the basic life support level. The EMT-Bridge can upgrade a certified First Responder to a National and State Certified EMT that can be utilized in a BLS Ambulance service or other specialized rescue agency. After review of the initial EMT modules, education and training will continue with modules: 1. Patient Assessment (medical and trauma), 2. Medical Behavioral Emergencies and OBGYN, 3. Trauma, 4. Infants and Children, 5. Ambulance Operation, 6. Interventions (medications and semi-automatic defibrillation). Upon successful completion of the review of the initial and the EMT-Basic Completion course, the student will be eligible to take the National Registry of EMT's written and practical examinations. Prerequisite: Individual must be currently certified as a First Responder in the State of Minnesota.

EMS 2101 2 cr.
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 cr.
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 responder's 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 cr.
Essentials of Writing I: Effective Sentences and Paragraphs
Introduces 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 these basic skills.

ENGL 0095 2 cr.
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.

ENGL 1101 (Meets Goal Area: 1) 3 cr.
Composition I
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: ENGL 0095 or placement through assessment test or prior college coursework.

ENGL 1102 (Meets Goal Area: 1) 3 cr.
Composition II
Emphasizes information literacy, critical thinking, and style development. Assignments include a research paper. Prerequisite: ENGL 1101.

ENGL 1103 (Meets Goal Area: 1) 1 cr.
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 (Meets Goal Area: 6, 7) 3 cr.
Introduction to Literature
Studies the elements, form, and content of fiction, drama and poetry.

ENGL 1141 (Meets Goal Area: 6) 2 cr.
Writing and Reading Poetry
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 through assessment test or consent of instructor.

ENGL 1143 2 cr.
Writing and Reading Fiction
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 2201 (Meets Goal Area: 6, 7) 3 cr.
Survey of American Literature I
Introduces prominent American writers and influential literary works that have shaped American cultural identity from the colonial period through the Civil War. 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 ENGL1105 or an advanced high school literature class before registering for this course.

ENGL 2202 (Meets Goal Area: 6, 7) 3 cr.
Survey of American Literature II
Introduces prominent American writers and influential works that have shaped American cultural identity from Mark Twain to 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 ENGL1105 or an advanced high school literature class before registering for this course.

ENGL 2203 (Meets Goal Area: 6) 3 cr.
Midwest Literature
Introduces students to the rich and diverse body of Midwestern literature through the exploration of poetry, fiction, nonfiction, and drama. The course will also address various cultural, historical, and geographical matters relating to the Midwest.

ENGL 2221 (Meets Goal Area: 6, 8) 3 cr.
Survey of British Literature I
Studies the principal British writers, their literary forms, and significant currents of thought. Provides both an introduction to British literature and a background that will be useful in the study of other literature and cultural history from Beowulf through the 18th Century. Instructors recommend that students complete ENGL 1105 or an advanced high school literature class before registering for this course.

ENGL 2222 (Meets Goal Area: 6, 8) 3 cr.
Survey of British Literature II
Studies the principal British writers, their literary forms, and significant currents of thought. Provides both an introduction to British literature and a background that will be useful in the study of other literature and cultural history from Romanticism through the 20th Century. Instructors recommend that students complete ENGL 1105 or an advanced high school literature class before registering for this course.

ENGL 2231 (Meets Goal Area: 6) 2 cr.
Classical Mythology
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 in modern society.

ENGL 2235 (Meets Goal Area: 6) 1-3 cr.
Special Topics in Literature
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 (Meets Goal Area: 1) 3 cr.
Composition: Creative Writing
Provides instruction and experience in composing and editing poetry, short fiction, a literary research paper, and a writer's journal. The class is conducted in an informal workshop atmosphere. This course is an alternative for ENGL 1102 in the Minnesota Transfer Curriculum. Prerequisite: ENGL 1101.

ENGL 2276 (Meets Goal Area: 1) 3 cr.
Composition: Technical Writing
Provides instruction and experience in composing 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: ENGL 1101.

ENGINEERING (ENGR)

ENGR 1101	1 cr.
Introduction to Engineering	
Introduces the study of engineering. This course highlights the keys to success in engineering study, a description of the engineering profession, academic success strategies, and orientation to the engineering education process.	
ENGR 1110	3 cr.
Auto CAD Level I	
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.	
ENGR 2214	3 cr.
Engineering Mechanics - Statics	
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).	
ENGR 2215	3 cr.
Engineering Mechanics-Dynamics	
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.	
ENGR 2235	1-4 cr.
Special Topics in Engineering	
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.	
ENGR 2240	3 cr.
Circuit Analysis I	
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.	
ENGR 2241	1 cr.
Circuit Analysis I - Lab	
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.	
ENGR 2250	3 cr.
Circuit Analysis II	
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.	
ENGR 2251	1 cr.
Circuit Analysis II - Lab	
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.	

ENGLISH AS A SECOND LANGUAGE (ESL)

ESL 0090	3 cr.
Listening and Speaking	
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.	
ESL 0091	3 cr.
Reading and Writing	
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.	

ESTHETICIAN (ESTH)

ESTH 1100	3 cr.
Estheology Clinic/License Preparation	
Prepares students for their written examinations and skill certification. Prerequisites: Completion of or concurrent enrollment in COSM 1100, COSM 1120, COSM 1135.	

For course descriptions on Farm Business Management courses (FBMA & FBMT) go to: www.mgt.org

FLUID POWER TECHNOLOGY (FLPW)

FLPW 1100	4 cr.
Fluid Power Hydraulic Theory	
Introduces basic hydraulic concepts, formulas, and applications of hydraulic components used for directional, flow and pressure control of circuits. Also provides students with the knowledge and understanding of the operation, function, and application of hydraulic pumps, continuous rotation motors, limited rotation motors, and cylinders.	
FLPW 1103	3 cr.
Basic Hydraulics	
Introduces basic hydraulic concepts, formulas, and applications of hydraulic components used for directional, flow and pressure control of circuits as applies to the wind turbine. Also provides students with the knowledge and understanding of the operation, function, and application of hydraulic pumps, continuous rotation motors and limited rotation motors.	
FLPW 1104	1 cr.
Basic Hydraulics Lab	
Introduces basic hydraulic concepts, formulas, and applications of hydraulic components used for directional, flow and pressure control of circuits as applies to the wind turbine. Also provides students with the knowledge and understanding of the operation, function, and application of hydraulic pumps, continuous rotation motors and limited rotation motors.	
FLPW 1105	3 cr.
Fluid Power Hydraulic Lab	
Students work with some of the basic equipment and learn the fundamentals and basic hydraulic valves of fluid power. They will also study various flow controls, pumps and motors. Students will tear down, plumb and operate the various components.	
FLPW 1110	2 cr.
Fluid Power Hydraulic Calculations	
Uses the application of math concepts to calculate basic system parameters such as lifting force, pressures, horsepower, time, velocities, tubing sizes, unloading systems, and various parameters for hydraulic pumps and motors.	
FLPW 1115	2 cr.
Auto Cad	
Provides students with the knowledge and understanding of the skills necessary to design and produce mechanical blueprints, hydraulic circuit drawings, and drafts using drafting equipment and AutoCad software.	
FLPW 1120	3 cr.
Pneumatics Theory	
Covers hydraulic accessories and introduces the student to pneumatic components and circuits.	

FLPW 1125 2 cr.
Industrial Electro-Mechanical Control Theory
 Introduces basic electrical theory, relay control circuits, and electrical motor starters for controlling fluid power systems.

FLPW 1131 3 cr.
Fluid Power Lab II
 Develops skills in plumbing, troubleshooting, and operation of basic pneumatic circuits and hydraulic circuits, as well as basic fluid power fabrication. Concurrent with FLPW 1120.

FLPW 1135 2 cr.
Fluid Power Fabrication
 Develops skills necessary to bend tubing, produce hose assemblies, and other tasks used in a fluid power shop. Students will develop skills necessary to fabricate components using engine lathes, milling machines, surface grinders, and other machine tools.

FLPW 1205 1 cr.
Basic Hydraulics
 Covers basic hydraulic components and circuits. It will also cover calculations associated with those components and circuits.

FLPW 1210 1 cr.
Basic Pneumatics
 Introduces students to pneumatic components and functions.

FLPW 1215 1 cr.
Basic Automation Controls for Pneumatics
 Covers basic electro mechanical systems and programmable logic controllers.

FLPW 2100 3 cr.
Advanced Systems Calculations
 Provides students with knowledge and skills of sizing systems in both mobile and industrial applications.

FLPW 2105 4 cr.
Advanced System Lab I
 Allows the student to design, plumb, and operate various advanced hydraulic, pneumatic, and electrical control circuits.

FLPW 2110 3 cr.
Circuit Design and Control Theory
 Receive instruction in hydrostatic, mobile valving, pump controls, and power steering.

FLPW 2116 3 cr.
Corporation Networking and Sales
 Explores the business procedures and applications of the fluid power field. Students work with all the primary functions of a fluid power distributor, especially the customer service area. The DISC system will be utilized in all areas of the course. Prerequisites: FLPW 1100 and FLPW 1120 or instructor's approval.

FLPW 2126 4 cr.
Systems Analysis
 Provides students with knowledge of how components interact with each other in systems and what may cause them to malfunction. Prerequisite: FLPW 2100.

FLPW 2130 4 cr.
Advanced Systems Lab II
 Provides advanced lab jobs in the following job related areas: sales, air logic, engineering, lab technician, servo/proportional valves, fabrication, and service.

FLPW 2136 3 cr.
Programmable Logic Controls
 Receive an understanding of and the ability to use solid state programmable logic controllers and circuits to control and power phases of industrial automation.

FLPW 2141 2 cr.
Proportional & Servo Control Theory
 Provides students with knowledge and working skills dealing with electronic control of electro-hydraulic proportional and servo controls.

FLPW 2142 1 cr.
Proportional & Servo Control Lab
 Provides students with hands-on skills dealing with electronic control of electro-hydraulic proportional and servo controls. Prerequisite: FLPW 2141.

FLPW 2170 2 cr.
Second Year Technical Project
 Build a project that combines previous training in the different Fluid Power Technology classes. This class can be used for the technical elective category in second year.

FLPW 2175 1 cr.
Pneumatic Certification Review
 Review all parts of Fluid Power to help prepare for the PNEUMATIC SPECIALIST certification test. Prerequisites: Enrolled in Fluid Power or a past graduate of Fluid Power or working in the field of Fluid Power.

FLPW 2180 1 cr.
Hydraulic Certification Review
 Review all parts of hydraulics and help prepare for the HYDRAULICS SPECIALIST certification test. Prerequisites: Enrolled in Fluid Power or a past graduate of Fluid Power or working in the field of Fluid Power.

GEOGRAPHY (GEOG)

GEOG 1100 (Meets Goal Area: 5, 8) 3 cr.
Introduction to Geography
 Introduces various aspects of Geography. Emphasis will be given to cartography, meteorology, climatic elements, political, and population geography. Place-location is also covered. Prerequisite: STSK 0090 or evidence of college level reading ability through assessment test or prior college coursework.

GEOG 1101 (Meets Goal Area: 5, 10) 4 cr.
Introduction to Physical Geography
 Studies the physical elements of the environment, emphasizing earth-time relationships and their relationship to people, measurement of time and distance, elements of weather, climate and land form development. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

GEOG 2140 3 cr.
Introduction to Meteorology
 Develops a basic understanding of atmospheric processes, weather systems, weather maps and forecasting. GEOG 1101 recommended. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

GEOG 2250 3 cr.
Minnesota Geography
 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 evidence of college level reading ability through assessment test or prior college coursework.

GENERAL STUDIES (GSCL, GSCM, GSSS)

GSCL 1105 1 cr.
Job Seeking Skills
 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.

GSCM 1120 2 cr.
Technical Writing
 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 methods used in technical report writing. Students study writing as a process while researching and writing technical reports.

GSSS 1100 **2 cr.**
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 cr.**
Nutrition
 Basic concepts of normal nutrition are presented. These concepts are applied to human needs throughout the lifespan cycle. The emphasis is on the application of these concepts in practical nursing.

HC 1115 **2 cr.**
Medical Terminology
 Teaches students to recognize and build medical terms after learning the meaning of word parts. The student will also learn to pronounce word parts, enabling them to pronounce medical terms.

HC 1151 **3 cr.**
Body Structure & Function
 Designed to assist students in developing a basic understanding of the normal structure and functioning of the body. Such knowledge is basic to understanding common disease processes. Students also learn to recognize and build medical terms after learning the meaning of word parts.

HC 1160 **3 cr.**
Fundamentals of Nursing I
 Introduces concepts of basic human needs, health/illness and basic nursing skills in caring for the elderly client. Skills are demonstrated in a supervised laboratory and clinical environment.

HC 1165 **1 cr.**
Medical Terminology
 Teaches the student to recognize and build medical terms after learning the meaning of word parts. The student will also learn to pronounce word parts, enabling them to pronounce medical terms.

HC 1175 **3 cr.**
Nursing Assistant
 Introduces concepts of basic human needs, health/illness and basic nursing skills. Skills are demonstrated in a supervised laboratory setting and in a clinical environment. This course also covers introduction to home care. Topics include care of the child, reporting procedures, caring for special populations, homemaking skills, and hospice care.

HC 1200 **4 cr.**
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 cr.**
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 cr.**
Disease Conditions
 Introduces basic principles of disease and the study of disease by body system. The signs and symptoms, etiology, diagnosis, and treatment of each disease are explored; and prevention of disease is emphasized. Medical terminology and anatomy/physiology knowledge acquired in previous courses is applied. Prerequisite: BIOL 2245 or HC 1151 or consent of instructor.

HISTORY (HIST)

HIST 1101 (Meets Goal Area: 5, 7) **4 cr.**
American History I
 Presents a survey of United States history from about 1500 to 1865 and encompasses political, economic, social, intellectual and cultural developments. Human diversity in the historical and cultural context of American history is also addressed. Prerequisite: STSK 0095 or evidence of

college level reading ability through assessment test or prior college coursework.

HIST 1102 (Meets Goal Area: 5, 7) **4 cr.**
American History II
 Presents a survey of United States history from about 1865 to the present and encompasses political, economic, social, intellectual and cultural developments. Human diversity in the historical and cultural context of American history is also addressed. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

HIST 1105 (Meets Goal Area: 5) **3 cr.**
Minnesota History
 Presents a historical survey of Minnesota beginning with a consideration of the significance of glaciers and geography and then studying the various people who chose Minnesota starting with the Ojibway and Dakota. Major emphasis is on the nineteenth and twentieth centuries. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

HIST 1111 (Meets Goal Area: 5, 6, 8) **3 cr.**
Western Civilization I
 Surveys European history from ancient times to the 1500s and encompasses political, economic, social, intellectual and cultural developments. This course may be taken for either Social Science or Humanities credit; the course also counts as a Global Perspective course. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

HIST 1112 (Meets Goal Area: 5, 6, 8) **3 cr.**
Western Civilization II
 Surveys European history from the 1500s to the present and encompasses political, economic, social, intellectual and cultural developments. The course may be taken for either Social Science or Humanities credit; the course also counts as a Global Perspective course. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

HIST 1121 (Meets Goal Area: 5, 7, 8) **3 cr.**
World History I
 Includes a global and cross-cultural study of the early period of world history, including ancient civilizations. Empires and regions examined include ancient India, China, Greece, Egypt, Rome, the Americas, Africa, Southeast Asia, Japan, Medieval Europe and include the interactions of these civilizations. The study will include the emergence of the major world religions and their influence in the world cultures and civilizations. (Buddhism, Christianity, Judaism, Islam, and Hinduism). Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

HIST 1122 (Meets Goal Area: 5, 7, 8) **3 cr.**
World History II
 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 evidence of college level reading ability through assessment test or prior college coursework.

HIST 2235 **1-3 cr.**
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 evidence of college level reading ability through assessment test or prior college coursework.

HEALTH (HLTH)

HLTH 1101 **3 cr.**
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 evidence of college level reading ability through assessment test or prior college coursework.

HLTH 1110 **3 cr.**
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 evidence of college level reading ability through assessment test or prior college coursework.

HLTH 1130 **3 cr.**
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 evidence of college level reading ability through assessment test or prior college coursework.

HLTH 2210 **3 cr.**
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 evidence of college level reading ability through assessment test or prior college coursework.

HLTH 2220 **3 cr.**
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. Meets the MN teacher licensure requirement for MS122A.66 and is a foundation course for those seeking careers in education, health, and other human services professions. Prerequisite: At least one (1) of the following courses: HLTH 1101, PSYC 1101, SOC 1101, OR BIOL 1100 OR 1110.

HLTH 2235 **1-3 cr.**
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 cr.**
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 evidence of college level reading ability through assessment test or prior college coursework.

HUMAN SERVICES (HSER)

HSER 1101 **2 cr.**
Introduction to Human Services

Introduces students to the field of human services, from its historical background to current trends and issues. Emphasis is given to various models of helping, the roles and career options of human services workers, familiarization with local human service agencies, and professional ethics and responsibilities. Prerequisite: STSK 0090 or evidence of college level reading ability through assessment test or prior college coursework.

HSER 1121 **3 cr.**
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 cr.**
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 1131 **1 cr.**
Autism Spectrum Disorders

Focuses on an introduction to Autism Spectrum Disorders (ASD). Students will be given a history of ASD; an overview of the disorder as it is recognized today; diagnostic criteria for and behavioral characteristics of the specified disorders on the spectrum of autism including: Rett's Disorder, Childhood Disintegrative Disorder, Classic and High Functioning Autism, and Asperger's Syndrome. Current research, current trends in treatment, instructional strategies, current State and Federal mandates, parent support and cultural variables will also be presented.

HSER 1132 **2 cr.**
Behavior Management

Introduces basic principles of behavior management as it relates to the school setting. Behavioral excesses and deficits, and maladaptive and aggressive behavior will be the primary focus. Topics include the characteristics of behavior management; proactive intervention procedures; shaping; prompting; and fading; reinforcement procedures and schedules of reinforcement will also be presented. Functional Behavioral Assessment (FBA) will be a primary focus throughout the course. In addition, current State and Federal mandates will be addressed. Students who have taken PSYC 2230 - Behavior Modification should not take this course. This course cannot be substituted for PSYC 2230 - Behavior Modification.

HSER 1262 **2 cr.**
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 1266 **2 cr.**
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 evidence of college level reading ability through assessment test or prior college coursework.

HSER 1267 **2 cr.**
Special Needs in Children

Introduces the various diagnostic categories as used within the school system. Diagnostic categories include: Autism Spectrum Disorders; Developmental Cognitive Disability; Early Childhood Special Education; Emotional/Behavioral Disorders; Physical and Other Health Disabilities; Sensory Disorders (Hearing/Vision); Specific Learning Disability; Speech/Language Disorders; and Traumatic Brain Injury. Support services including occupational therapy, physical therapy, counseling, and behavioral treatment will also be discussed. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

HSER 1268 **2 cr.**
Children's Health, Nutrition, and Safety

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 evidence of college level reading ability through assessment test or prior college coursework.

HSER 1269 **2 cr.**
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 cr.**
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 cr.**
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 cr.**
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 cr.**
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 cr.**
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 (Meets Goal Area: 6, 7) **4 cr.**
The Turbulent Sixties
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 (Meets Goal Area: 6, 7) **2 cr.**
The Many Faces of Mexico
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 cr.**
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.

HEATING, VENTILATION, AIR CONDITIONING (HVAC)

HVAC 1100 **3 cr.**
Refrigeration Fundamentals
Covers the basics of what heat is and how it can be moved from one place to another. Topics included are sensible heat, latent heat, super heat, and BTU's. Other topics included are EPA laws and regulations that pertain to the refrigeration certificate.

HVAC 1105 **3 cr.**
Washers and Dryers
Introduces the basic types of washers, dryers, and their controls. Topics included are installation, breakdown, and troubleshooting, mechanical, and electrical systems.

HVAC 1110 **3 cr.**
Refrigeration Controls and Components
Covers the components common to all refrigeration systems and different types of controls that are used in today's commercial refrigeration.

HVAC 1115 **2 cr.**
Dishwashers/Disposals and Compactors
Introduces the basic types of dishwashers, pumps, disposers, compactors and their controls. Topics include installation, breakdown, and troubleshooting.

HVAC 1120 **3 cr.**
Domestic Refrigeration
Covers the new and late model refrigerators and freezers. Topics include installation, electrical, and mechanical troubleshooting.

HVAC 1125 **3 cr.**
Ranges and Ovens/Microwaves
Introduces the basic concepts of microwave energy and basic types of ranges, ovens, and their controls. Topics included proper cooking procedures, installation, and both electrical and mechanical troubleshooting.

HVAC 1130 **3 cr.**
Air Conditioning
Covers the basic concepts of conditioning air. Topics include installation, testing air conditions, electrical, and mechanical troubleshooting.

HVAC 1135 **4**
Commercial Refrigeration
Covers the different types of systems, their controls and uses. Topics include installation, proper sizing, and troubleshooting techniques.

HVAC 1140 **3 cr.**
Heating Fundamentals/Hydronics/Heat Pumps
Covers the theory of heat in relation to gas, electric, and heat pump technology. Topics include controls, sizing, types of heat, venting, and requirements how it can be distributed.

HVAC 1145 **2 cr.**
Basic Electronics
Covers industrial electronic components and circuits explained in a straightforward and practical manner, as opposed to the traditional mathematical explanations used in more comprehensive courses. Content includes diodes, transistors, rectifiers, filters, SCR's, triacs, diacs, power supplies, and photo devices. Prerequisite: ELCO 1100.

HVAC 1150 **3 cr.**
Heating Systems
Involves the student with various heating appliances and the proper method to install, test, check, troubleshoot, repair and size heating equipment. The student will become familiar with applications involving boilers, forced air, radiant, electric and gas.

HVAC 1155 **Sheetmetal Technology** **3 cr.**
 Focuses on proper and safe installations. The course will require the student to size, design, build, and install air duct. The course will require the student to troubleshoot problems of air and correct them. The ventilation requirements will be calculated into the system.

HVAC 1160 **Blueprint Reading for HVAC** **2 cr.**
 Explains the design and construction standards for both commercial and residential plans, symbols, and specifications for the HVAC Trades.

HVAC 2100 **Special Problems** **2 cr.**
 Provides students a chance to work on equipment and projects in an open lab. Prerequisites: HVAC course that covers the type of equipment that students work on or instructor's approval.

HVAC 2105 **Special Problems** **2 cr.**
 Provides students a chance to work on equipment and projects in an open lab. Prerequisites: HVAC course that covers the type of equipment that students work on or instructor's approval.

HVAC 2110 **Special Problems** **2 cr.**
 Provides students a chance to work on equipment and projects in an open lab.

LAW ENFORCEMENT (LAWE)

LAWE 1100 **Law Enforcement Orient/Practicum** **1 cr.**
 Consists of classroom and field experience in an early arrangement to expose students to the realities of Law Enforcement. Students will have experiential exposure necessary to make long range academic and career plans.

LAWE 1101 **Introduction to Criminal Justice** **3 cr.**
 Provides a broad survey of the institutions and process of the criminal justice system. Major topics of the course will include the history and philosophy of criminal justice, police operations, the courts and corrections.

LAWE 1110 **Criminal Law** **3 cr.**
 Provides an introduction to law including history and the development of criminal law procedures. Major topics include the content and meaning of the Fourth, Fifth and Sixth Amendment.

LAWE 1140 **Cyber Crimes** **2 cr.**
 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 **Homeland Security and Terrorism** **2 cr.**
 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 1160 **Minnesota Criminal Code** **2 cr.**
 Covers Minnesota Criminal Code. The course is designed to teach the student how to identify and recognize the necessary elements of a criminal code violation necessary to make an arrest and obtain a conviction.

LAWE 1170 **Minnesota Traffic Code** **2 cr.**
 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 1180 **Juvenile Justice Procedures** **3 cr.**
 Focuses on the juvenile justice system and how it has evolved in the United States. The Minnesota Juvenile Code will be reviewed and theories will be discussed.

LAWE 2201 **Criminal Investigation/Interview, and Interrogation** **3 cr.**
 Introduces the basic fundamentals of crime scene and post-crime investigation. The student will analyze methods of handling the crime scene, use of detection and identification purposes, and preparation of the case for prosecution. The second portion of this course will examine interview and interrogation techniques utilized by law enforcement. The course will examine in-depth basic interviews of witnesses, victims, suspects, and children. Students will also demonstrate an understanding of the differences of interviewing and interrogations. Students will perform mock interrogations to demonstrate their understanding of the interrogation process.

LAWE 2210 **Evidence Collection and Preservation** **2 cr.**
 Familiarizes students with the basic principles of the collection, examination, evaluation and interpretation of evidence. This course will focus on the application of modern science to physical evidence collection, preservation, and analysis.

LAWE 2215 **CSI, MN (Basic Criminal Forensics)** **3 cr.**
 Familiarizes students with the basic principles and uses of forensic science in the context of the criminal justice systems. Forensic science, which is the study and application of science to legal processes, will be related to the collection, examination, evaluation and interpretation of evidence. This course will focus on the application of modern science to physical evidence collection, preservation, and analysis, which, if properly utilized, can be crucial in the resolution of social and legal disputes.

LAWE 2223 **Applied Writing: Law Enforcement** **2 cr.**
 Teaches students the proper construction and preparation of police reports using Minnesota P.O.S.T. style.

LAWE 2232 **Patrol Operations** **3 cr.**
 Designed to provide the learner with an in-depth review of the basic patrol functions for a police patrol officer. Topics include, but are not limited to, role and duties of a patrol officer, squad car familiarization, principles of traffic enforcement, officer safety issues, radio communications, calls for service, police ethics, and citizen contact and public relations.

LAWE 2251 **Psychology of Law Enforcement** **3 cr.**
 Covers the sources of interpersonal and intrapersonal stress in the law enforcement profession including victim crisis management strategies including dealing with and assessing people with mental illnesses. Students will be required to assess their vulnerability to these stressors and develop their own strategies and tactics for coping.

LAWE 2290 **Civil Service Preparation** **1 cr.**
 Designed to help students prepare for civil service exams and to develop and refine the skills necessary to successfully interview and communicate effectively in a professional law enforcement environment. The focus will be on law enforcement civil service testing, video based scenario testing, and pre-employment preparedness.

LAWE 2294 **Community Leadership** **2 cr.**
 Discusses community involvement in Law Enforcement and Crime Prevention. This course will get students involved in the community with non-profit organizations.

LAWE 2295 **POST Seminar** **1 cr.**
 Provides a program overview, with opportunities to discuss changes in the field and POST requirements.

FOR ADDITIONAL COURSE DESCRIPTIONS ON LAMB MANAGEMENT COURSES (LWMP) GO TO: WWW.MGT.ORG

LWMP 1001 1 cr.

Introduction to Sheep Management

This course introduces basic sheep management principles. Students will study the year round management and production cycle for a sheep enterprise and understand how each production stage influences enterprise profitability. This course also studies the philosophy of sheep management and its relationship to business goals.

LWMP 1202 2 cr.

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 cr.

Introduction to Sheep Health

This course helps students become familiar with sheep diseases that need to be managed in a successful sheep enterprise. Topics discussed will be Animal Husbandry, Quality Assurance, Young Lamb Diseases/Health Issues, Metabolic Diseases, Diseases causing Abortion, Diseases causing lameness, Diseases Affecting Reproductive Performance in Rams, Parasite Diseases, Diseases of the Eye and more.

LWMP 1502 1 cr.

Ewe Ration Formulation

This course provides fundamental sheep nutrition education along with methods used to balance rations to meet the sheep nutrient requirements for each specific stage of production. Topics covered include: Digestive System and Function, Nutrient Requirements, Nutrient Composition of Feed Stuff, Ration Formulation and Feeding systems.

LWMP 1701 2 cr.

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.

MATH (MATH)

MATH 0092 2 cr.

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 exam.

MATH 0098 3 cr.

Higher Algebra I - Beginning Algebra

Teaches basic algebraic concepts and skills. Real number properties, algebraic expressions, use of exponents, first degree equations, inequalities, operations on polynomials, factoring, roots and radicals, and quadratic equations and inequalities are emphasized in the course. This course is not considered a transfer course. Prerequisite: MATH 0092 or placement by exam.

MATH 0099 3 cr.

Higher Algebra II

Continues MATH 0098. Coordinate geometry, functions, systems of equations, matrices, determinants, exponential and logarithmic functions are emphasized in the course. Other topics may include sequences, series, binomial theorem, and/or probability and statistics introduction. This course is not considered a transfer course. Prerequisite: High school algebra (one year), MATH 0098, or placement by exam.

MATH 1100 3 cr.

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 at least an 80% score on the Arithmetic Accuplacer test.

MATH 1105 (Meets Goal Area: 4) 4 cr.

Introduction to Probability and Statistics

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: Two years of high school algebra, MATH 0098, or placement by exam.

MATH 1107 (Meets Goal Area: 4) 3 cr.

Concepts in Math

Covers topics from various areas of mathematics showing the scope and power of mathematics and emphasizing the mathematical method. For students who are not mathematics majors and who wish to acquire a basic understanding of mathematics. Prerequisite: Two years of high school algebra, MATH 0098, or placement by exam.

MATH 1111 (Meets Goal Area: 4) 3 cr.

College Algebra

Reviews the fundamental 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 applications and data modeling techniques. Prerequisite: Two years of high school algebra, MATH 0099, or placement by exam.

MATH 1113 (Meets Goal Area: 4) 4 cr.

Pre-Calculus

Reviews the concepts functions 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 inverse, 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 exam.

MATH 1118 (Meets Goal Area: 4) 4 cr.

Applied Calculus

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 equivalent placement.

MATH 1121 (Meets Goal Area: 4) 4 cr.

Calculus I

Introduces the basic ideas of differential and integral calculus. Topics include limits and continuity, differentiation of functions, applications of derivatives, definite and indefinite integrals, the fundamental theorems of integral calculus, numerical integration, and applications of definite integrals. Prerequisite: Four years of high school mathematics, MATH 1113, or placement by exam.

MATH 1122 4 cr.

Calculus II

Continues Calculus I. Begins with further applications of the definite integral. Other topics include the calculus of transcendental functions, techniques of integration, infinite series, plane curves, polar coordinates, parametric equations, and a few topics of analytic geometry of Euclidean 3-space. Prerequisite: MATH 1121.

MATH 2201 4 cr.

Calculus III

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, and Stokes' Theorem. Prerequisite: MATH 1122.

MATH 2206 4 cr.

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 cr.
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 cr.
Introduction to Laboratory Science
Designed to familiarize the student with a career in the medical laboratory field, MLT education programs, medical terminology, certification process, professional organizations, and ethical/legal issues. The student will also obtain blood samples (phlebotomy).

MDLT 1105 3 cr.
Microbiology I
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 organisms in relation to their disease processes in humans. The course will present microbiology within an epidemiologic, diagnostic, and clinical framework.

MDLT 1110 1 cr.
Medical Lab Calculations
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.

MDLT 1115 3 cr.
Biological Fluids
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) is reviewed in the lecture portion of the class. In the laboratory, the student will perform physical, chemical and microscopic analysis on urine specimens.

MDLT 1120 3 cr.
Immunology
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.

MDLT 1125 3 cr.
Clinical Chemistry I
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.

MDLT 1130 3 cr.
Hematology I
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.

MDLT 2101 3 cr.
Microbiology II
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 discretion of instructor.

MDLT 2106 3 cr.
Immuno-hematology
Teaches the theory of red cell antigen-antibody interaction as it relates to blood grouping and typing, antibody detection and compatibility testing. Blood donor screening and component preparation are also discussed. In the laboratory the student will perform basic blood banking procedures. Accuracy in procedure and interpretation is emphasized. Prerequisites: MDLT 1100 and MDLT 1120.

MDLT 2110 3 cr.
Clinical Chemistry II
Continues 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. In addition, material will be presented on markers, minerals and toxicology.

MDLT 2120 3 cr.
Hematology II
Continues Biological Fluids. Students will carry out wide ranging research into the disease processes that occur in the formed elements of the blood with emphasis on leukemias and myelomas. This course also covers the theory and testing of the coagulation aspects of the blood. The student will prepare a research paper and a journal article report. Prerequisite: MDLT 1105.

MDLT 2125 12 cr.
Externship I
Provides the first part of the student's externship in an affiliated hospital laboratory. The student is assigned to an affiliated hospital for the purpose of allowing them to gain practical experience in a laboratory while under direct supervision. The student will rotate through various departments of the laboratory. The student will review and be tested on biological fluids, microbiology, hematology, and coagulation. The student will be responsible for worksheets and exams.

MDLT 2131 7 cr.
Externship II
Provides the final part of the student's externship and courses in the medical laboratory technician program. The student will continue their externship at their assigned affiliated hospital laboratory. The student will rotate through the various departments. The student may experience weekend and night call to better prepare them for a realistic laboratory job. The student will receive worksheets and exams on chemistry, immunology and immunohematology. Prerequisite: MDLT 2125.

MDLT 2145 1 cr.
Electrocardiogram
Teaches electrocardiography which includes understanding cardiac anatomy and physiology, the components of the cardiac cycle and basic heart rhythms. The student learns how to perform a 12-lead ECG while working in a simulated laboratory setting. Prerequisite: HC 1151 or BIOL 1110 or BIOL 1115.

MDLT 2200 4 cr.
Externship
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.

MDLT 2235 1-3 cr.
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.

MEDICAL ASSISTANT (MEDA)

MEDA 1105 2 cr.
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 and certain procedures, and documentation.

MEDA 1135 2 cr.
Laboratory Skills
Studies the laboratory areas of urinalysis, immunology, serology, hematology, clinical chemistry, microbiology, and body fluid analysis. Students will perform waived testing according CLIA guidelines. Prerequisite: MDLT 1100.

MEDA 2100 **Dosage Calculations** **1 cr.**
 Prepares the student for dosage calculations used in the administration of medications. An emphasis is placed on mastering math skills necessary for administration systems and conversions between systems, solving ratio and proportion problems, and working with percentages. The student is introduced to reading oral and parenteral dosages.

MEDA 2110 **Clinical Procedures II** **3 cr.**
 Teaches the continued study of the fundamentals of medical assisting in relation to surgical asepsis and sterile procedures, wound care, physical therapy and the specialty areas of OB/GYN, pediatrics, colon procedures and male reproductive health. The student is taught to perform specific skills related to the above areas of study. The basic principles of respiratory diagnostic testing, radiology and emergency preparedness are also taught. Professionalism, communication and documentation continue to be stressed in this course. Prerequisite: MEDA 1105.

MEDA 2135 **Pharmacology** **3 cr.**
 Introduces pharmacological concepts, drug classifications and the effects of drugs on the clients. Principles of safe, accurate administration of medications by various routes are emphasized. Classroom and lab are used to teach basic methods of safe drug administration.

MEDA 2140 **Medical Assistant Practicum** **7 cr.**
 Focuses on the role of the medical assistant in relation to the following areas: self-awareness and self-care, community resources, patient education, teamwork and customer relations. The remainder of the course is designed to provide on-the-job experience. The student will be assigned to work in a physician's office for a total of 6 semester credits. The student will work under the supervision of office personnel doing tasks pertinent to the student's technical program.

MEDA 2235 **Special Topics in Medical Assisting** **1-3 cr.**
 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.

MESSAGE THERAPY (MSTH)

MSTH 1100 **Introduction to Massage** **3 cr.**
 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 **Kinesiology** **2 cr.**
 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 **Basic Massage I** **6 cr.**
 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 gradually led to the application of professionalism, legal issues, and documentation as they apply to stress reduction massage. 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 **Massage Therapy** **6 cr.**
 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 **Client Massage** **3 cr.**
 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 **Massage Therapy Business Practices** **3 cr.**
 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 **Spa Techniques** **1 cr.**
 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 (Meets Goal Area: 6) **Fundamentals of Music** **3 cr.**
 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 **MIDI Music** **3 cr.**
 Studies electronic music, using music computer program Finale, composing music from the major periods in music history and various American music styles. Prerequisites: ability to read music, knowing the piano keyboard, and having basic computer knowledge.

MUSC 1104 (Meets Goal Area: 6) **American Popular Music** **3 cr.**
 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 (Meets Goal Area: 6) **Enjoying Music** **3 cr.**
 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 **Concert Band** **1 cr.**
 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 1111 (Meets Goal Area: 6) **1 cr.**
Chorale
 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 (Meets Goal Area: 6) **1 cr.**
Chorale
 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 (Meets Goal Area: 6) **1 cr.**
Pop Singers
 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 (Meets Goal Area: 6) **1 cr.**
Pop Singers
 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 (Meets Goal Area: 6) **1 cr.**
Piano Lessons
 Provides regularly scheduled individualized instruction. Open to interested students at all levels of ability.

MUSC 1141 (Meets Goal Area: 6) **1 cr.**
Piano Lessons
 Provides regularly scheduled individualized instruction. Open to interested students at all levels of ability.

MUSC 1145 (Meets Goal Area: 6) **1 cr.**
Vocal Lessons
 Develops singing technique through a regularly scheduled program of individualized instruction.

MUSC 1146 (Meets Goal Area: 6) **1 cr.**
Vocal Lessons
 Develops singing technique through a regularly scheduled program of individualized instruction.

MUSC 2108 **Concert Band** **1 cr.**
 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 (Meets Goal Area: 6) **1 cr.**
Chorale
 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 (Meets Goal Area: 6) **1 cr.**
Chorale
 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 (Meets Goal Area: 6) **1 cr.**
Pop Singers
 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 (Meets Goal Area: 6) **1 cr.**
Pop Singers
 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 (Meets Goal Area: 6) **1 cr.**
Piano Lessons
 Provides regularly scheduled individualized instruction. Open to interested students at all levels of ability.

MUSC 2141 (Meets Goal Area: 6) **1 cr.**
Piano Lessons
 Provides regularly scheduled individualized instruction. Open to interested students at all levels of ability.

MUSC 2145 (Meets Goal Area: 6) **1 cr.**
Vocal Lessons
 Develops singing technique through a regularly scheduled program of individualized instruction.

MUSC 2146 (Meets Goal Area: 6) **1 cr.**
Vocal Lessons
 Develops singing technique through a regularly scheduled program of individualized instruction.

MUSC 2235 **1-3 cr.**
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.

MANICURIST (NAIL)

NAIL 1101 **4 cr.**
Nail Clinic/License Preparation
 Prepares students for their written examinations and skill certification.

NAIL 1200 **4 cr.**
Nail Technology
 Provides students with an opportunity to develop the practical skills necessary for entry-level salon work concentrating on manicuring, pedicuring, artificial nail application. This course will contribute 96 hours towards licensure. The Department of Commerce mandates these hours to go toward the hour requirement. Prerequisites: Successful completion have or concurrent enrollment in preclinical courses.

NATURAL SCIENCE (NSCI)

NSCI 1100 (Meets Goal Area: 8, 9, 10) **3 cr.**
Issues in the Environment
 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 evidence of college level reading ability through assessment test or prior college coursework.

NSCI 2235 1-3 cr.
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 cr.
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, boundaries, nutrition, communication, nursing process and documentation, fluid and electrolytes, rest and sleep, psychological balance, pain and comfort, and elimination.

NURS 1120 3 cr.
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 2 cr.
Pharmacology
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 cr.
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 cr.
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 5 cr.
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 1250 2 cr.
Family Nursing
Introduces the students 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: PSYC 1150.

NURS 1280 6 cr.
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 cr.
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 2100 2 cr.
Professional Nurse Transition
Assists the student to transition into an AD Nursing Program with an emphasis on the RN scope of practice. Topics may include, but are not limited to communication, critical thinking, nursing process, math, culture, and boundaries. May include clinical days as needed.

NURS 2120 4 cr.
Nursing Across the Lifespan
Concentrates on health and illness of individuals and families across the lifespan. Critical thinking through the use of the nursing process and standards of care are used to guide the student. Concepts of health promotion, pharmacology, and nutrition are integrated into specific subject areas. Subject areas include individuals with mental health needs, oxygenation needs, fluid and electrolyte balance, and the childbearing and childrearing family.

NURS 2140 2 cr.
Professional Nursing Skills
Focuses on mastery of independent and delegated nursing skills necessary for the beginning nurse generalist. An emphasis is placed on refinement of physical and psychosocial assessment skills through the lifespan. Other threads include communication skills, caring interventions, teaching/learning, documentation, nursing process, nursing math, and the nurse's role in intravenous therapy.

NURS 2180 2 cr.
Clinical Applications
Demonstrate critical thinking skills in planning and delivering care for individuals and families across the lifespan with a variety of health care needs. Provides the student the opportunity to demonstrate newly acquired cognitive and technical skills and to integrate previously learned skills and knowledge.

NURS 2220 4 cr.
Nursing Across the Lifespan II
Focuses on health and illness for individuals and families across the lifespan. The student is expected to use a high level of critical thinking skills during this course. Subject areas include caring for the client experiencing vascular, hematologic, endocrine, neurological, gastrointestinal, genitourinary, integumentary, or immune disorders; cancer, pain, critically ill episodes, and emergency situations/preparedness.

NURS 2230 1 cr.
Trends and Issues
Introduces the student to contemporary nursing topics such as current trends, advocacy, impact of legislative decisions on health care, reimbursement, boundaries, models of care, complementary/alternative therapies, nursing informatics and access to care.

NURS 2235 1-3 cr.
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 2240 2 cr.
Manager of Care
Emphasizes beginning management theory and transition into the graduate nurse role. The learner integrates knowledge and skills necessary for caring for groups of clients, nursing team management, interdisciplinary collaboration, delegation, and supervising and teaching nursing personnel.

NURS 2275 1-2 cr.
Nursing Preceptorship
Provides an opportunity for skill refinement and increased self-confidence in the role of Associate Degree Nurse through working with a preceptor. The learner applies the nursing process in a realistic work setting. Concepts of accountability and professionalism are integrated from prior learning.

NURS 2280 **3 cr.**
Clinical Applications
 Demonstrates critical thinking skills and synthesis in planning and delivering care for increasingly complex individuals and families across the lifespan. Newly acquired nursing skills and classroom knowledge will be utilized in a variety of venues that includes acute care and community settings.

PHYSICAL EDUCATION (PHED)

PHED 1101 **3 cr.**
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 cr.**
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 cr.**
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 cr.**
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 cr.**
Beginning Archery
 Offers fundamental instruction in target archery. Safety, choice and care of equipment will also be taught.

PHED 1125 **1 cr.**
Aerobics
 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.

PHED 1130 **1 cr.**
Physical Fitness for Life
 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.

PHED 1135 **1 cr.**
Beginning Tennis
 Introduces the fundamentals of tennis as a leisure time activity. Emphasis is on acquiring technique, knowledge and fitness.

PHED 1136 **1 cr.**
Racquet Sports
 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.

PHED 1140 **2 cr.**
Body Conditioning
 Emphasizes body conditioning through weight training and physical training.

PHED 1145 **1 cr.**
Bowling
 Provides students with knowledge and practice in the sport of bowling. Students learn bowling rules, skills, techniques, and appreciation.

PHED 1155 **1 cr.**
Cross-Country Skiing
 Introduces the student to the fundamentals of the sport. Flat-track techniques, downhill and hill climbing techniques are covered. Equipment provided.

PHED 1160 **1 cr.**
Beginning Golf
 Focuses on helping beginning golfers understand the fundamentals of golf as a recreational activity.

PHED 1165 **1 cr.**
Fitness for Acceleration
 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.

PHED 1170 **1 cr.**
Intercollegiate Football
 Consists of intercollegiate competition in football at the community college level. Football skills, sportsmanship, competitiveness, and sound athletic principles are taught.

PHED 1171 **1 cr.**
Intercollegiate Volleyball
 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.

PHED 1172 **1 cr.**
Intercollegiate Men's Basketball
 Provides credit for first year participants. The course consists of a twenty-game schedule against other community colleges in Minnesota.

PHED 1173 **1 cr.**
Intercollegiate Women's Basketball
 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.

PHED 1174 **1 cr.**
Intercollegiate Wrestling
 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.

PHED 1175 **1 cr.**
Intercollegiate Women's Softball
 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.

PHED 1176 **1 cr.**
Intercollegiate Baseball
 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.

PHED 1177 **1 cr.**
Intercollegiate Women's Golf
 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.

PHED 1178 Intercollegiate Men's Golf 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 cr.	PHED 2176 Intercollegiate Baseball 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 cr.
PHED 2101 History of Physical Education and Sports 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.	2 cr.	PHED 2177 Intercollegiate Women's Golf 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.	1 cr.
PHED 2110 Prevention and Care of Athletic Injuries II 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.	2 cr.	PHED 2178 Intercollegiate Men's Golf 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.	1 cr.
PHED 2111 Sports Management 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.	3 cr.	PHED 2181 Wrestling Coaching and Officiating 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.	2 cr.
PHED 2135 Intermediate Tennis 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.	1 cr.	PHED 2183 Basketball Coaching and Officiating 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.	2 cr.
PHED 2140 Theory and Technique of Body Conditioning 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.	2 cr.	PHED 2184 Officiating Volleyball 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.	1 cr.
PHED 2170 Intercollegiate Football Consists of intercollegiate competition in football at the community college level. Football skills, sportsmanship, competitiveness, and sound athletic principles are taught.	1 cr.	PHED 2185 Volleyball Coaching and Officiating 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. The course also looks at proper training techniques to improve and teach the game of volleyball. Students will learn all venues of running a program so they can prepare to be a coach.	2 cr.
PHED 2171 Intercollegiate Volleyball 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.	1 cr.	PHED 2187 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.	2 cr.
PHED 2172 Intercollegiate Men's Basketball Provides credit for second year participants. The course consists of a twenty-game schedule against other community colleges in Minnesota.	1 cr.	PHED 2188 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.	2 cr.
PHED 2173 Intercollegiate Women's Basketball 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 cr.	PHED 2235 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.	1-3 cr.
PHED 2174 Intercollegiate Wrestling 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.	1 cr.	PHED 2280 Field Experiences - Physical Education Offers students paid or unpaid work experiences closely related to their academic and career pursuits. Assists students in gaining skills and realism	2-8 cr.
PHED 2175 Intercollegiate Women's Softball 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 cr.		

about job demands and future educational choices. Activities are closely supervised by college instructors and on-the-job supervisors.

PHILOSOPHY (PHIL)

PHIL 1101 (Meets Goal Area: 6) **3 cr.**
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 evidence of college level reading ability through assessment test or prior college coursework.

PHIL 1102 (Meets Goal Area: 6) **2 cr.**
Philosophy of Religion
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 evidence of college level reading ability through assessment test or prior college coursework.

PHIL 1200 (Meets Goal Area: 4) **3 cr.**
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 2201 (Meets Goal Area: 6, 9) **1 cr.**
Introduction to Ethical Theory
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 evidence of college level reading ability through assessment test or prior college coursework.

PHIL 2202 (Meets Goal Area: 6, 9) **1 cr.**
General Applied Ethics
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 (Meets Goal Area: 6, 9) **2 cr.**
Business Ethics
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 (Meets Goal Area: 6, 9) **1 cr.**
Medical Ethics
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 cr.**
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 (Meets Goal Area: 6) **3 cr.**
World Religions
Explore various world religions through reading about the religions and reading texts from various faith traditions. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

PHYSICS (PHYS)

PHYS 1100 (Meets Goal Area: 3) **3 cr.**
Survey of Physics
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: High school algebra I or MATH 0098 or higher.

PHYS 1201 (Meets Goal Area: 3) **4 cr.**
Fundamentals of Physics I
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 0099 or higher.

PHYS 1202 (Meets Goal Area: 3) **4 cr.**
Fundamentals of Physics II
Covers topics including temperature and heat transfer, laws of thermodynamics and heat engines, electric fields, electricity of direct current circuits, electronics magnetism and radioactivity. Prerequisite: PHYS 1201 or consent of instructor.

PHYS 2121 (Meets Goal Area: 3) **5 cr.**
General Physics I
Teaches the fundamentals of physics to students intending to study engineering or the sciences. Calculus and vectors are used throughout. Uses laboratory centered instruction with both 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, and torque, heat, thermo dynamics and heat engines. Prerequisite: MATH 1121.

PHYS 2122 **5 cr.**
General Physics II
Uses laboratory centered instruction with both computer and calculator based investigations. This course in the fundamentals of physics is for students intending to study engineering or the sciences. Calculus and vectors are used throughout. Topics include heat, thermodynamics, heat engines, electric fields, Gauss' Law, electric and gravitational potential, electrical circuits, capacitance, magnetism, electromagnetism, electronics, and radioactivity. Prerequisite: PHYS 2121 and MATH 1121 with MATH 1122 being taken concurrently or before.

PHYS 2235 **1-3 cr.**
Special Topics
Explores specific areas of physics to meet specialized student needs or interests. The class may be retaken if the topics vary.

PLUMBING (PLMB)

PLMB 1100 **3 cr.**
Code
Covers the Minnesota Plumbing Code, as it relates to the principals, materials, traps, and fixtures in the Plumbing Trade.

PLMB 1106 **3 cr.**
Plumbing Installation
Teaches the installation and repair of fixtures, faucets, and various valves used in the plumbing trade. Also covered will be the manufacturers installation recommendations, uniform plumbing code, and good housekeeping practices.

PLMB 1110 3 cr.
Introduction to Plumbing
This course is specifically introducing students to the tools and equipment of the trade. It focuses on the skills needed to enter the plumbing trade, the necessity of safety in the workplace and methods described in the Minnesota Plumbing Code.

PLMB 1115 3 cr.
Plumbing Welding
Teaches basic arc and gas welding. The proper safety and usage of the equipment of welding.

PLMB 1120 3 cr.
Plumbing Piping Water
Familiarizes students with the types of water piping, the fittings, and the proper installation procedures. They will develop skills in joining and supporting various piping according to the Minnesota Plumbing Code.

PLMB 1125 2 cr.
Plumbing Piping Fuels/Air
Teaches the various techniques of piping gas and air, the materials necessary, and the safety requirements.

PLMB 1130 2 cr.
Blueprint Reading and Estimating
Provides the student a good background in blueprint reading, drawing techniques, materials usage, specifications and the necessity of good estimating skills.

PLMB 1135 2 cr.
Sewage Disposal and Survey
Provides the student with the methods of calculating sewage disposal systems from the Minnesota Pollution Control and the University of Minnesota Extension methods. The student will run percolation tests and install an individual sewage typical.

PLMB 1140 3 cr.
Plumbing Pipefitting
Trains the student in the applications and safety of installing piping for various applications. The student will complete a typical pipefitting project and draw isometrically the proper layout.

PLMB 1145 3 cr.
Plastic Installation
Develops the students ability to install plastic piping for the Plumbing industry. The student will install, draw isometrically, and price materials used in the typical installation.

PLMB 1150 2 cr.
Water Treatment Methods/Codes
Directs the student toward the problems of water and the recommended methods of treatment. The student will calculate the size of many treatment devices and gain an understanding of proper use, servicing and installing of the equipment.

PLMB 1155 2 cr.
CAD/Estimating
Allows the student to work on various computer aided drafting programs. The student will gain the skills to compete in the residential estimating/CAD marketplace with the knowledge of plumbing.

PLMB 1165 2 cr.
Trade House Plumbing
Allows the student to actually install a system in a building and be involved in actual construction from the ground up to completion of a plumbing system. The student will estimate the materials and isometrically draw the waste and water systems.

PLMB 1170 3 cr.
Sheetmetal Technology
Focuses on proper and safe installations. The course will require the student to size, design, build, and install air duct. The course will require the student to troubleshoot problems of air and correct them. The ventilation requirements will be calculated into the system.

PLMB 1175 2 cr.
Special Problems
Addresses actual plumbing problems and afford the student the opportunity to repair, alter, replace or service existing plumbing systems.

PRACTICAL NURSING (PRNU ALSO SEE NURSING)

PRNU 2235 1-3 cr.
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 cr.
IV Skills for Practical Nurses
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.

POLITICAL SCIENCE (PSCI)

PSCI 1101 (Meets Goal Area: 5, 8) 3 cr.
Introduction to Political Science
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 evidence of college level reading ability through assessment test or prior college coursework.

PSCI 1201 (Meets Goal Area: 5, 9) 3 cr.
American Government and Politics
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 evidence of college level reading ability through assessment test or prior college coursework.

PSCI 2202 (Meets Goal Area: 5, 9) 3 cr.
State and Local Government
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 evidence of college level reading ability through assessment test or prior college coursework.

PSCI 2210 (Meets Goal Area: 5, 10) 3 cr.
Environmental Politics
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 evidence of college level reading ability through assessment test or prior college coursework.

PSCI 2235 1-3 cr.
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 evidence of college level reading ability through assessment test or prior college coursework.

PSCI 2280 2-4 cr.
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.

PSYCHOLOGY (PSYC)

PSYC 1101 (Meets Goal Area: 5, 7)

4 cr.

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. Emphasis is given to biological, ability, age, gender, personality, and ethnic diversity. This course is a prerequisite for all other psychology courses. Required course for many degree programs. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

PSYC 1111

3 cr.

Psychology of Adjustment

Uses a largely cognitive-behavioral approach to achieving personal growth and effectively managing common problems of daily living. Issues studied include managing stress, love and relationships, sexuality, loneliness and solitude, death and loss, esteem, and life goals. Prerequisite: PSYC 1101 or consent of instructor.

PSYC 1140

3 cr.

Child and Adolescent Psychology

Studies the physical, cognitive and psychosocial development of individuals from conception through adolescence, and effective means of fostering positive development in these areas. Prerequisite: PSYC 1101 or consent of instructor.

PSYC 1141

2 cr.

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 (Meets Goal Area: 5, 7)

3 cr.

Developmental Psychology

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 will be included. How research contributes to the understanding of development and the application of research findings will be considered. Should not be taken for credit if one has taken Child and Adolescent Psychology 1140. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

PSYC 2210

3 cr.

Basic Counseling Skills

Provides students with an overview of various counseling theories including Adler and Individual Psychology; Jung and Jungian Analytical Psychology; Rogers and Person-Centered Counseling; Beck and Cognitive Theory; Behavior Therapy and Cognitive-Behavior Therapy; and Existential and Gestalt Therapy. This course also focuses on learning the basic micro-skills of counseling including attending and active listening; questioning; observation; influencing skills; and specific skills critical to multi-cultural counseling. Students videotape counseling sessions in a lab setting. Prerequisite: PSYC 1101 or consent of instructor.

PSYC 2221

3 cr.

Abnormal Psychology

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 cr.

Addictive Behaviors

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 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 cr.

Behavior Modification

Introduces the principles of behavior modification and the application of these principles to the modification of maladaptive behavior. Students learn specific skills to modify behavior including observing, recording and graphing behavior and measuring change; reinforcement; extinction; punishment; stimulus control; shaping; chaining; prompting; fading; and functional assessment. Prerequisite: PSYC 1101 or consent of instructor. This course can substitute for HSER 1132. HSER 1132 cannot substitute for this course.

PSYC 2235

1-3 cr.

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 2280

2-4 cr.

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 cr.

Introduction to Radiography & Patient Care

Designed to provide the basic concepts of patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures will be described, as well as infection control procedures utilizing standard precautions. Legal and ethical concerns related to radiologic technology professionals and information confidentiality as it relates to medical records and other forms of health information will be presented. The role of the radiographer in patient education will also be identified.

RADT 1110

4 cr.

Radiological Procedures I

Provides the student with the knowledge necessary to perform radiographic procedures relative to the thoracic and abdominal organs (including GI studies), upper/lower extremities 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 cr.

Radiological Procedures II

Provides the student with the knowledge necessary to perform radiographic procedures 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 cr.

Radiological Exposures I

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 & MATH 1111.

RADT 1140 **3 cr.**
Radiological Exposures II
Provides the student with the knowledge to process and evaluate radiographic images. 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 will be reflected. Prerequisite: RADT 1130 & PHYS 1201 or PHYS 1100.

RADT 1150 **6 cr.**
Clinical Radiography I
Content and clinical practice experiences shall be designed for sequential development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. Through structural, sequential, competency-based assignments in the clinical setting, concepts of team practice, patient centered clinical practice and professional development shall be discussed, examined and evaluated. Clinical practice experiences shall be designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement shall ensure the well-being of the patient before, during and after the radiologic procedure. The emphasis of this clinical rotation will be on radiographic positioning and manipulation of radiographic equipment and accessories, related to radiography of the thoracic and abdominal viscera, upper and lower extremity, shoulder girdle, pelvis, upper GI, lower GI, and biliary system. Prerequisite: RADT 1100.

RADT 1160 **6 cr.**
Clinical Radiography II
Content and clinical practice experiences shall be designed for sequential development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. Through structural, sequential, competency-based assignments in clinical setting, concepts of team practice, patient centered clinical practice and professional development shall be discussed, examined and evaluated. Clinical practice experiences shall be designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement shall ensure the well-being of the patient preparatory to, during and following the radiologic procedure. This clinical course emphasizes the basic radiographic procedures and positioning related to the digestive system, urinary system, the bony thorax, and the vertebral column. The student also is to continue to acquire and build skills in performing radiographic procedures and positioning related to the thoracic and abdominal cavities, and the upper and lower extremities including the shoulder girdle and the pelvis. The student is introduced to skull radiography and portable and trauma radiographic procedures and radiographic exposure factors. Prerequisite: RADT 1150.

RADT 2210 **3 cr.**
Radiological Procedures III
Provides the student with the knowledge necessary to perform radiographic procedures relative to traumatic injury, surgical and portable radiography. In addition the student will be introduced to the highly specialized studies of the central nervous system, cardiovascular system and cross-sectional imaging. Special imaging equipment, physical settings and techniques used in these highly specialized studies will also be included. Prerequisite: RADT 1120.

RADT 2220 **3 cr.**
Radiological Equipment
Provides the student with a knowledge of basic radiographic equipment. Topics include units of measurement, general principles, structure of matter, structure of the atom, nature of radiation, electricity, and electromagnetism. This course is designed to establish a knowledge base in radiographic, fluoroscopic, mobile, and tomographic equipment requirements and design including circuitry of the x-ray machine. The content will also provide a basic knowledge of quality control. Computer applications in the radiologic sciences related to image capture, display, storage and distribution are presented as well. Prerequisite: RADT 1140 & PHYS 1201 or PHYS 1100.

RADT 2230 **2 cr.**
Radiological Pathology
Designed to introduce theories of disease causation and the pathophysiologic disorders that compromise health systems. Etiology, pathophysiologic responses, clinical manifestations, radiographic appearance and management of alterations in body systems will be presented. Prerequisites: RADT 1140 & BIOL 2202.

RADT 2240 **3 cr.**
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 **6 cr.**
Clinical Radiography III
Content and clinical practice experiences shall be designed for sequential development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. Through structural, sequential, competency-based assignments in clinical setting, concepts of team practice, patient centered clinical practice and professional development shall be discussed, examined and evaluated. Clinical practice experiences shall be designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement shall ensure the well-being of the patient preparatory to, during and following the radiologic procedure. This clinical course emphasizes the basic radiographic procedures and positioning related to the skull, facial bones, paranasal sinuses, and detailed areas of the skull. The clinical experience provides for an introduction to surgery, evening clinical hours, and working independently. Prerequisite: RADT 1160.

RADT 2260 **7 cr.**
Clinical Radiography IV
Content and clinical practice experiences shall be designed for sequential development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. Through structural, sequential, competency-based assignments in clinical setting, concepts of team practice, patient centered clinical practice and professional development shall be discussed, examined and evaluated. Clinical practice experiences shall be designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement shall ensure the well-being of the patient preparatory to, during and following the radiologic procedure. This clinical course provides the student with the opportunity to function more independently in all areas of basic radiography, and to develop clinical skills in regular radiographic areas and procedures, with continuing experience in trauma and surgical procedures. The student will be exposed to special procedures and will begin rotations through the specialized areas of nuclear medicine, radiation therapy, computerized topography, ultrasound, and magnetic resonance imaging. Prerequisite: RADT 2250.

RADT 2270 **6 cr.**
Clinical Radiography V
Content and clinical practice experiences shall be designed for sequential development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. Through structural, sequential, competency-based assignments in clinical setting, concepts of team practice, patient centered clinical practice and professional development shall be discussed, examined and evaluated. Clinical practice experiences shall be designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement shall ensure the well-being of the patient preparatory to, during and following the radiologic procedure. This clinical course emphasizes the development of independence, discretion, and judgment while performing basic radiographic procedures. It provides the student with the opportunity to function as a nearly registry eligible radiographer. The student is expected to correlate all clinical and didactic experiences while demonstrating a high degree of proficiency and efficiency. Prerequisite: RADT 2260.

RADT 2280 **2 cr.**
Board Review
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.

BIOFUEL TECHNOLOGY (RNEW)

RNEW 1100 Process Dynamics 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.	3 cr.
RNEW 1101 Ethanol Process Fundamentals 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.	2 cr.
RNEW 1102 Biodiesel Process Fundamentals 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.	2 cr.
RNEW 1103 Biodiesel Fundamentals Lab Designed to offer students hands-on opportunities to investigate the bench-level synthesis of biodiesel. Students will investigate production at the bench level by varying process parameters and feedstocks. Students will also conduct some initial analysis on the fuels produced in the laboratory. Concurrent enrollment with RNEW 1102.	1 cr.
RNEW 1105 Introduction to OSHA Examines questions such as: What is OSHA? Why is it important in an operating plant environment? What safety practices should you implement in a plant operating environment and how to avoid unsafe situations?	1 cr.
RNEW 1110 Low & High Pressure Boiler Systems 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.	1 cr.
RNEW 1115 Mechanical Fundamentals 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.	3 cr.
RNEW 1120 Mechanical Fundamentals Lab Provides hands-on exposure to pumps, valves, compressors, and heat exchangers. It will explain the proper procedure on how to start, operate and shut down pumps. Troubleshooting common operating problems of centrifugal pumps will be discussed. Functions & characteristics of reboilers, cooling towers, and condensers will be covered in detail. This lab course, geared toward on-campus students, will fulfill one of the technical elective credits for the Renewable Energy Technology Program.	1 cr.
RNEW 1125 P & ID & PFD Reading 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.	1 cr.

RNEW 1130 Pollution Control Fundamentals 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.	2 cr.
RNEW 1140 Process Plant Chemistry Designed to overview the relationship of science, technology and management areas in regard to agricultural processing plant operations. The course has a strong emphasis on the product, operational, and business aspects of agricultural processing plants. Prerequisite: CHEM 1150.	2 cr.
RNEW 1145 Renewable Energy Seminar Consists of a seminar series with invited speakers from the agricultural processing industry. Topics will include such things as the future of agricultural processing, new products on the horizon, the role of genetic engineering in agricultural processing, the economics of a processing plant, and supervisory skills important to those in the Ag Processing industry.	1 cr.
RNEW 1155 Process Optimization/Troubleshooting Designed to pull together all the concepts explored in the previous three semesters and apply them in real-life case studies. Participation in class will be critical. The concept that decisions made by the process operator have immediate impacts on the bottom-line of a company will be an important theme running through this course. Emphasis will be placed on report generating and interpreting using real-life examples. Prerequisite: RNEW 1135.	2 cr.
RNEW 1160 Instrumentation & Control 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.	3 cr.
RNEW 1165 Company Internship Designed to give practical experience with a local or regional firm. The company selects intern candidates. Rate of pay will be determined by company. Prerequisite: Successful (2.8 grade point average or better) completion of 12 semester credits of the Renewable Energy Program and consent of internship coordinator.	4 cr.
RNEW 1170 Microbial Ecology Introduces students to structure, classification, and ecology of microorganisms, especially as it relates to an industrial processing plant. Prerequisite: BIOL 1110.	2 cr.
RNEW 1171 Microbial Ecology Lab Designed to run concurrently with RNEW 1170. This course will offer practical experience in microbiological laboratory practices and techniques as well as study the enzymes supporting microbial ecology in ethanol processing facilities. Prerequisite: BIOL 1110.	1 cr.
RNEW 1175 Industrial Water Treatment 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.	2 cr.
RNEW 1185 Ethanol Process Fundamentals Lab Provides hands-on exposure to the rational and overall fundamental process of ethanol production. A Process Flow Diagram (PFD) of a typical dry mill ethanol plant will be used to examine the sequence of operation, including	1 cr.

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. This lab course, geared toward on-campus students, will fulfill one of the technical elective credits for the Renewable Energy Technology Program.

RNEW 1195 2 cr.

Biodiesel Technologies and Regulatory Issues

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 cr.

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 2105 1 cr.

Process Dynamics Lab

Provides hands-on exposure to 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. This lab course, geared toward on-campus students, will fulfill one of the technical elective credits for the Renewable Energy Technology Program.

RNEW 2120 2 cr.

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 2121 2 cr.

Distillation and Evaporation Lab

Designed to investigate bench-level distillation terminology and practices in the laboratory. Students will become familiar with typical distillation assemblies and equipment in both the batch and continuous processing systems. Mathematical skills will be used to calculate the mass balance of system inputs and product recovery.

RNEW 2165 1 cr.

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.

RNEW 2235 1-4 cr.

Special Topics in Renewable Energy Technology

Covers a wide range of current subjects in the field of renewable energy. Topics will be chosen to meet the needs of students. The class may be retaken.

ROBOTICS (ROBT)

ROBT 1000 2 cr.

Intro to Pneumatics

Provides an overview of basic pneumatics, pneumatic FRL's, pneumatic valves, pneumatic actuators, and vacuum devices.

ROBT 1020 2 cr.

Basic Electromechanical Controls

Develops skills in designing, wiring, troubleshooting, and operation of electrical control circuits.

ROBT 1040 3 cr.

Intro to Programmable Logic Controllers (PLC's)

Provides an understanding of and the ability to use solid state programmable logic controllers and circuits to control and power all phases of industrial automation.

ROBT 1070 2 cr.

Statistical Process Control for Automation Technicians

Covers the basics of Statistical Process Control.

ROBT 1100 3 cr.

Fluid Power Fundamentals Lab I

Covers basic equipment, hydraulic concepts, fluid power formulas and applications. Supervised hands-on lab time.

ROBT 1107 3 cr.

Electrical Theory I/Lab

Provides students with an understanding and application of basic electricity and resistive circuits. DC voltage sources, electrical law, and theorems involving resistive type circuits will be covered in lecture and applied in laboratory. It provides students with hands-on training. Resistors with capacitors, inductors, transformers, AC/DC source, and bench test equipment will be connected to allow students to test and troubleshoot various series and parallel circuits. Electrical Theory I is a foundation course for all students enrolled in the Robotics program.

ROBT 1115 3 cr.

Fluid Power Hyd/Pneu Circuits Lab

Provides an overview of hydraulic pumps, continuous rotation motors, limited rotation motors, cylinders, pneumatic FRLs, pneumatic valves, pneumatic actuators and vacuum devices.

ROBT 1122 2 cr.

Electrical Theory II

Covers power supplies, transformers, 3 phase power and 3 phase motors. It will also include the design of 3 phase motor starter circuits.

ROBT 1130 2 cr.

Robotics Drafting

Covers fundamentals of industrial drawing. All drawings will be done on the computer using CAD software.

ROBT 1135 2 cr.

Electromechanical Systems

Develops skills in designing, wiring, troubleshooting, and operation of electrical control circuits.

ROBT 2100 3 cr.

Robotic Theory (PLC's Motors)

Teaches students how to program and hardwire various programmable logic controllers. Students will gain hands-on experience with PLCs.

ROBT 2105 5 cr.

Robotic Lab(PLC's/Motors)

Provides students with an understanding of and the ability to use solid state programmable logic controllers and circuits to control and power all phases of industrial automation.

ROBT 2111 3 cr.

Electric Motors/Sensors

Covers electric motors and sensors used in automated systems.

ROBT 2120 Machine Automation Theory Provides students with an understanding of the function, operation, and application of common industrial automation components.	3 cr.
ROBT 2125 Machine Automation Lab Provides supervised hands-on experience in the designing and implementing of automatic components.	5 cr.
ROBT 2135 Robotic Workcell Development Provides students with an understanding of and the ability to use industrial robots in automated manufacturing plants.	2 cr.

FOR ADDITIONAL COURSE DESCRIPTIONS ON SMALL BUSINESS MANAGEMENT COURSES (SBMT) GO TO: WWW.MGT.ORG.

SBMT 1310 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.	1
SBMT 1315 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.	3
SBMT 1320 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.	1
SBMT 1325 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.	2
SBMT 1330 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.	1
SBMT 1335 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.	1
SBMT 1340 Time Management 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.	1

SBMT 1345 Financies for the Non-Financial Manager 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.	3
SBMT 1400 Employment 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	2
SBMT 1405 Customer Service 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.	2
SBMT 1410 Personal Supervision Introduces the student to the various components of personnel supervision, which are unique to the healthcare industry.	4
SBMT 1415 Leadership Introduces the student to the various components of leadership, which are unique to the healthcare industry.	4
SBMT 1420 Corporate Compliance 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.	2
SBMT 1425 Finance for Healthcare Assists the student to become better acquainted with terms and definitions used in finance for Healthcare Facilities.	3
SBMT 1430 Healthcare Industry Trends Assists the student to become better acquainted with changing technology and new programs and services in healthcare.	1
SBMT 1435 Marketing in Healthcare Assists the student to become better acquainted with the changing technology and new programs and services in healthcare.	1

SOCIOLOGY (SOC)

SOC 1101 (Meets Goal Area: 5) Introduction to Sociology Introduces the student to basic sociological concepts. Topics include: sociological theory, research, culture, socialization, groups, social stratification, social class, gender, race, and family. Prerequisite: STSK 0090 or evidence of college level reading ability through assessment test or prior college coursework.	3 cr.
SOC 1102 (Meets Goal Area: 7) Social Problems Examines sociological approaches to major contemporary problems. Offers students the opportunity to examine: societal impact, process of identification, analysis of causes and exploration of potential solutions.	3 cr.

Topics include: crime, social stratification, and domestic policy issues.
Prerequisite: SOC 1101 or consent of instructor.

SOC 2210 (Meets Goal Area: 5, 7) **3 cr.**
Marriage and the Family
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 evidence of college level reading ability through assessment test or prior college coursework.

SOC 2220 (Meets Goal Area: 5) **3 cr.**
Family Life Dynamics
Examines the family, analyzes the dynamics occurring within it, and applies sociological theory to the study of the family. The family will be analyzed using systems, conflict, developmental, structural functional, symbolic interaction and the social exchange theories. Students learn how family life affects individuals by studying family characteristics, roles played, the impact of violence, abuse and addictive behaviors, and the development of healthy family systems. Evaluation is based in part on an individual analysis of either the student's family of origin or family of procreation. Prerequisite: STSK 0095 or evidence of college level reading ability through assessment test or prior college coursework.

SOC 2224 (Meets Goal Area: 7) **3 cr.**
Racial and Ethnic Minorities
Examines the relationship of racial and ethnic minorities to dominant American society. Emphasis will be placed on the African American, American Indian, Hispanic, and Asian cultures. Topics include: prejudice, discrimination, institutionalized racism, ethnocentrism, and segregation. Issues concerning persons with disabilities will also be addressed. Prerequisite: SOC 1101 or consent of instructor.

SOC 2230 **3 cr.**
Juvenile Delinquency
Examines the nature of juvenile crime in America, delinquent behavior, crime statistics and types of crime, crime causation, the process of criminal justice, and prisons and corrections. Prerequisite: SOC 1101.

SOC 2235 **1-3 cr.**
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.

SPANISH (SPAN)

SPAN 1101 (Meets Goal Area: 8) **4 cr.**
Spanish I
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 evidence of college level reading ability through assessment test or prior college coursework.

SPAN 1102 (Meets Goal Area: 8) **4 cr.**
Spanish II
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 cr.**
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 (Meets Goal Area: 8) **4 cr.**
Spanish III
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 (Meets Goal Area: 8) **4 cr.**
Spanish IV
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 cr.**
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.

SPEECH (SPCH)

SPCH 1101 (Meets Goal Area: 1) **3 cr.**
Introduction to Speech
Focuses on elementary speech training aimed at public speaking, extemporaneous speaking, and impromptu speaking. Course emphasizes delivery techniques, audience analysis, research, organization, clearness of statement, and logical thinking.

SPCH 2210 (Meets Goal Area: 6) **3 cr.**
Oral Interpretation
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 for performance. This is an oral reading course.

STUDY SKILLS (STSK)

STSK 0090 **2 cr.**
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 cr.**
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 cr.**
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 cr.**
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 **Increasing College Vocabulary** **2 cr.**
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 **Efficient Reading** **2 cr.**
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 **Freshman Seminar** **1 cr.**
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.

SURGICAL TECHNOLOGY (SURG)

SURG 1100 **Biomedical Science** **1 cr.**
Enables students to gain an understanding of the principles of electricity, physics, LASERS, endoscopy and a variety of other machines used in surgery.

SURG 1110 **Surgical Microbiology** **2 cr.**
Enables students to recognize how they can prevent the spread of disease and promote wound healing. Students 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. Students will study the wound healing process and classifications in conjunction with the body's defenses against disease.

SURG 1120 **Surgical Pharmacology** **2 cr.**
Enables students to assist in the preparation of drugs used in the operating room. Students 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. Students 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.

SURG 1130 **Operating Room Theory** **3 cr.**
Enables 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. Emphasis will be placed on the principles of aseptic technique.

SURG 1140 **Operating Room Practices** **4 cr.**
Facilitates students in the development of fundamental operating room skills, 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 surgical technologist. The students will observe, practice and demonstrate these skills in a lab setting. This course must be taken immediately proceeding O.R. Clinical Lab I. Prerequisites: SURG 1110, SURG 1120, SURG 1130.

SURG 1150 **Operating Room Procedures** **7 cr.**
Enables students to understand various types of surgical procedures. Students will accomplish this by studying surgical anatomy, abnormalities and the preoperative, intraoperative and postoperative processes as they relate to each type of surgery. Students will relate the knowledge learned in previous theory courses to specific surgical procedures. The types of cases to be studied will include laparotomies, laparoscopy and surgeries performed on the reproductive, urinary, digestive, skeletal, muscular, endocrine, sensory, respiratory, nervous system organs, Oral/Maxillofacial and Plastic/Reconstructive. Prerequisites: SURG 1110, SURG 1120, SURG 1130.

SURG 1160 **Clinical I** **2 cr.**
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 and SURG 1130.

SURG 1170 **Clinical II** **6 cr.**
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. Prerequisite: SURG 1160.

SURG 1180 **Clinical III** **5 cr.**
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. Prerequisite: SURG 1160 & SURG 1170.

SURG 1190 **Clinical IV** **4 cr.**
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 1160 & SURG 1170.

THEATER (THTR)

THTR 1101 (Meets Goal Area: 6) **3 cr.**
Introduction to Theater
Introduces theater as an art form, discusses text analysis and examines elements of dramatic construction. This 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 evidence of college level reading ability through assessment test or prior college coursework.

THTR 1102 (Meets Goal Area: 6) **3 cr.**
Acting Basics
Emphasizes voice, body and concentration along with attention to character analysis and development.

THTR 1104 (Meets Goal Area: 6) **3 cr.**
Survey of Musical Theatre
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 evidence of college level reading ability through assessment test or prior college coursework.

THTR 1105 (Meets Goal Area: 6) **1-3 cr.**
Theater Production
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 (Meets Goal Area: 6) **1-3 cr.**
Theater Production
 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 (Meets Goal Area: 6) **1-3 cr.**
Theater Production
 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 (Meets Goal Area: 6) **1-3 cr.**
Theater Production
 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 (Meets Goal Area: 6) **3 cr.**
Introduction to Film
 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. Prerequisite: ENGL 1102, 1105, 2201, 2243, 2276 or consent of instructor.

THTR 2235 (Meets Goal Area: 6) **1-3 cr.**
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.

COLLISION REPAIR (TRAB)

TRAB 1101 **4 cr.**
Autobody Repair Overview
 Teaches the basic techniques for oxy-acetylene welding, wire feed welding, sheet metal repair, working with plastic fillers, as well as a vehicle's body construction, part alignment, and component operation.

TRAB 1102 **4 cr.**
Autobody Refinishing Overview
 Teaches the basic techniques of sanding and general preparation for complete refinishing of a vehicle. Included will be feather edging, masking, priming, and paint-gun handling techniques.

TRAB 1200 **4 cr.**
Auto Body Welding
 Covers safety, setup of oxyacetylene and mig welding equipment. It covers different welds, positions and materials. Also covered are plastic welders, materials and techniques. Plasma arc cutting and oxyacetylene cutting methods are also covered.

TRAB 1206 **3 cr.**
Plastic Filler & Adhesives
 Covers the safe use of body fillers, repairs, sectioning, or replacement of fiberglass parts. It teaches students how to identify and correctly repair interior and exterior automotive pieces. Students will be taught how to use the new adhesives for attaching panels.

TRAB 1210 **3 cr.**
Collision Repair Metal Technology
 Covers sheet metal repair, corrosion protection and rust repair. Tools used in collision repair and vehicle nomenclature will also be covered.

TRAB 1215 **5 cr.**
Auto Body Specialty Lab I
 Provides work in a lab setting performing goals and objectives learned in prior courses.

TRAB 1220 **6 cr.**
Introduction to Refinishing
 Covers undercoats and topcoats used today. It covers preparation procedures for refinishing; covers 2 tone paint jobs, pinstriping, and some custom finishes. Intro to color is also covered.

TRAB 1225 **3 cr.**
Assorted Collision Technology
 Covers glass--both stationary and movable. Covers the removal and replacement of different types of glass. Covers auto reconditioning, paint guns and air supply systems.

TRAB 1232 **5 cr.**
Auto Body Specialty Lab II
 Covers goals and objectives learned in prior courses, but in a lab setting.

TRAB 1235 **1 cr.**
General Night Lab
 Work on various projects in a lab situation. They will utilize knowledge gained in previous courses.

TRAB 1240 **1 cr.**
Intro to Auto Body Restoration
 Covers basic shop safety, hand tools, power tools and environmental rules and regulations.

TRAB 2001 **2 cr.**
General Night Lab
 Work on various projects in a lab situation. They will utilize knowledge gained in previous courses.

TRAB 2100 **3 cr.**
Color Matching & Blending/Spot Repairs
 Teaches students the identification, color mismatch correction, and blending of single-stage, basecoat-clearcoats, and tri-coats found on today's vehicles.

TRAB 2105 **4 cr.**
Repair/Replacement of Unibody and Frame Components
 Teaches the safe and proper alignment, repair, or replacement procedures for unibody and conventional frame parts, components, body shells, and sections.

TRAB 2111 **5 cr.**
Auto Body Mechanical Repairs
 Teaches procedures for the replacement of damaged mechanical components as well as four wheel suspension alignment and how it relates to the total repair of a damaged vehicle.

TRAB 2112 **2 cr.**
Auto Body Electrical and Advanced System Repairs
 Teaches procedures for the diagnosis, repair, and replacement of automotive electrical components well as a variety of advanced mechanical, electrical and safety system repairs.

TRAB 2115 **2 cr.**
Estimating Repairs
 Teaches the analysis, identification, and calculation of vehicle damage in hand written form utilizing collision estimating manuals. There will also be an introduction to computer generated estimates.

TRAB 2120 **1 cr.**
Body Shop Management
 Covers a variety of shop management procedures including job costing, time management, repair orders, payroll employee/employer relations, customer relations, and communication skills.

TRAB 2130 **4 cr.**
Custom Paint Layout & Application
 Teaches the designing of new paint schemes as well as the repair of damaged custom painted vehicles.

TRAB 2150 **2 cr.**
Specialty Lab II
 Work on various projects in a lab situation. They will utilize knowledge gained in previous courses.

TRAB 2155 **3 cr.**
Specialty Lab III
 Work on various projects in a lab situation. They will utilize knowledge gained in previous courses.

TRAB 2160 **Auto Body Specialty Lab IV** **5-6 cr.**
 Work on various projects in a lab situation. They will utilize knowledge gained in previous courses.

TRAB 2165 **Introduction to Special Interest Vehicles** **4 cr.**
 Introduces the construction of specialty vehicles.

TRAB 2170 **Specialty Lab VI** **6 cr.**
 Work on various projects in a lab situation. They will utilize knowledge gained in previous courses.

TRAB 2210 **Auto Body Metal Fabrication** **6 cr.**
 Covers the theory and techniques involved in the fabrication of needed body parts that can be made from steel or aluminum, which may not be readily available from outside sources.

TRAB 2215 **Modified Vehicle Construction I** **4-6 cr.**
 Covers the modifications that can be performed on a vehicle's body, frame, suspension, and drivetrain beyond OEM specifications and appearance.

TRAB 2220 **Specialty Vehicle Welding** **2 cr.**
 Covers the different welding techniques involved in joining both light and heavy gauge steel, aluminum, and stainless steel.

TRAB 2225 **Specialty Visual Enhancements** **4 cr.**
 Covers the design, layout, and application of custom vinyl graphics. Basic Powder Coating processes as well as polishing aluminum parts will also be covered. Working closely with the customer to bring to reality their ideas and wishes is also a large part of the studies.

TRAB 2230 **Modified Vehicle Construction II** **4-5 cr.**
 Continues Modified Vehicle Construction and will also cover the utilization and installation of various aftermarket add-on body accessories.

TRAB 2235 **Basic Auto Upholstery & Trim** **2 cr.**
 Covers basic automotive upholstery and trim design, construction, and installation.

TRAB 2236 **Industry Collaboration** **1 cr.**
 Consists of the actual observation and interaction with various industries, personnel and facilities that provide the student with an understanding of how diverse their industry really is.

TRAB 2237 **Industry Interaction** **1 cr.**
 Consists of the actual observation and interaction with various industries, personnel and facilities that provide the student with an understanding of how diverse their industry really is.

TRUCK DRIVER (TRDR)

TRDR 1100 **Basic Vehicle Operation and Control Systems** **3 cr.**
 Introduces students to the world of transportation. Students will become knowledgeable of vehicle control systems and proficient in the basic operations of trip inspections, coupling and uncoupling trailers, starting, stopping, turning, backing, and docking techniques. Students will learn to exercise basic control of the vehicles.

TRDR 1110 **Safe Operation Fundamentals** **3 cr.**
 Concentrates on performing visual checks to the rear and side while driving. Students will learn the effect that vehicle weight, center of gravity, potential loss of stability, available sight distance, and surface road conditions have on maximum operating speed. Students will learn to handle and document cargo.

TRDR 1126 **Managing Personal Resources** **1 cr.**
 Teaches strategies for dealing with fatigue and stress. They will learn the benefits of good diet, exercise, and sleep. They will also be taught about the pay process and the importance of a personal budget. Students will also learn to adhere to the requirements of the Federal Motor Carrier Safety regulations Part 395 "Hours of Service Regulations" and complete a Driver's Log and log recap.

TRDR 1130 **Vehicle Maintenance** **1 cr.**
 Teaches the importance of periodic inspections and repair. Students will learn the inspection, repair, and maintenance regulations of the Federal Motor Carrier Safety Regulations.

TRDR 2297 **Advanced Operating Procedures Internship** **8 cr.**
 Experience more "real world" driving scenarios. Extended road trips give students experience in over-the-road driving. Corequisites: TRDR 1100, TRDR 1110, TRDR 1126, TRDR 1130.

POWER SPORTS (TRPS)

TRDR 1100 **Basic Vehicle Operation and Control Systems** **3 cr.**
 Introduces students to the world of transportation. Students will become knowledgeable of vehicle control systems and proficient in the basic operations of trip inspections, coupling and uncoupling trailers, starting, stopping, turning, backing, and docking techniques. Students will learn to exercise basic control of the vehicles.

TRDR 1110 **Safe Operation Fundamentals** **3 cr.**
 Concentrates on performing visual checks to the rear and side while driving. Students will learn the effect vehicle weight, center of gravity, potential loss of stability, available sight distance, and surface road conditions have on maximum operating speed. They will learn to handle and document cargo.

TRDR 1126 **Managing Personal Resources** **1 cr.**
 Teaches strategies for dealing with fatigue and stress. They will learn the benefits of good diet, exercise, and sleep. They will also be taught about the pay process and the importance of a personal budget. Students will also learn to adhere to the requirements of the Federal Motor Carrier Safety regulations Part 395 "Hours of Service Regulations" and complete a Driver's Log and log recap.

TRDR 1130 **Vehicle Maintenance** **1 cr.**
 Teaches the importance of periodic inspections and repair. Students will learn the inspection, repair, and maintenance regulations of the Federal Motor Carrier Safety Regulations.

TRDR 2297 **Advanced Operating Procedures Internship** **8 cr.**
 Experience more "real world" driving scenarios. Extended road trips give students experience in over-the-road driving. Corequisites: TRDR 1100, TRDR 1110, TRDR 1126, TRDR 1130.

TRPS 1100 **Engine Technology** **4 cr.**
 Introduces the student to the design, construction, and operating principles of two and four cycle engines, including servicing, tune-up, trouble-shooting and repair.

TRPS 1105 **Fuel Systems I** **3 cr.**
 Teaches operating principles of carburetor systems, including troubleshooting, service and repair.

TRPS 1110 **Fuel Systems II** **3 cr.**
 Covers operating principles of fuel injection systems, including troubleshooting, service and repair.

TRPS 1112 **Electrical Systems** **3 cr.**
Provides instruction on vehicle electrical systems, including starting and charging, troubleshooting, service and repair.

TRPS 1115 **Power Train** **3 cr.**
Teaches operating principles of vehicle power trains, including troubleshooting, service and repair.

TRPS 1120 **Shop Operations** **2 cr.**
Study and use service manuals, technical information, tools and measuring devices, vehicle setup and pre-delivery, shop safety.

TRPS 1125 **Onboard Computers** **3 cr.**
Covers the operating principles of onboard computer systems, sensors and controls, including diagnosing, service and repair.

TRPS 1130 **Ignition Systems** **3 cr.**
Teaches the design and operating principles of ignition systems, including diagnosing, service and repair.

TRPS 1135 **Brakes** **2 cr.**
Covers the operating principles of brake systems, including diagnosing, service and repair.

TRPS 1140 **Business Operations** **1 cr.**
Study daily business operations including relationships with the customer, the manager and fellow employees.

TRPS 1145 **Steering and Suspension** **3 cr.**
Teaches the principles of steering and suspension, including troubleshooting, service and repair.

TRPS 1150 **Special Topics** **1-3 cr.**
Explores specific areas of power sports to meet specialized student needs or interests. This class may be retaken if the topics vary.

ADMISSIONS INFORMATION

Minnesota West Community and 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 which would qualify for the high school equivalency certificate, you are eligible for admission. If you do not have a high school diploma or General Education Development Certificate, 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, and college transcripts must be submitted to the campus Admissions Office. Departments may have additional requirements for admission to their programs. Admissions will also assist with the application for admissions, information for prospective students, and tours of the campus.

The campus Registration Office provides services pertaining to reciprocity forms, international students, high school enrollments, applications for programs, and transcripts received from previous institutions.

Students may apply to programs which lead to:

- Certificate
- Diploma
- Associate in 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 sent directly to the campus Registration Office. Students should submit an unofficial copy of their transcript to use in meetings with counselors, advisors, or instructors.

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 register for the ninth credit. The application fee is waived for overseas, active duty military service personnel.

To Apply to the College

To apply, you must complete the Minnesota State Colleges and Universities Universal Application form. This form can be obtained by contacting the Minnesota West Central Information Center at 1-800-658-2330, any Minnesota West campus, your local high school counselor, or you may apply online at www.mnwest.edu.

Admission of Transfer Students

Transfer students must submit the application form, application fee and official transcripts from all institutions previously attended directly to the campus admissions office. Transcripts do not need to be requested from any college that is part of the Minnesota State Colleges and Universities (MnSCU) 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

An international student is defined to be a non-refugee, non-immigrant holding a valid student visa.

International Student Requirements:

- Are expected to possess certain standards of proficiency in the use of the English language and provide evidence of that proficiency to the College.
- Must submit completed application form along with the \$20 non-refundable application fee in U.S. dollars.
- Must submit a record from the school(s) that were attended for the last four years of education.
- Must submit a notarized copy of diploma.
- Must have a TOEFL scores (Test of English as a Foreign Language) or another indicator of English proficiency. TOEFL score must be 500 or above for admission. TOEFL tests may be secured from the American Consulate in the student's country or from the Educational Testing Service, Princeton, New Jersey.
- Must provide the College with the name, address, and phone number of a contact person in the student's home country and in the United States (if possible) for emergency notification.
- Must submit a detailed financial statement giving the following information:
 - How college expenses will be paid.
 - Source of financial assistance. If listing more than one source of assistance, amounts received from each source.
- Must provide the College with a certified statement of financial resources from the student's bank or the U.S. Embassy.

- Must provide a Certified Bank Draft in the amount of five thousand dollars (\$5,000) for deposit in student's account with Minnesota West.

All required materials and information must be submitted to the campus Student Services Office four months prior to anticipated entrance to Minnesota West. Minnesota West does not provide financial aid for International students.

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 is entitled to enroll in a non-credit open enrollment course at Minnesota West on a space available basis (typically the second day of the class) at no charge. A Minnesota resident who is 62 years of age or older is entitled to enroll in a credit bearing course for an administrative fee of \$20.00 per credit plus fees as allowed by MS135A.52. A Minnesota resident who is 62 years of age or older is entitled to audit a credit bearing open enrollment course at Minnesota West 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 Minnesota resident who is 62 years of age or older 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 and Technical College for five (5) or more years must resubmit an application and any transcripts since enrolled at Minnesota West.

Fresh Start Readmission

Any former Minnesota West student who has not attended the College during the previous five years and who had less than a "C" cumulative grade point average of 2.0, or less than 67% completion rate may invoke the "Fresh Start" standards by petitioning the Campus Dean. This petition must be completed during the

student's first semester of return. Any grade below a "C" will be bracketed []. These grades will not apply to academic GPA, but will be used for calculating Satisfactory Academic Progress, financial aid GPA, and completion percentage for financial aid purposes. The student's record will reflect all original courses attempted by the student. The student who re-enters the College under this plan must complete at least 15 additional credits with the letter grades of A, B, C, or D. To be eligible for graduation the student must meet all the requirements of his/her program/major and have at least a 2.0 G.P.A. or above completion rate.

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 a counselor/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.
- New students enrolling for eight or more credits and special students who have accumulated eight or more credits are required to pay the \$20 application fee.

Post-Secondary Enrollment Options (PSEO)

In accordance with Minnesota Statutes section 124D.09 and Minnesota West Policy 3.5, this procedure governs the implementation of the Post-Secondary enrollment Options (PSEO) Program by system colleges and universities.

Admissions Standards

PSEO enrollment shall be available to juniors and seniors enrolled through any Minnesota secondary school, home school, or alternative-learning center, who present evidence of the ability to perform college work. Such evidence includes the following:

1. for juniors, class rank in the upper one-third of their class or a score at or above the 70th percentile on a nationally standardized, norm-referenced test;
2. for seniors, class rank in the upper one-half of their class or a score at or above the 50th percentile on a nationally standardized, norm-referenced test; or
3. for juniors or seniors, documentation other than that specified in Part 2. Subpart A.1. and Subpart A.2. of

this procedure of the student's readiness and ability to perform college-level work as determined by the College or university.

A college or university may set higher standards than those specified in Part 2, Subpart A.1. and Subpart A.2. for all students as needed to ensure student success.

See PSEO Admissions at Minnesota West for more information about the transfer process.

Immunization Policy

Reference: Minnesota Law (MS135A.14)
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 Student Service Office.

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 Internet courses only.

Students may also be exempt for medical or conscience 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.

New students are required to complete an assessment (Accuplacer) of their basic skills to enable better judgments of readiness to function effectively within college level curriculum. Mandatory placement in reading, English and math courses is based on the assessment scores. These assessment scores may dictate that some students will be required to first complete developmental courses before enrolling in college level courses.

Minnesota West has developed guidelines that exempt some students from all or portions of the assessment based on previous education or enrollment status.

Orientation

An orientation session for students is held on each campus and online. It allows the student to get acquainted with the campus and available services. Students will receive information on advising and topics related to registration and academic and student life at Minnesota West. Student orientation/advising sessions are held for new students prior to the beginning of each term. It is strongly recommended that all new students attend an orientation session. Contact the campus for orientation dates and time. Online orientation is available for Online students.

Registration

Time of Entrance

Students may enter Minnesota West Community & Technical College at the start of either Fall or Spring semester or the summer session. 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 counselors or advisors will meet with students to assist in selecting appropriate courses. At the conclusion of this session, registration begins.

All students must be properly registered and all tuition and fees paid, or necessary arrangements made for such payment before attending class. Individuals having delinquent accounts with Minnesota West Community & Technical College will not be allowed to register or be allowed to take advantage of any of the services offered by the College until such accounts are paid.

Schedule Adjustments - Drop/Add

Purpose:

To establish a uniform procedure through which Minnesota West Community & Technical College

students make schedule adjustments each term and to ensure that financial aid guidelines are maintained.

Policy:

Minnesota West Community & Technical College students may drop courses within the first five days of a term without obligation. For purposes of this policy a term is defined at fall semester, fall late start, winter term, spring semester, spring late start, Maymester, summer session I and summer session II. Students must submit a completed Course Drop/Add Withdrawal Form at a campus registration office or drop using the online registration system. Students will be obligated for any classes dropped after the fifth day of a term.

Short Courses:

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 classes without obligation in either case, there is no refund for courses dropped after the next business day. Students who are registered for summer courses which do not start during the first five days of the term will have one business day after the first class meets in which to drop classes without obligation.

Students may withdraw from a course through the 65th day of any given semester or the 20th day of the summer sessions.

State Residency Requirement

Students shall be eligible to pay in-state tuition if they meet the criteria of Minnesota Statute 135A031, Subd. 2. Students may establish domicile in Minnesota before the beginning of any semester. Students have the burden of proving domicile for the purpose of paying in-state tuition.

Procedures:

1. Domicile is the place to which a person intends to return after a temporary absence and is a person's true, fixed and permanent living place. A person may have only one domicile at a time.
2. Students who seek to qualify for in-state tuition must first meet the following threshold requirements:
 - 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.
 - b. Residence in Minnesota must not be merely for the purpose of attending college.

3. Students not meeting the requirements for residency may petition for in-state rate consideration.
 - a. The following additional facts and circumstances will be considered when responding to a petition for in-state tuition. No one of these factors is either necessary or sufficient to support a claim for in-state tuition.
 - i. Continuous presence in Minnesota during the period when not enrolled as a student.
 - ii. Sources for financial support are generated within Minnesota.
 - iii. Domicile in Minnesota of family, guardian, or other relatives or persons legally responsible for the student.
 - iv. Permanent residence in Minnesota.
 - v. Ownership of a home in Minnesota.
 - b. The following circumstances, standing alone shall not constitute sufficient evidence of domicile to afford eligibility for in-state tuition under these regulations, but may be considered as part of the demonstration of the facts and circumstances listed above.
 - ii. Voting or registration for voting
 - iii. Lease of living quarters
 - iv. Statement of intention to acquire a domicile in Minnesota
 - v. Domicile of student's spouse in Minnesota
 - vi. Automobile registration
 - vii. Other public records, e.g. birth and marriage record.
4. Individuals in the following categories shall qualify for in-state tuition.
 - a. High ability students in the top 15% of their high school class or who score above the 85th percentile on a nationally normed standardized achievement test and who reside in states that do not have a reciprocity agreement with Minnesota.
 - b. Students who qualify under a college or university affirmative action program consistent with law and approved by the Chancellor or designee.
 - c. Students who are recognized as refugees by the office of Refugee Resettlement of the U.S. Department of Health and Human Services.
 - d. U.S. military personnel serving on active duty assignment in Minnesota, and their spouses and dependent children.

Refunds for Dropped Courses and Withdrawals

Subpart A. Refunds for Dropped Classes

For terms three weeks or greater in length, the drop period is five business days, starting with the first day of the term, not the first day the class meets. A 100% refund of tuition and fees shall be provided to a student who drops on or before the fifth day of a term. For purposes of this policy, a term is defined as fall semester, fall late start, spring semester, spring late start, Maymester, summer session I and summer session II.

For courses 3 weeks or greater in length that do not start during the first five days of a term, as defined above, the drop period is one business day after the first day of the class. A 100% refund of tuition and fees shall be provided to a student who drops the first business day after the first day of the class. If dropped credits are used to determine the student's status for payment of financial aid, the student's status will be recalculated. Repayment of financial aid can be the result of the recalculation if the student has already received payment.

For courses less than 3 weeks in length, students have one business day after the first class meets in which to drop classes without obligation. If dropped credits are used to determine the student's status for payment of financial aid, the student's status will be recalculated. Repayment of financial aid can be the result of the recalculation if the student has already received payment.

Students who register for classes and never attend will have their financial aid recalculated. Repayment may be the result of this recalculation if the student has already received payment. Students who are obligated for dropped classes can petition to apply the amount of the tuition and fees for the dropped class to cover the cost of an added class for the same term. Students must also petition for a recalculation of financial aid for a course exchange. If the exchange of credits is not credit for credit, financial aid may be adjusted. Refunds of fees are at the discretion of the College if the College incurs the cost up front for these fees.

Federal regulations require that students who have received Federal financial aid and withdraw before completing the semester return a portion of the money received because they have not earned the total amount received at the beginning of the semester. Students considering withdrawing from the college should consult a counselor or financial aid staff person before leaving the college.

Subpart B. Refunds for Withdrawals

The drop/add period will end on the fifth day. Students will be allowed to withdraw from classes beginning on the 6th class day of their term through the 65th class

day. Students deciding to withdraw from the college after registering for classes must officially withdraw with the campus Student Services office. A course from which the student withdraws on or after the 6th class day will appear on their academic transcript with a W, and will count against completion percentage for Satisfactory Academic Progress.

Attendance will be taken after the 60% point of the term. Students in attendance after the 60% point will be considered to have earned all financial aid.

Minnesota West will refund tuition and fees for students who totally withdraw in accordance with the following schedule:

1 st to 5 th class day	- 100%
6 th to 10 th class day	- 75%
11 th to 15 th class day	- 50%
16 th to 20 th class day	- 25%
After the 20 th class day	- 0%

Summer sessions and other terms at least three weeks but less than ten weeks in length:

1 st to 5 th class day	- 100%
6 th to 10 th class day	- 50%
After the 10 th class day	- 0%

Terms less than three weeks in length:

1 st class day of term	- 100%
2 nd and 3 rd class day of term	- 50%
After the 3 rd class day	- 0%

The Minnesota State Grant recalculates throughout the term and may result in a student either receiving more funding, or having to return funding. Any student considering withdrawing from a class or classes should speak with their campus financial aid assistant to determine both the academic and financial effects of a withdrawal.

Subpart C. Administrative Withdrawals

The College reserves the right to administratively withdraw students for non-attendance. The notification will be sent students who are administratively withdrawn. There will be no reduction in tuition and fees.

Return of Federal Funds

A student who receives federal financial aid and withdraws before completing the semester may be required to return a portion of the money received because he/she did not earn the total amount paid at the beginning of the semester.

The amount earned is the percent of the money received which is equivalent to the percent of the semester completed. (Example: A student who received a check for \$1,000 and withdrew from school after completing 25% of the semester has earned 25% of the \$1,000 received. The student has earned only \$250 of

the \$1,000 and must return \$750 to the Federal government).

Students considering withdrawal from Minnesota West Community & Technical College should consult a counselor or financial aid staff person before withdrawing.

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 mail it to the campus they plan to attend. Contact campus registration staff for assistance.

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, winter term, spring semester, spring late start, Maymester, 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.

Tuition and Fees

Tuition and fees for credit bearing courses at Minnesota West Community and Technical College are established by the Minnesota State Colleges and Universities Board of Trustees. Future and current students are encouraged to visit the College web site for the most current tuition and fees information at: www.mnwest.edu/business-office/tuition-fees/.

Paying Tuition & Fees

Tuition and fees are due as described in refunds for dropped courses and withdrawals.

Billing statements are available online. Statements are not mailed to students. It is the student's responsibility to check the account online for updates.

Students must **choose one of the following options** for paying:

Pay Online

Online payments are accepted at any time 7 days a week. Students may make full or partial payments using a major credit card.

Pay Online using the Payment Plan

Pay tuition in **monthly installments** via e-Cashier from the FACTS Management Company, Inc. Students will be able to:

- Arrange for monthly payments.
- Arrange for a down payment and monthly payments.
- Pay in full.

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.

Pay by Phone

Students may pay by phone with a major credit card by calling a campus business office.

Delayed Payment Options

Students receiving Financial Aid or Scholarship

Students who have not received their financial aid (grants and student loans) or scholarships by the tuition payment date must request a deferment. The deferment form is also available at the campus Financial Aid office or online at www.mnwest.edu.

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. The student must also request a deferment prior to the tuition payment date.

Students are ultimately responsible for all college costs incurred. The third party billing process defers the student's tuition and fees. The appropriate charges will be billed to the funding agency or organization after the last day to add/drop classes.

Deferments

Students may apply for a deferment based on one or more of the following:

1. The college is in possession of an authorization from a third party payer in an amount adequate to cover charges.
2. Financial aid adequate to cover charges has been awarded and all loan paperwork has been processed.
3. A payment plan has been established between the student and the College.

4. Financial aid application is incomplete, but adequate eligibility is expected.

This deferment will prevent late fees and interest. The student must request a deferment prior to the tuition payment date. The deferment form is submitted to the campus business office.

Late Fee

A \$30.00 late fee will be assessed to accounts that are not paid by the 11th 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 could result in an Administrative Withdrawal and submission of the outstanding balance to the State of Minnesota Collection Agency for further action. Students having outstanding accounts with the College will not be permitted to register for a subsequent term.

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 FACTS tuition payment plan.
- Student has completed the financial aid application and has a ISIR on file with the College.
- Student has provided the College with scholarship or third party authorization for payment of tuition.
- Student is a PSEO student.

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.

- **No invoices or tuition statements will be sent.** Students should access account information online.
- Students in jeopardy of having class registrations cancelled will get a pop up message when logging into their account information letting them know that they have not met the financial requirements necessary to remain registered after the tuition due date.
- Students who register and later change their plans for attendance must complete a drop form in person at the registration office or complete a drop online by the fifth day of the term. Students should not rely on the College to drop them from courses.
- Seek assistance early to ensure that class registration will not be cancelled.

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)**

Advanced placement courses and examinations completed at a high school will be evaluated upon receipt of an official transcript from The College Board Program. Scores of three, four, and five will be awarded credit at Minnesota West Community & Technical College. 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 should be aware that Advanced Placement credit may be re-evaluated by the receiving institution upon transfer from Minnesota West Community & Technical College. Courses and credits may differ. Students must notify Student Services of Advanced Placement course work.

- **College Level Examination Program (CLEP)**

The College Level Examination Program (CLEP) (<http://www.mnwest.edu/academics/clep/>) is a means for highly qualified students to obtain credit in courses without registering for or enrolling in the class. Students wishing to complete one of the tests should contact Student Services for appropriate forms, information, and fees.

1. Students who have enrolled in a comparable class at Minnesota West Community & Technical College or another institution are not eligible to complete the CLEP exam in that area.
2. The College Board will recommend the awarding of credit on the basis of research and

the credit given will be considered equivalent to a comparable class at Minnesota West Community & Technical College.

3. Students should be aware that other colleges and universities may evaluate the tests on a different basis. The receiving institution should be contacted for their policy.
4. CLEP credits will not be recorded on a transcript at Minnesota West Community & Technical College until the student has successfully completed 15 credit hours in residence.

- **Competency Based Education (CBE)**

Competency Based Education

(<http://www.mnwest.edu/academics/cbe/>) 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 demonstrate achievement in the content of a college-level course may be granted college credit by Course Test Out. The student would begin the process by making appropriate arrangements with the instructor to test out of a course.

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 test out exam. This fee is not refundable even if the student does not pass the exam or is not given credit for the course.
2. Test outs must be completed 10 days prior to the start of the semester or after the 5th day of the semester; however, the President or designee has the authority to allow a faculty member to grant a test out at any time under extenuating circumstances.
3. Testing out is not an option for a student who wants credit for a course previously failed or for which the student has received an NC (no credit) grade. A test out cannot be used to improve a grade for a course previously completed.
4. If the student fails to pass the test out exam, he/she must take the course to fulfill the graduation requirements. No grade will be recorded on the transcript for attempted test out.

5. Test out exams are instructor-constructed and reflect the objectives of the course. A grade of "C" or higher will be recorded as a PASS grade.
6. Credits earned by the test out option will not be computed in the student's GPA, nor will they count toward the enrollment figures of the College.
7. Testing out is not an option for all courses. A student should check with the instructor and the campus registrar to see if a test out is available.
8. Credits for successful completion will not be recorded until the student has successfully completed 15 credit hours in residence.
9. Financial Aid is not available for test out credits.

Test Out Credit Award Recommendation

(<http://www.mnwest.edu/fileadmin/images/collegeforms/estout.doc>) (printable WORD file)

- **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**

The purpose of this policy is to establish common practices among all Minnesota State Colleges and Universities for awarding credit to students who have completed an International Baccalaureate (IB) diploma in high school.

The IB program is an internationally recognized program through which secondary students complete a comprehensive curriculum of rigorous study and demonstrate performance on IB examinations. 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.

It is the policy of Minnesota West Community & Technical College to award credit for the IB programs completed by students who subsequently attend Minnesota West Community & Technical College. 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.

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 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 with A-F grading system.
3. Earn a 3.5 GPA.

Online Student Responsibilities

Distance Learning

Distance learning occurs when the student and instructor are separated by distance, time and/or location. Minnesota West provides two avenues for distance learning for students; interactive television (ITV) and Minnesota West Online-internet courses. ITV courses are offered same time/different location (synchronous). Minnesota West Online internet courses are delivered synchronously and asynchronously.

Interactive 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.

Video taping on the ITV network will only be permitted in situations involving mitigating circumstances (e.g., extended illness, meeting special needs, etc.) at the discretion of the instructor and all students at all sites on the ITV network.

Minnesota West Online-Internet Courses

The Internet has made it possible for students to have more flexible and personal educational experience by allowing access to learning when and where they want it. At Minnesota West, efforts focus on developing Internet based courses that parallel campus courses. Internet 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 Internet course as they do in their traditional classroom courses.

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 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/>)

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. (See Student Handbook.)

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. 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.

Grading System

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+	Above Average	3.33
B		3
B-		2.67
C+		2.33

C	Average	2
C-		1.67
D+		1.33
D	Below Average	1
D-		.67
FN	Failure for Non-Attendance	
FW	Unofficial Withdrawal.	No grade point value
F	Failure	
I	Incomplete	
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	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), "FN" (Failure for none attendance), 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. The most recent grade will become the grade calculated for GPA purposes. A student may repeat a course no more than two times.

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.

Cumulative Credits: 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.

Policy on Official Withdrawals Requested After Unofficial Withdrawals Have Been Submitted by Faculty: If a student has been submitted as a no-show, the FW cannot be changed to a W. Student cannot withdraw from a class never attended.

If the faculty has entered the FW with a last date of attendance that falls within term dates, students will be allowed to submit an official withdrawal from the course through the 65th day of the semester. Registration staff should change that FW (unofficial withdrawal) to a W and enter the Last Date of Attendance as the date the official withdrawal form is submitted to the registration office.

Appealing Grades

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.

Learning Contracts

Students on Academic Probation will be expected to work with their advisor toward improving their grades by agreeing to a Learning Contract. The Contract 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 participate in a Learning Contract/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/fileadmin/images/studentforms/gradeappeal.rtf>

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 web site 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 printer access, a photocopy machine, 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

SMARTHINKING, a live online tutoring service, is available to students at any time, and from anywhere. Students needing assistance in math, economics, accounting, chemistry, physics, Spanish, and statistics will receive real-time assistance from e-instructors by linking to SMARTHINKING through the Minnesota West Community & Technical College website. SMARTHINKING 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.

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.

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 help desk staff works with students to resolve issues related to online courses, student email, and the MnSCU student services portal.

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, Academic Competitiveness 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. The Getting Started brochure will guide students through the application steps. 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 Colleges and Universities' 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.

The College is a publicly supported institution. Students pay approximately 46% of the cost of enrollment and Minnesota taxpayers pay approximately 54%. The College 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, Federal Perkins, 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.

The 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 probation, continued academic probation, academic suspension, financial aid probation, continued financial aid probation, and financial aid suspension.

There is also an appeal process for academic/financial aid suspension based on unusual or extenuating circumstances. Petition and appeal forms for both academic and financial aid issues are available from the Student Services Office, the Campus Dean's Office, or Online.

The standards that follow are based on Federal requirements and Minnesota State Colleges and Universities Board Policy.

Requirements

Requirements

A student must maintain a cumulative grade point average of least 2.0. This review takes place after the end of each semester.

Quantitative measure:

1. A student must satisfactorily complete 67% of all credits attempted.
 - a. Credits for courses for which a student received a letter grade of A, B, C, D, S and P are included in the calculation of cumulative credit completion percentage as courses successfully completed.
 - b. Repeat 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. A student may repeat a course no more than two times. All repeated credits are included in the % of completion and maximum time frame calculations.
 - c. Developmental courses are those awarded for remedial course work (below 1000 level). 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.
 - d. Grades of Incomplete (I), Failing (F), Withdraw (W), No Credit (NC), In Progress (IP), or No Grade Assigned (Z) shall be treated as credits attempted but not successfully completed.
 - e. Audited courses (AU) are not included in any financial aid satisfactory academic progress measurements.
 - f. 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.
 - g. Transfer credits accepted by the 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. Credits for which students have been granted academic amnesty ("academic forgiveness", "fresh start", etc.) will be included in both cumulative GPA and completion percentage for financial aid probation/suspension calculations.
 - i. 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 probation/suspension.
2. A student cannot receive financial aid for more than 150% of the normal time required to complete a program (example: for a 64 credit program student can attempt 96 credits towards the completion of the program).
 - a. 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.
 - b. 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 program.
 - c. 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 degree.

Evaluation

All students with registered credits during a term will be evaluated at the end of the term.

A student will be placed on Academic and Financial Aid Probation if he/she fails to maintain these standards at the end of the review period.

A student will be placed on continued Academic and Financial Aid Probation if the student fails to remove himself/herself from Academic and Financial Aid Probation, but does complete a semester of acceptable academic work (e.g. 2.0 GPA and 67% completion) in a minimum of 6 credit hours taken toward completion of their degree. The student will be permitted to remain on a continued probationary status if the student meets the requirements for the term.

A student will be placed on Financial Aid Suspension if:

1. He/she does not satisfactorily remove himself/herself from Academic and Financial Aid Probation and does not complete a semester of acceptable academic work.
2. He/she reaches 150% of credits attempted in his/her program of study. There is no probationary period prior to this type of suspension.
3. Minnesota West Community & Technical College determines that it is not possible for the student to raise his or her GPA or completion rate to meet the College's standards prior to the end of the program for which the student is receiving aid. There is no appeal to this suspension.

Part-time Students

Students who are part-time will not be evaluated until six cumulative registered credits are posted on the student's transcript. Students who are general interest only, part-time students, (registered for no more than five credits in a given semester), and are not applying for any financial aid may have all of the satisfactory academic progress requirements waived by the campus Dean. However, once a student becomes a degree-seeking student all criteria described within this procedure are applicable.

NOTIFICATION

The College will notify a student in writing by mail when the student fails to make satisfactory progress. It is, however, the student's responsibility to monitor SAP. Failure to receive notification does not exclude a student from the probation.

APPEAL PROCESS

The process for appeal of academic suspension and appeal of financial aid suspension are separate. A financial aid appeal may be completed the same time the academic suspension is appealed. Approval of an academic appeal does not guarantee approval of a financial aid appeal.

By federal regulation, the guidelines for approval of a financial aid appeal are more restrictive.

Academic Appeal:

1. Appeals must be submitted in writing on a form available in the Campus Dean's office.
 - a. The appeal must include in writing an explanation of the extenuating circumstances that affected academic progress.
 - b. If requested by the Dean or designee, the appeal must include supporting documentation beyond the written explanation.
2. Appeals must be directed to the Campus Dean prior to the beginning of the next term.
3. A committee of three or more members and the Campus Dean will consider the appeal.

- a. The appeals committee will meet within a reasonable time frame prior to the start of each term. The Campus Dean can 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.

Academic Reinstatement

A student who has been suspended from enrollment may return to the College after an appeal has been approved or the period of suspension has passed with the following requirements.

1. **Appeal Approved:** Any student whose suspension appeal has been approved must meet with the Campus Dean, or advisor to develop an educational plan prior to readmittance to the College.
 - a. The educational plan must contain a semester-by-semester plan for course completion.
 - b. The educational plan must contain a plan to correct academic issues, which may have led to the suspension.
 - c. The plan must demonstrate a remediation of the non-academic issues that may have led to the suspension.
 - d. The student must meet with the Campus Dean and/or advisor/counselor at least once each semester to report academic status and prior to registering for the next semester course.
 - e. Both the student and the Campus Dean and/or advisor/counselor must sign the educational plan.
 - f. A student that follows the plan and meets all of the plan criteria will be deemed to have made satisfactory progress and will not receive further suspension notices, but will remain on probationary status.
 - g. The student will be removed from probationary status when both the qualitative and quantitative criteria for satisfactory academic progress have been met.
 - h. A student who fails to meet the expectations of the educational plan will be placed on suspension a second time. This student may appeal the suspension.
 - i. Students who follow an educational plan may exhaust their financial aid resources prior to completion of the program.
2. **Appeal Denied:** Any student who has been suspended for failing to make satisfactory academic progress and has had an appeal denied or does not appeal the suspension may be reinstated after one year with the following requirements. The student must agree to an established educational plan as defined below:

- a. The educational plan must contain a semester-by-semester plan for course completion.
- b. The educational plan must contain a plan to correct academic issues, which may have led to the suspension.
- c. The plan must demonstrate a remediation of the non-academic issues that may have led to the suspension.
- d. The student must meet with the Campus Dean and/or advisor/counselor at least twice each semester to report academic status and prior to registering for the next semester course work.
- e. Both the student and the Campus Dean and/or advisor/counsel must sign the educational plan.
- f. A student that follows the plan and meets all of the plan criteria will be deemed to have made satisfactory progress and not receive further suspension notices, but remain on probationary status.
- g. The student will be removed from probationary status when both the qualitative and quantitative criteria for satisfactory progress have been met.
- h. A student who fails to meet the expectations of the educational plan will be placed on suspension a second time. This student may appeal the suspension.
- i. Students who follow an educational plan may exhaust their financial aid resources prior to completion of the program.

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 filed.

1. The appeal must be submitted in writing on a form available in the Campus Dean' Office or the Student Services Office.
 - a. The appeal must include an explanation of the extenuating circumstances that negatively affected academic progress.
 - b. The appeal must include supporting documentation beyond the written explanation.
 - c. Sitting out a year is not in itself a reason for appeal or reinstatement of financial aid.
2. Appeals must be directed to the Director of Financial Aid prior to the beginning of the next semester. The process for appeals normally takes approximately 10 days. Completion of the appeal process must be in place prior to the start of the next term.

3. 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.

Financial Aid Reinstatement

A 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.
2. 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.
3. They have appealed the suspension 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.
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.
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.

Student Eligibility Policy

A student must meet federal/state requirements to be eligible and receive financial aid.

Federal Requirements

1. A student must be a citizen of the United States or an eligible nonresident.
2. A student meets the requirements of the Selective Services regulations.
3. A student may not be in default on a student loan or owe an overpayment on a 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. If not, the student must meet the "Ability to Benefit" guidelines.
6. A student must be enrolled in (or 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.

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 must pass an independently administered test that is approved by the U.S. Department of Education. The Accuplacer test is used at Minnesota West Community & Technical College to determine ability to benefit. All students take the Accuplacer test as part of the admissions process.

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

To access the Self Service Web site, current students must login to their student portal, Jaywalk, and choose Enrollment Verification in the left menu.

Note: 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 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 MnSCU 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 the Campus 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 in 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, 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. The cost of the application is \$25.

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. An unofficial transcript is also available.

To request an official transcript:

In Person

Contact the campus registration office and request a transcript.

By Mail

Print the Transcript Request Form (RTF file) found on the Minnesota West web site at www.mnwest.edu. Use any word processing software, such as WORD, WordPerfect, and Notepad to view the RTF file. Complete the form.

Mail the form along with \$5.00 for each copy requested to:

Minnesota West Community & Technical College
Office of the Registrar
1450 Collegeway
Worthington, MN 56187

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 bookstore on each of the five campuses for the convenience of both students and the faculty.

Textbooks, general supplies, and tools/equipment for specific programs are available in the bookstores, as well as gifts, souvenirs, and computer software.

Students dropping courses will be permitted to return texts for a full refund through the 5th day of the

semester. Students must show the cash register receipt, and texts must be in perfect, unmarked condition. Texts in shrink wrap cannot be opened. Study guides and solution manuals are not returnable.

All bookstores have extended hours the first week of each semester.

Child Care Services

The Post-Secondary Child Care Grant Program helps low income students who have young children pay for child care while the student attends classes.

Campus Child Care Centers

Canby

No on-campus child care is available. Contact the campus at 800-658-2535 for a list of local child care providers.

Granite Falls

Located on campus, Prairie Land Child Care is a Head Start certified program. Contact them at 800-443-4283.

Jackson

No on-campus child care is available. Contact the campus at 800-658-2522 for a list of local child care providers.

Pipestone

Located on campus, Kiddie Kampus will care for infants through pre-school children. Contact them at 507-825-6862.

Worthington

No on-campus child care is available. Contact the Nobles County Family Service Agency at 507-372-8303 for a list of current child care providers. Be sure to ask about the Minnesota Child Care Assistance Program.

Another resource to contact for all campuses is the Southwestern Minnesota Opportunity Council (SMOC) Child Care Resource and Referral program at 866-511-2244.

Advisor/Advisee-Counselor/Counselee

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. Each student will be assigned an advisor or counselor. Minnesota West Community & Technical College has instituted a process to be in compliance with the Federal Financial Aid Return of Federal Funds requirement.

Two tools have been developed to help the advisor/counselor. Degree audits are available for every student, plus a course applicability system <https://mn.transfer.org/cas/> 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. The Registrar should be contacted for any questions. Please note that the audit can only be run once per day per student, and the audit will process for the student's major of record.

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 from their advisor or the counseling staff when selecting courses.

1. Consult with an advisor or counselor prior to the first semester registration and before 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/Counselors responsibilities:

1. Inform the student of the advisor, counselor, and 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 counselors or other 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 or transfer activities.

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 on campus for remediation, academic assistance, personal counseling, and career counseling.

Counseling

Going to college impacts lives and relationships and occasionally may result in stress and conflict.

Counseling services are offered to students of the College at no cost. Certified counselors are available for purposes of assisting students in their personal and educational concerns. Appointments are encouraged, but not always necessary. Counselors have experience in dealing with the following:

- Personal counseling.
- Assisting students with educational decisions and career planning.
- Career choice and program or major change.
- Interpersonal issues.
- Parenting concerns.
- Family adjustments when a parent or spouse returns to school.
- Referrals for educational assistance and/or evaluations.
- Referrals for drug, alcohol, and gambling concerns.

Long-term counseling is not available, and referrals will be made to appropriate resources if extended help is needed.

Food Service

A private vendor provides each of the campuses' food service. Morning and noon meals are available in the student commons area. Vending machines are also available in the commons for a variety of snacks and beverages.

Housing

Student housing is available at the following locations:
Carr Residence Hall – Canby

A listing of available housing in Worthington is available in Student Services.

Housing is primarily the responsibility of the student. However, each of the five campuses assists students in locating available housing opportunities. 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 found in this handbook. 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. A group is recognized as a club/organization if its composition and activities are of such a nature that the College deems itself to be responsible for the actions of the group. 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.

Alpha Nu Kappa:

The Worthington Campus Chapter of Phi Theta Kappa, a national honor fraternity for the liberal arts college student. Membership is by invitation based on 15 semester hours of credit with a 3.50 or above grade point average. The group sponsors various service activities throughout the year.

Business Professionals of America:

A professional organization for students in business and office programs. Its purposes are to promote student leadership, develop vocational competence in office occupations, promote an understanding of business, and improve student poise, sociability, attitude and tact. Members have the opportunity to participate in state and national conferences, elections and competitive events.

Intercollegiate Athletics:

Minnesota West Community & Technical College subscribes to the philosophy that area athletes should be the basis of any athletic program. Operating within that philosophy has led to highly successful athletic programs for both men and women on the Worthington Campus. Men's teams participate in football, basketball, wrestling, golf, and baseball. Women's teams compete in volleyball, basketball, golf, and softball. Minnesota West Community & Technical College is a member of the Minnesota Community College Athletic Conference and the National Junior College Athletics Association. Students from all campuses of Minnesota West Community & Technical College are encouraged to participate in the activities held at the Worthington Campus. See also Athletic Programs.

Intramural Athletics:

There are intramural activities for both men and women on all campuses of Minnesota West Community & Technical College depending on interest. Any sport that generates sufficient interest and meets with college approval can be arranged as an intramural activity.

Extramural Athletics:

Students on the Granite Falls campus may participate in basketball and volleyball in cooperation with other area colleges.

Health Occupation Students of America (HOSA):

A national organization that promotes leadership, career skills, and interaction with individuals in the various health fields. Students in the Medical Laboratory Technician Program, Medical Assistant, Phlebotomy and other health careers will be involved in local meetings, conferences and state and national competitions.

Music: Vocal music offerings at the Worthington Campus include collegiate chorale and pops group. These groups normally present a concert each semester and tour during spring semester. Instrumental musicians have the opportunity to participate in jazz band or the Worthington City Band.

Theater:

The Worthington campus provides the opportunity for students to participate in major theatrical productions. In addition to acting, opportunities to participate in the technical phase of each production are offered.

Vocational Industrial Clubs of America (VICA):

A professional student organization for students in trade, industrial, technical, or health programs. Members exchange ideas, discuss problems, and work together for common goals. VICA offers students a chance to gain recognition for themselves, their program and the College through competition in occupational skill areas and leadership development contests.

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 Campus Dean for approval and notification to the campus 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 exactly.

Directory of Minnesota West Community & Technical College Administration and Faculty

Administration

Richard Shrubb **President**
 B.A. Lee University
 M.A. Southeastern Louisiana University
 M.B.A. William Carey University
 Ph.D. University of Southern Mississippi

Diane Graber **College Provost**
 B.A. Yankton College
 M.S. Minnesota State University, Mankato
 Ed.D. University of South Dakota

Jeffery Williamson **Vice President of Instruction**
 B.S. South Dakota State University
 M.Ed. South Dakota State University
 Ed.D. University of South Dakota

Lori Voss **Vice President of Administration**
 B.S. Southwest State University
 M.S. Metropolitan State University

Al Bruderie **Dean of Management Programs**
 B.S. University of Minnesota
 M.S. University of Minnesota

Duane Carrow **Director of Renewable Energy Program**
 Diploma Minnesota West Community & Technical College

Linda DeGriselles **Granite Falls Campus Dean**
 B.S. Southwest Minnesota State University
 M.S. South Dakota State University

Diana Fliss **Business Manager**
 Diploma Minnesota West Community & Technical College

Mike Fury **Worthington Director of Students/
AD/Coaching**
 A.A. Minnesota West Community & Technical College
 B.A. Hamline University
 M. Ed. College of St. Scholastica

Dawn Gordon **Worthington Campus Dean/
Director of Practical Nursing**
 B.S. Augustana College
 M.B.A. Colorado Technical University
 M.B.M. Colorado Technical University
 M.S. Colorado Technical University

Jim Grove **Jackson Campus Dean
/Counselor**
 B.A. University of Northern Iowa
 M.S. Minnesota State University, Mankato

Dennis Hampel **Dean of Career and
Technical Programs**
 MN State Board Technical License

Jeff Harms **Director of Facilities**

Jodi Landgaard **Director of Financial Aid**
 B.S. Dakota Wesleyan University
 M.B.A. University of South Dakota

Karen Miller **Human Resource Director**
 Diploma Minnesota West Community & Technical College

Jackie Otkin **Dean of Allied Health/
Pipestone Campus Dean**
 B.S. South Dakota State University

John Roos **Director of Technology**
 B.A. University of Iowa
 M.S. Kennedy Western University

Dawn Regnier **Director of Customized
Training Services**
 B.S. University of Minnesota
 M.S. Minnesota State University, Mankato

Crystal Strouth **Registrar**
 B.A. Westmar College

Ruth Van Heukelom **Director of Nursing**
 A.D.N. Indian Hills Community College
 B.S.N. Graceland College
 M.S. South Dakota State University
 D.N.P. Minnesota State University, Mankato

Rebecca Weber **Canby Campus Dean**
 B.S. Southwest Minnesota State University
 M.S. South Dakota State University

Faculty

Agnes Alsgaard-Lien **Art**
 B.F.A. University of South Dakota
 M.S.S. University of South Dakota

Bruce Amundson **Biology**
 A.A. Minnesota West Community & Technical College
 B.A. St. Cloud State University
 B.S. University of Minnesota
 M.S. University of Minnesota

Robert Arp **Construction Electrician**
 Diploma Minnesota West Community & Technical College
 A.A.S. Minnesota West Community & Technical College

Paul Bartz **Farm Business Management**
 B.S. University of Minnesota

Leslie Bauman **Accounting**
 Diploma Minnesota West Community & Technical College
 B.S. Bemidji State University
 M.S. Bemidji State University

Chad Benda **Farm Management**
 B.S. South Dakota State University

Philip Berg **Lamb and Wool Management**
 B.S. South Dakota State University
 M.S. North Dakota State University

Brian Binnebose **Powerline Technology**
 Diploma Minnesota State Community & Technical College

Cathy Blair.....**Sociology**
A.S. Minnesota West Community & Technical College
B.S. Minnesota State University, Mankato
M.S. Minnesota State University, Mankato

Brad Bolluyt**Wind Energy**
A.A. Minneapolis Drafting School

Delynn Bresson **Auto Body Mechanics**
Diploma Minnesota West Community & Technical College

James Brewers **Construction Electrician**
A.A.S. Minnesota West Community & Technical College

Michael Caskey.....**Lamb & Wool Management**
B.S. University of Minnesota

Vaughn Corwin **Appliance, Heating/AC**
Diploma Ridgewater Community & Technical College
A.A.S. Minnesota West Community & Technical College

Don Craig **Electrical Linework**
Diploma Minnesota West Community & Technical College
A.A. Minnesota State University, Mankato

Richard Dalrymple..... **Mathematics/Physics**
B.S. University of Kansas
M.S. University of Missouri at Rolla

Jerry Deuschle..... **Construction Electrician**
B.S. Minnesota State University - Mankato

Lila DeWitt **Practical Nursing**
Diploma Sioux Valley School of Nursing

Mike Dierks.....**Farm Business Management**
B.S. South Dakota State University

Judy Drown **Construction 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

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

James Fischer **Fluid Power Technology**
A.A.S. Minnesota West Community & Technical College
A.A. Ridgewater Community & Technical College
B.E.S. St. Cloud 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

Peter Girard.....**Diesel Fuel Injection Specialist**
A.A.S. Minnesota West Community & Technical College

Peg Gorter **Cosmetology**
Diploma Stewart School of Hairstyling

Donna Hage.....**Practical Nursing**
B.S.N. Minnesota State University, Mankato

Nancy Jo Hambleton **Health**
B.A. St. Olaf College
M.S. St. Cloud State University

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

Mark Holden **Law Enforcement**
B.S. Minnesota State University Mankato
M.S. Saint Mary's University

Jerome Jansen.....**Counseling/Geography**
A.A. Itasca State Community College
B.A. University of Minnesota
M.S. Minnesota State University, Mankato

Teresa Jansen.....**Surgical Technology**
A.A. University of South Dakota

Katherine Janssen.....**Computer Science/
Mathematics**
B.A. Augustana College
M.S. Bemidji State University

Kent Janssen **Farm Business Management**
B.A. University of Minnesota
M.A. University of Minnesota

Pam Jensen **Information Security Auditor**
B.S. Minnesota State in Moorhead
Certificate University of Illinois
M.S. Bemidji State University

Marcia Johnson **Librarian**
B.A. Southwest Minnesota State University
M.S. Minnesota State University, Mankato

Steve Juenemann**English/Literature**
B.A. College of St. Scholastica
M.A. South Dakota State University
M.F.A. Minnesota State University, Moorhead

Douglas Kleeberger.....**Auto Mechanics**
B.A. Pillsbury Baptist Bible College
M.A. Central Baptist Theological Seminary

Charles Knollenberg.....**Auto Mechanics**
MN State Board Technical License

Tonya Koepsell**Radiologic Technology**
B.S. Mount Marty College

Duane Krueger**Small Business Management**
Diploma St. Cloud Technical College

Jacqueline Lage **Cosmetology**
Diploma Ridgewater Community & Technical College

Jeff Linder Physical Education/Coaching

A.A. Minnesota West Community & Technical College
B.S. Bemidji State University
M.S. United States Sports Academy

Henrietta Le Lucht Spanish

A.A. Minnesota West Community & Technical College
B.A. Augustana College
M.S. University of South Dakota

Rolf Mahlberg Agriculture

B.S. University of Minnesota
M.S. University of Minnesota

Ryan Mahlberg Biotechnology

B.S. Minnesota State University, Mankato

David Matthews Mathematics

B.S. University of Nebraska
M.S. University of Nebraska

Sandi Mead Librarian

A.A. Minnesota West Community & Technical College
B.S. Minnesota State University, Mankato
M.S. Minnesota State University, Mankato

Rita Miller Medical Lab Technician

B.S. South Dakota State University
M.S. University of North Dakota

David Mills History

B.S. Frostberg State University
M.S. Troy State University
M.A. Minnesota State University, Mankato
Ph.D. North Dakota State University

Debra Munsterman Small Business Management

B.A. Southwest Minnesota State University
M.S. Southwest Minnesota State University

Teresa Noyes Dental Assisting

Diploma Minnesota West Community & Technical College
A.A.S. Minnesota West Community & Technical College
B.A. University of Minnesota, Crookston
M.S. Southwest Minnesota State University

Alan O'Neil English

A.A. Minnesota West Community & Technical College
B.A. Augustana College
M.F.A. Minnesota State University, Mankato

Gary Olsen Wind Energy Technology

Diploma, Minnesota West Community & Technical College

Luke Olson Carpentry

Diploma, Minnesota West Community & Technical College

Sheri Olson Practical Nursing

Diploma Southeast AVTI
Diploma Nettleton College
B.S.N. South Dakota State University
M.Ed. South Dakota State University

Troy Otto Farm Business Management

A.A. Minnesota West Community & Technical College
B.S. South Dakota State University

Eric Parrish Music

B.A. Gustavus Adolphus
M.M. University of Northern Colorado

Rose Patzer Renewable Energy

B.A. Southwest Minnesota State University
M.B.A. Southwest Minnesota State University

**Terri Pelzel Administrative Support/
Networking Specialist**

Diploma Minnesota West Community & Technical College
B.S. Colorado Technical Institute

Deb Peterson Speech

B.A. University of Minnesota
M.A. Colorado State University

Karsten Piper English

B.A. Bethel University
M.A. Boston College
M. Litt. University of St. Andrews

Julie Purlee Medical Administrative Assistant

A.S. Dakota State University

Brenda Pomeranke Practical Nursing

A.S. Rochester Community & Technical College
B.A. Metropolitan State University

Rebecca Potts English/Philosophy

B.S. University of South Dakota
M.A. University of South Dakota

Robert Purcell Physical Education/Coaching

B.S. Minnesota State University, Moorhead
B.A. Minnesota State University, Moorhead
M.S. North Dakota State University

Tim Radermacher .. Farm Business Management

B.S. University of Minnesota
M.E. University of Minnesota

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All programs requiring specific state/national accreditation are accredited by their respective agencies.



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