2019-2020 Catalog
www.ridgewater.edu

Ridgewater College
A member of Minnesota State


Hutchinson | Willmar | Online | Blended
2 Century Avenue SE
Hutchinson, MN 55350
2101 15th Avenue NW
Willmar, MN 56201
www.ridgewater.edu
800-722-1151
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**Vision**

Ridgewater College will be a dynamic educational leader exemplifying innovation and excellence within a student-centered learning environment.

**Mission**

Ridgewater College provides quality educational opportunities for diverse student learners in an inclusive, supportive, and accessible environment.

**Values**

Ridgewater College values a learning environment that:

- Focuses on student needs and student success
- Equips students to think critically and creatively, solve problems, and adapt to a rapidly changing world
- Embraces diversity of thought, diversity of individual background, and affirms the worth and dignity of each individual
- Focuses on continuous improvement by establishing success indicators, measuring against those indicators, and using the results to make strategic decisions
- Promotes ethical and honest behavior and accountability at both an institutional and individual level
- Demonstrates and reinforces the value of lifelong learning
- Reaches beyond the College’s walls to the community, the region, and the world.

**Accreditation**

Ridgewater College is accredited by the Higher Learning Commission.

Higher Learning Commission  
230 S LaSalle Street, Suite 7-500  
Chicago, IL 60604-1411  
800-621-7440  
www.hlcommission.org
## Telephone Directory

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## Alternative Format

This document is available in alternative formats to individuals with disabilities upon request by calling 800-722-1151. Consumers with hearing or speech disabilities may contact us via their preferred Telecommunications Service.

## Catalog Disclaimer

NOTE: Every effort has been made to ensure the accuracy of the material contained within this publication as of the date of publication. However, all policies, procedures, academic schedules, and fees are subject to change at any time by appropriate action of the faculty, the College administration, the Minnesota State Colleges and Universities Board of Trustees or the Minnesota Legislature without prior notification. The provisions of this catalog do not constitute a contract between the student and the College. The information in this catalog is for use as college guidelines and is subject to change at any time.

For the most current information, refer to the Ridgewater website at [www.ridgewater.edu](http://www.ridgewater.edu).
GENERAL INFORMATION AND POLICIES

DISCRIMINATION AND HARASSMENT

Ridgewater College is committed to fostering an environment of nondiscrimination and non-harassment. No person shall be discriminated against in the terms and conditions of employment, personnel practices, or access to and participation in, programs, services, and activities with regard to race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission as defined by law.

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

No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance.

The college receives federal financial assistance. In order to continue receiving such assistance, the college must comply with Title IX. In addition to the sanction of non-receipt of federal funds, the Board of Regents is of the general view that discrimination on the basis of sex in any education program or activity of this college is not to be permitted.

To obtain more information or to view the full policy, contact Jay Morrison at 320-222-8040 or visit www.minnstate.edu.

EQUAL OPPORTUNITY AND NONDISCRIMINATION POLICY

Ridgewater College is committed to a policy of nondiscrimination. We acknowledge and adhere to the definitions and processes described in Minnesota State Policy 1B.1 - “Equal Opportunity and Nondiscrimination in Employment and Education” and Minnesota State Procedure 1B1.1 - “Report/Complaint of Discrimination/Harassment Investigation and Resolution.”

Ridgewater College’s designated officer per these documents is Jay Morrison. He has an office in the Student Service Office area on the Willmar Campus and will make himself available as needed to employees and students at the Hutchinson Campus. He can be reached by phone at 320-222-8040 or by email at jay.morrison@ridgewater.edu.

ADMISSION GUIDELINES

COLLEGE ADMISSION

Ridgewater College follows an open-door admission policy per Minnesota State Policy 3.4 and Minnesota State Procedure 3.41 - Undergraduate Admissions. Any resident who has graduated from an accredited high school or who has successfully completed a General Education Development Examination (GED) is eligible for college admission.

Persons applying to enroll at Ridgewater College must submit the following to the Ridgewater College Admissions Office:

- Completed admission application (available on website at www.ridgewater.edu)
- $20 non-refundable, one-time application/records fee
- High school and/or college transcripts or GED certificate
- Additional admission requirements which apply to some programs

Admission to the college does not automatically qualify a student for all courses and curricula of the college; some course offerings have special prerequisites and requirements. Lack of English skills will not be a barrier to admission or participation. In order to eliminate barriers we work with students individually and make appropriate referrals to campus or community services to ensure successful participation.

INTERNATIONAL STUDENTS

1. Complete international student application; submit $20 non-refundable application fee (in U.S. currency) and copies of high school transcripts.
2. Satisfy the English proficiency requirements through one of the following:
   a. TOEFL score of 500 (paper-based), 173 (computer-based), or 61 (internet-based)
   b. Complete ELS level 109
   c. Successfully complete the equivalent of one semester of freshman English with a “C” or better at an accredited United States college or university.
3. Provide two letters of recommendation from people who will endorse the student as a good citizen who would benefit from a college experience. Examples are former teachers, friends, and public officials.
4. Submit detailed financial information, including certified verification of funds available to cover one year of academic and personal expenses. See application packet for current amount required. This amount must have been in existence for six months.
5. Provide written proof of immunization against measles, rubella, mumps, diphtheria, and tetanus.
6. International students who have attended any non-U.S. colleges
or universities may have transfer credit that will apply to specific requirements of their program of enrollment at Ridgewater College. These students should provide an original transcript and an English translation (if applicable) for each institution to the Ridgewater College Admissions Office. Additionally, they should submit these documents for a Catalog Match Evaluation to Education Credential Evaluators, Inc. (ECE) in Milwaukee, Wisconsin, directing one copy to be sent to the Ridgewater College Transcript Evaluator.

PSEO Students

Liberal Arts/General Education Student Application Criteria:

Students applying for Liberal Arts and Sciences coursework must rank in the top one-half or 50th percentile of their high school class as a senior or have a 2.5 cumulative GPA. Juniors must rank in the top one-third or 67th percentile of their high school class or have a 3.0 cumulative GPA. Course placement will be determined by the New Student Assessment Testing (see Test Center Policy). Students must demonstrate readiness for college level coursework to be eligible to enroll.

Technical Student Application Criteria:

Students applying for technical course work will be required to demonstrate that they have the ability to successfully complete college coursework at a C level or higher. The following criteria will be reviewed before an admission decision is determined: high school coursework, GPA, class rank, and the New Student Assessment Testing. Students applying for technical course work who meet admission requirements will be accepted after October 1st for Spring Semester and February 1st for Fall Semester on a space available basis. Students who seek a change of program from technical to liberal arts and sciences or the reverse, must meet the stated criteria (stated above) at the time the request is made. Students who are in the 10th grade and enrolled in a district, who have attained a passing reading score on the 8th grade Minnesota Comprehensive Assessment in reading, and meet any other course prerequisites or course enrollment standards established by the College, including but not limited to assessment test scores, program admission, or other requirements, may enroll in one (1) career or technical education course at Ridgewater College. If the student received a grade of C or better in the course, the student shall be allowed to take additional career or technical education courses in subsequent terms.

Students should print the PSEO Application Packet and follow all application instructions. See website for link.

Veterans

Because certain veterans and their children may be eligible for benefits under the GI BILL® and other laws, all veterans, war orphans, and children of disabled veterans must notify the VA Certifying Official of their status at the time of their application if they wish to qualify. Veterans are eligible to receive transfer credit for military course completions based on American Council on Education (ACE) guidelines. Veterans should have an official transcript sent from their branch of the service to the Ridgewater College Admissions Office on their campus of enrollment.

Returning/Re-Admit Students

Students applying for re-admission shall meet the Admission Policy requirements in place at the time of reapplication. If it has been more than seven years since the last date of attendance, or an original file doesn’t exist, returning students may be asked to submit application materials but will not have to re-pay an application fee.

Transfer Students

Students transferring to Ridgewater College after attending one or more other colleges should have an official transcript sent from each institution to the Admissions Office of the campus of Ridgewater College at which they are enrolling. Students who have attended another Minnesota State campus can simply notify the Admissions Office and Ridgewater will be able to access the transcript. Transcripts will be evaluated for specific course equivalents and transferable elective credit so students can be appropriately advised on course enrollment and receive transfer credit for priority registration.

Articulated College Credit

Ridgewater College has entered into written agreements with secondary schools which provide students the opportunity to receive college credit for selected high school courses. Students who are accepted and enrolled at Ridgewater College may receive college credit toward the appropriate associate’s degree, diploma, or certificate program. Articulated College Credit will only be awarded for college courses listed on the certificate if it is a requirement or approved elective in the student’s declared program of study. During the admissions process, students should present the Articulated College Credit Certificate to the registrar along with an official high school transcript. For more information, contact Jodi Jordon at 320-222-6072 or Kelli Kienitz at 320-222-5215 or your program instructor(s).

Senior Citizens

Minnesota residents 62 years of age or older prior to the start of the semester in which a course is pursued or a person receiving a railroad retirement annuity who has reached 60 years of age prior to the start of the semester in which a course is pursued may enroll in credit courses on a space available basis. The senior citizen rate applies only to students who are not collecting financial aid. An administrative fee of $20 per credit for credit courses will be charged to a senior citizen enrolled for credit. A senior citizen who wishes to take a course but not receive credit may “audit” a credit-based course at no charge. A student wishing to audit a class must declare this intention at the time of registration. In either situation, the student will be assessed mandatory parking and statewide student association fees. The student...
will also be responsible for purchasing books and course materials. A senior citizen may register for a course the day after the first class session is held if there is space available in the course. A senior citizen who wishes to guarantee his/her enrollment in a course may register earlier but will be required to pay tuition and fees. If a senior citizen guarantees enrollment by registering early, he/she will not be allowed to utilize the tuition benefit for that course at a later date.

A senior citizen may also enroll without payment of tuition and activity fees in non-credit courses, except those courses designed and offered specifically and exclusively for senior citizens. A senior citizen enrolled in a non-credit course must pay for any materials, personal property or service charges for the course.

A senior citizen enrolled in closed enrollment contract training or a professional continuing education program is not eligible for these benefits.

**Veterans Benefit Information**

NOTE: Ridgewater College is approved by the Minnesota State Approving Agency for Veterans Education Benefits and has been designated as a military friendly campus.

The US Department of Veterans Affairs Form 22-1990, which is the Application for Education Benefits, should be filled out by the veterans benefit recipient immediately after being accepted at the college.

The 22-1990 form can be completed by contacting your local veterans service officer or the college Counseling/Admissions Services. Because certain veterans and their children may be eligible for benefits under the GI BILL® and other laws, all veterans, war orphans, and children of disabled veterans must notify the Admissions Office of their status at the time of their application. (For more information on these benefits, see Financial Aid.)

If advanced payment is selected, the US Department of Veterans Affairs Form 22-1999, Enrollment Certification, needs to be signed and dated by the student and then filled out and signed by the certifying official of the campus. The 22-1999 form needs to be sent at least 30 days before classes begin, but no more than 120 days in advance.

Once a student receiving benefits is attending classes, he/she should report any change in student load, address, marital status, dependency, etc., to the Counseling Office. It is also the student’s responsibility to bring a copy of the DD-214 for his/her student file.

Veterans needing assistance should contact our Veterans Resource Center at 320-222-5654.

**Classification of Student Status**

**Full Time:** A student carrying at least 12 credits is considered full time. The recommended average load is 15 credits per semester to complete a two-year diploma or degree in two years. Students taking over 18 credits per semester must obtain a signature of approval from a counselor. Fifteen credits is considered full time for Minnesota state grants for financial aid recipients.

**Part Time:** A student enrolled in at least one course for credit and carrying fewer than 12 credits is considered part time.

**Freshman/First Year:** A student who has completed fewer than 31 semester credits is considered a freshman. In certain programs, completion of all first-year courses or department approval is necessary before a student can begin sophomore or second-year program work.

**Sophomore/Second Year:** A student who has completed 31 or more semester credits and is working toward the completion of two years of college is considered a sophomore.

**Visiting Students:** Minnesota State allows students who are currently admitted at another system college or university to enroll as a visiting student. A visiting student shall not be required to submit an application for admission to Ridgewater College, and is not a candidate for a degree, diploma or certificate at Ridgewater College. A visiting student may enroll for a maximum of 18 credits per semester at Ridgewater College provided that the student’s total number of enrolled credits at all system colleges and universities shall not exceed 22 in any semester per Minnesota State policy. Financial aid is not available to visiting students, but may be available at the college or university they are accepted to. Minnesota State allows students who are not currently admitted as a student at any system college or university to enroll for a maximum of 18 credits per semester at Ridgewater College without submitting a Registration as Visiting Student - Not admitted to another Minnesota State College or University.

Ridgewater College allows students who are not currently admitted as a student at any system college or university to enroll for a maximum of 18 credits per semester at Ridgewater College without submitting an application for admission. A visiting student is not a candidate for a degree, diploma or certificate at Ridgewater College. A visiting student is not eligible to receive financial aid.

**Visiting Student Provisions**

- Visiting students shall satisfy Ridgewater College course prerequisites.
- Visiting students who have an enrollment hold due to conduct or satisfactory academic progress must submit an appeal following the Ridgewater College Satisfactory Academic Progress Policy.
- Students who have an enrollment hold from another system college or university due to outstanding financial obligations will be denied enrollment at Ridgewater College.

Visiting Student registration window will be published online at www.ridgewater.edu. Ridgewater College may limit enrollment of visiting students in high-demand courses.

**Credit by Examination – Prior Learning Experience**

Ridgewater College acknowledges and adheres to the definitions and processes described in Minnesota State Policy 3.35 - “Credit for Prior Learning” (http://www.minnstate.edu/board/policy/335.html) and Minnesota State Procedure 3.35.1 - “Credit for Prior Learning” (http://www.minnstate.edu/board/procedure/335p1.html).

Ridgewater College recognizes that some students will have had
life, occupational or vocational experiences which have given them knowledge in subject field areas sufficient to warrant college credit. The following govern credit by examination/prior learning experience at Ridgewater College.

1. For associate degrees and diplomas requiring 60 credits or more, a maximum of 20 credits may be earned through credit by examination/prior learning experience. For other certificates and diplomas, one-third of the required course load may be earned through credit by examination/prior learning experience.

2. Credit by examination/prior learning experience may not be included in residence requirements.

3. Credit awarded will be noted in the transfer section of the official transcript.

4. Students may not repeat examinations, enroll, or receive credit in a lower sequential course.

NOTE: Other colleges may have different criteria for awarding credit for these experiences and a new evaluation with different results may occur upon transfer. Financial aid is not available for test-out credits.

Ridgewater College permits students to receive credit by examination/prior learning experience in five ways:

1. **COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)** - A student may take a college-level examination in a specific subject area and receive credit for the equivalent Ridgewater College courses. Acceptable subject areas with CLEP exams and their equivalents are available from the Assessment Testing Office. Passing scores are determined by the mean score achieved by students in a national norm sample who earned a grade of “C” in a regular college course. A fee is charged for a CLEP examination.

2. **ADVANCED PLACEMENT (AP)** - A student who has scored 3, 4, or 5 on an Advanced Placement Program examination will receive credit for an equivalent or elective Ridgewater College course. Credit equivalencies and credits awarded are available in the Registrar’s Office.

3. **COURSE TEST-OUT** - A student may request to challenge a course. Following permission from the instructor and the appropriate Dean of Instruction, the student makes appropriate arrangements with the instructor. A fee is payable prior to completing the exam.
   - A student may attempt a test-out of a particular course only once within a twelve-month period.
   - The test-out option is not available to students who want to test-out of a course they have failed, received an N/C (no credit), or in which they wish to improve their course grade.
   - The test-out option is not available in all courses.
   - Tests are course-specific examinations designed by the appropriate college faculty member and reflect the objectives of the course. A grade of “C” or better will be recorded as a PASS grade.

4. **PRIOR LEARNING EXPERIENCE** - Students may make application to use prior experiential learning for transfer toward course credits. The learning may result from a variety of experiences: college classroom, work experience, internships, library, or life experience. These experiences must be:
   - recent and relevant, and
   - of sufficient length with verified satisfactory performance.

   Please contact the Registrar if you wish to obtain further details. A non-refundable fee will be charged for each credit.

5. **MILITARY EXPERIENCE CREDIT** - Credit shall be granted for veteran’s military training and service in compliance with Subd. 2 of Minnesota Statute 197.775—“Higher Education Fairness” (https://www.revisor.mn.gov/statutes/?id=197.775) according to the standards and equivalencies of the American Council on Education. A student must present evidence of satisfactory completion of such education to the Transcript Evaluator. The credits awarded are entered on the student’s transcript without grades. When necessary, the Transcript Evaluator should consult with departments and/or disciplines regarding transferability of military credits.

**INTERACTIVE TELEVISION NETWORKS**

Ridgewater College is part of two interactive telecommunication networks, the Central Minnesota Distance Learning Network (CMDLN) and the Southwest/West Central Higher Education Organization for Telecommunications (SHOT). Through a fiber-optic cable interconnect among 11 colleges and universities, two-way interactive audio and video courses, seminars and meetings are conducted daily and on weekends to increase learning opportunities for the citizens of central and southwestern Minnesota. Interactive television allows students and clients to:

- take courses at convenient times
- share in the expanded programming and expertise of many different colleges and universities
- take courses and seminars close to home rather than traveling to a distant site
- participate in a variety of unique programs offered by member schools

Southwest Minnesota State University is the hub of the SHOT system. St. Cloud Technical College is the hub of the CMDLN system, and because of its connection to St. Paul Technical College can uplink courses and seminars through MnSAT, a cooperative satellite uplink owned by the Minnesota State Colleges and Universities System and the World Trade Center.
BACKGROUND CHECKS FOR STUDENTS & FACULTY IN CLINICAL PLACEMENTS

Minnesota law requires that any person who provides services that involve direct contact with patients and residents in a healthcare facility licensed by the Minnesota Department of Health have a background check conducted by the State. Ridgewater College participates in the process by supplying and requesting students to complete the background check forms. The college sends completed forms to the Department of Human Services. An individual who is disqualified from having direct patient contact as a result of the background study, and whose disqualification is not set aside by the Commissioner of Health, will not be permitted to participate in a clinical placement in a Minnesota licensed healthcare facility. Failure to participate in a clinical placement required by the academic program could result in ineligibility to qualify for a degree in this program.

The following Ridgewater College programs require background checks:
1. Activity Director/Assistant
2. Early Childhood Education
3. Education Paraprofessional
4. Health Information Technician
5. Human Services transfer program: Social Services, Chemical Dependency Practitioner
6. Massage Therapy
7. Medical Assistant
8. Medical Coding Specialist
9. Nursing
10. Nursing Assistant
11. Paramedic

See your faculty advisor, program director, or the Dean of Instruction for additional information.

FIREARMS, POSSESSION OR CARRY OF

In accordance with the Minnesota Citizens’ Personal Protection Act of 2003, Minnesota Statutes Section 624.714, and other applicable law, Ridgewater College restricts the possession or carry of firearms as outlined below in Minnesota State College and University Board Policy 5.21.

PART 1: PURPOSE AND SCOPE

The purpose of this policy is to establish restrictions on possession or carry of firearms applicable to the Minnesota State Colleges and Universities System, in accordance with the Minnesota Citizens’ Personal Protection Act of 2003, Minnesota Statutes Section 624.714, and other applicable law.

PART 2: DEFINITIONS

Subpart A - Employee: “Employee” means any individual employed by Minnesota State Colleges and Universities, its colleges and universities and the Office of the Chancellor, including student employees.

Subpart B - Firearm: “Firearm” means a gun, whether loaded or unloaded, that discharges shot or a projectile by means of an explosive, a gas, or compressed air.

Subpart C - Pistol: “Pistol” means a weapon as defined in Minnesota Statutes Section 624.712, Subd. 2.

Subpart D - Student: “Student” means an individual who is: registered to take or is taking one or more courses, classes, or seminars, credit or noncredit, at any System college or university; or between terms of a continuing course of study at the college or university, such as summer break between spring and fall academic terms; or expelled or suspended from enrollment as a student at the college or university, during the pendency of any adjudication of the student disciplinary action.

Subpart E - System Property: “System property” means the facilities and land owned, leased, or under the primary control of Minnesota State Colleges and Universities, its Board of Trustees, Office of the Chancellor, colleges, and universities.

Subpart F - Visitor: “Visitor” means any person who is on System property, but does not include (1) an employee of the Minnesota State Colleges and Universities acting in the course and scope of their employment; or (2) a student, when that student is on System property.

PART 3: GENERAL

No person is permitted to carry or possess a firearm on System property except as provided in this policy.

Subpart A - Employee:

1. PROHIBITION: Employees are prohibited from possessing or carrying a firearm while acting in the course and scope of their employment, either on or off System property, regardless of whether the employee has a permit to carry a firearm, except as otherwise provided in this policy.

2. LICENSED PEACE OFFICERS: Subpart 3.A.1 does not apply to employees who are licensed peace officers under Minnesota Statutes Section 626.84, Subd. 1(c), when assigned by the college or university to public safety duties.

3. EMPLOYEE REPORTING RESPONSIBILITY: An employee with a reasonable basis for believing an individual is in possession of or carrying a firearm in violation of this policy has a responsibility to report the suspected act in a timely manner, unless doing so would subject the employee or others to physical harm. Reports should be made to the Dean of Students. This policy shall not prohibit prompt notification to appropriate law enforcement authorities when an immediate threat to personal safety exists. Employees shall not make reports of a suspected violation knowing they are false or in reckless disregard of the truth.

Subpart B - Students:

1. PROHIBITION: Students are prohibited from possessing or carrying a firearm while on System property, regardless of whether the student has a permit to carry a firearm, except as otherwise provided in this policy.
These application forms can be obtained from most high school counseling offices in the state or from the Financial Aid Office at Ridgewater College or online at www.FAFSA.ed.gov.

Reinstatement of Financial Aid

A student who has been suspended from Ridgewater College may receive financial aid if he/she is reinstated according to the college's satisfactory academic progress policy.

Academic Standards & Financial Aid

Grants

Federal Pell Grant

The Pell Grant is a program of student financial aid authorized by Title IV, Part A, of Educational Amendments of 1991. This program provides for grants for all eligible students to assist them in meeting educational costs.

Federal Supplementary Educational Opportunity Grant

Supplementary Educational Ridgewater College Opportunity Grants are available to undergraduate students with exceptional financial need.

Charles and Ellora Alliss Education Foundation Grants - (Two-Year College Opportunity Grant)

Eligibility Requirements

This grant is available to students with financial need who are attending Minnesota State Colleges, and who are enrolled part- or full-time in AA, AS, AAS, AFA, diplomas, certificates and MnTC courses designed to transfer to baccalaureate programs. Awards are for an amount between $350-$1100 per year, which may be renewable but not automatically.

- Must be enrolled part- or full-time (see above)
- Must have not have earned a baccalaureate degree.
- Must have completed a FAFSA for the current school year OR be a MN DREAM ACT student.
- Must intend to transfer and/or pursue a 4-year degree at Ridgewater or another institution

Application Process

Students shall complete the required Application and Degree Completion Form prior to registration to apply.

Grant Administration

- A grant shall be for one semester only. To renew an award for
General Information

1. Teacher cancellation
2. Head Start cancellation
3. Military cancellation
4. Volunteer Service cancellation
5. Law Enforcement or Corrections Officer cancellation
6. Nurse or Medical Technician cancellation
7. Child or Family Service Agency cancellation
8. Death and/or Disability cancellation

These loans may be applied for through the Ridgewater College Financial Aid Office.

Student Educational Loan Fund (SELF)

This loan program is sponsored by the State of Minnesota and supplements existing student loan programs and provides long-term, low-interest educational loans to students who cannot obtain the financing they need from traditional financial aid programs. The college helps determine eligibility for this loan and, if eligible, determines how much money the student may borrow. As of July 1, 2007, qualified undergraduates may borrow up to $7,500 per year.

Employment

Federal College Work Study Program

This program is designed to provide work and income for qualified students in need of financial assistance while attending Ridgewater College. Students generally work on campus in a variety of positions or off campus for non-profit organizations.

Student Help

Institutional employment provides employment for students who are not able to arrange for adequate financial assistance in any other manner, and at the same time, provides needed help to the administration, faculty and staff.

State Work Study

This employment program is available on or off campus to a restricted number of students. Participants must be Minnesota residents.

Ridgewater College Foundation Scholarship Program

The Ridgewater College Foundation awards scholarships each year with funds provided by donations from community organizations, businesses and individuals. It is intended that these scholarships assist with tuition expenses to help keep Ridgewater College affordable and accessible to all students who wish to receive post-secondary education. Scholarship criteria varies. Some recognize academic success, others leadership skills, and some potential for success. Many are linked to a specific program or department. Financial need may be a consideration. Application deadlines are October 15 and April 15 each year. For more information, contact the Foundation Office at 320-222-6095 or go to www.ridgewater.edu/scholarships.
FINANCIAL AID CONSIDERATIONS
1. Maximum Time Frame — Students may receive financial aid up to a maximum of 90 registered semester (or its equivalent) credits, provided they meet the required GPA. Credits transferred from other institutions toward a certificate or degree may be counted in this number.
2. Financial aid will only be disbursed following the college drop/add period for the semester/summer session.
3. Ridgewater College reserves the right to withhold aid from any student, at any time, who demonstrates an attendance pattern that abuses the receipt of financial aid; for example, a student who withdraws from all classes two consecutive semesters, or a student who has previously attended two or more institutions and has not progressed satisfactorily, or a student who does not appear to be pursuing degree/certificate completion, etc.
4. Developmental coursework (below 100 level) will be included under this policy with a limit of 30 semester credits or its equivalent normally being allowed.

FEDERAL FAMILY EDUCATION LOAN PROGRAM GUIDE

<table>
<thead>
<tr>
<th>PROGRAM NAME</th>
<th>FEDERAL SUBSIDIZED STAFFORD LOAN</th>
<th>FEDERAL UNSUBSIDIZED STAFFORD LOAN</th>
<th>FEDERAL PLUS LOAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELIGIBILITY</td>
<td>Full- and half-time undergraduate and graduate students. Must show financial need.</td>
<td>Full- and half-time undergraduate and graduate students. Not based on financial needs.</td>
<td>Graduate students and parents of full- or half-time dependent undergraduate students. Not based on financial need. Credit checks are required.</td>
</tr>
<tr>
<td>ANNUAL LOAN LIMITS</td>
<td>$3,500-1st year $4,500-2nd year $5,500-3rd year+ $8,500-Graduate/Professional $2,625-Preparatory coursework (for enrollment in an undergraduate program) $5,500-Preparatory coursework (for enrollment in a graduate or professional program) $5,500-Teacher certification (Annual limits are based on a full year program. Shorter programs have lower limits.)</td>
<td>Same as Federal Subsidized Stafford limits. Independent graduate students may be eligible for additional funds: $4,000-1st and 2nd year $5,500-3rd year+ $12,000-Graduate/Professional $4,000-Preparatory coursework (for enrollment in an undergraduate program) $7,000-Preparatory coursework (for enrollment in a graduate or professional program) $7,000-Teacher certification</td>
<td>Cost of attendance less other aid on a per student basis</td>
</tr>
<tr>
<td>CUMULATIVE LOAN LIMITS</td>
<td>$23,000-Undergraduate $65,500-Graduate/Professional Students</td>
<td>Independent and graduate students total limit for Subsidized and Unsubsidized combined: $46,000-Undergraduate $138,500-Graduate/Professional</td>
<td>None</td>
</tr>
<tr>
<td>INTEREST RATE</td>
<td>$6.8% fixed rate. Government pays all interest during in-school and grace periods</td>
<td>Same as Federal Subsidized Staff Loan. Interest accrues from time of disbursement, but students can defer interest payments until after graduation or dropping below half-time.</td>
<td>Variable rate. Interest accrues from time of disbursement but can defer if borrower qualifies.</td>
</tr>
<tr>
<td>ORIGINATION FEE</td>
<td>Up to 1.5%</td>
<td>Up to 1.5%</td>
<td>3%</td>
</tr>
<tr>
<td>DEFAULT FEE</td>
<td>Up to 1%</td>
<td>Up to 1%</td>
<td>Up to 1%</td>
</tr>
<tr>
<td>PAYMENT BEGINS</td>
<td>6 months after graduation, withdrawal from school, dropping below half-time, or failure to make academic progress</td>
<td>Same as Federal Subsidized Stafford Loan Program</td>
<td>First payment is due within 60 days after final disbursement, but can be suspended if borrower qualifies.</td>
</tr>
<tr>
<td>REPAYMENT TERMS</td>
<td>Maximum 10 years to repay. Minimum monthly payment is $50. Graduated, income-sensitive, extended, and level payment plans available.</td>
<td>Maximum 10 years to repay. Minimum monthly payment is $50. Graduated, income-sensitive, extended, and level payment plan available.</td>
<td>Maximum 10 years to repay. Minimum monthly payment is $50. Graduated, income-sensitive, extended, and level payment plans available.</td>
</tr>
</tbody>
</table>
Tuition Payment Options

Option 1: Financial aid recipients: Your financial aid will be applied to your account during the second week of each semester. Charges not covered by financial aid must be paid in full by the posted tuition due date.

Option 2: To help you meet your education expenses, Ridgewater College offers Nelnet as a convenient budget plan. This is not a loan program. You have no debt, there are no interest or finance charges assessed, and there is no credit check. The cost to budget your interest-free monthly payment plan is a $25.00 per semester non-refundable enrollment fee. You may budget your tuition and fees in the following ways:

A. Payments may be made by automatic bank payment (ACH) directly from either your checking or savings account.

B. Or payment may be automatically charged to the credit card you designate. To access the Nelnet payment plan, go to the Ridgewater College website at https://www.ridgewater.edu/admission-aid/tuition-and-fees/paying-tuition/

NOTE: You will not be permitted to register for subsequent semesters until your account is paid in full.

LATE FEE: A $30.00 late fee will be applied to all delinquent accounts 30 days after the published due date.

Other Fees and Special Costs

Some technical programs may have additional tool/book requirements ranging from $250 to $1200. Some programs also charge a personal property fee which may range from $30 to $165 per year. Please check with the Admissions Office for individual program details.

Reciprocity

Special agreements have been reached between various states allowing students to pay tuition rates which are less than the non-resident rates. The arrangements are called reciprocity agreements. There are currently reciprocity agreements between Minnesota and Wisconsin, North Dakota, South Dakota, and Manitoba. There is also the Midwest Student Exchange program with Kansas, Michigan, Missouri and Nebraska.

Students from states covered by reciprocity agreements must apply to their home state. Applications are available from the Ridgewater College Admissions Office. Once the home state has processed the application, the College will be notified. Students with approved reciprocity agreements will be charged the reciprocity rate for their state of residence.

Non-Resident Tuition

If a student lives in a state that has a reciprocity agreement with Minnesota, tuition and fees will be based on the student’s home state reciprocity agreement. Students should contact the Admissions Office for further information. Ridgewater College allows students who reside in states that do not have reciprocity agreements with the state of Minnesota to pay in-state tuition rates.

Disclosure Statement

All costs are approximate and may be amended at any time. This publication is intended as an informational source only. Changes may be made as needed at the discretion of Ridgewater College. Actual costs may vary due to fee structure, state guidelines, or policy changes. For more information, please call the Business Office at the campus you plan to attend. The phone numbers are listed in the front of your catalog.

Registration Cancellation for Non-Payment

Tuition and fees for any semester must be paid in full by the posted tuition due date. Paid in full is defined as having made full payment, enrollment in an approved payment plan, a completed and filed financial aid application, or payment by third party. Students not meeting at least one of these criteria may be canceled from all classes.

To avoid being dropped, students must meet one of the following requirements:

1. Paid tuition in full.
2. College has received FAFSA results from the US Department of Education and the accepted award meets or exceeds 15% or $300.00 of the tuition/fee balance due on the account. This may require acceptance of loans.
4. Have enrolled in Post-Secondary Enrollment Option (PSEO) program.
5. Established a NelNet payment plan on eService.
6. Have completed and signed a VA deferment form.
7. Have contacted the Business Office and completed a special deferment plan.

Policy on Dropping Credits and Tuition Charges

At Ridgewater College the act of registration is considered an acknowledgment on the part of the student that s/he will attend and pay for the registered course. Any drop or withdrawal request must be processed within the established time lines, and payment will be required for all courses that remain on a student’s schedule past the drop/add period.

What does this mean?

1. If a student is registered for a class after the drop/add period, s/he will be expected to attend and pay for the course.
2. If a student withdraws from a class after the drop/add period, s/he is still responsible to pay for it.
3. If a student does not attend a class for which s/he is registered, the student will receive the earned grade (probably a failing grade).
4. If a student does not pay for the courses for which s/he is registered:
   a. s/he may not register for any subsequent terms.
   b. s/he may not receive a transcript.
   c. his/her debt will be sent to a collection agency.
Therefore during the drop/add period, if you register for courses and then decide not to attend:

1. Access the following website: www.ridgewater.edu
   a. select the icon for eServices,
   b. log in,
   c. proceed from there to drop your classes.

OR

2. Contact the Registration Office at the campus you were planning to attend, and ask the registration staff to adjust your schedule:

   Hutchinson Campus:
   800-722-1151 or 320-234-8593

   Willmar Campus:
   800-722-1151 or 320-222-5213

REMEMBER: Dropping your classes is your responsibility. Do not ask your instructors or counselors to do this for you. You may want to visit with them prior to taking this action, but dropping your classes is your responsibility.

REFUND OF TUITION AND FEES FOR TOTAL WITHDRAWALS

A student who receives confirmation of total withdrawal from the Records and Registration Office is eligible for a refund according to the following schedule. Refund checks generally take two to three weeks to process and return to the student. The effective date of a drop or total withdrawal is the date the request is received by the Records and Registration Office.

WITHDRAWAL PERIOD REFUND

For fall and spring terms:
- 1st through 5th business day of the term: 100%
- 6th through 10th business day of the term: 75%
- 11th through 15th business day of the term: 50%
- 16th through 20th business day of the term: 25%
- After 20th business day of the term: 0%

For summer term and other terms at least three weeks but less than ten weeks in length:
- 1st through 5th business day of the term: 100%
- 6th through 10th business day of the term: 50%
- After the 10th business day of the term: 0%

The refund schedule is based on the policy adopted by the Minnesota State Colleges and Universities Board of Trustees. This policy can be found online at http://www.minnstate.edu/board/policy/512.html.

A financial aid recipient who completely withdraws from a term prior to the 60% point of that term is subject to the return of federal aid not earned, as well as the refund calculation for the Minnesota State Grant and the SELF Loan. Examples of both calculations are available from the Financial Aid Office at the student’s request.

The responsibility to repay unearned federal aid is shared by the College and the student in proportion to the aid each is assumed to possess. The College’s and student’s shares of the unearned aid are allocated among the following financial aid programs in the following order: Federal Unsubsidized Stafford Loan, Federal Subsidized Stafford Loan, Federal Perkins Loan, PLUS Loan, Federal Pell Grant, and Federal SEOG. NOTE: The College’s share will be allocated before the student’s share. Any remaining unearned aid is the responsibility of the student. The unearned aid must be collected from the student and subsequently allocated among the federal aid programs in the order indicated above.

The College will calculate and return its share of unearned federal funds no later than thirty days after it determines that the student withdrew. A student will return his/her share of unearned aid attributable to a loan under the terms and conditions of the promissory note. The College may allow a student to repay unearned aid attributable to a grant under a payment arrangement satisfactory to the College. This applies when a student withdraws from the College or it is determined that s/he is no longer in attendance.

WAIVERS

The President or designee may waive amounts due to the college for the following reasons:
- death of a student
- extreme medical reasons preventing the student from completing the term successfully (typically the withdrawal option would be used for medical situations).
- college error
- course conditions (a course condition exists when the location or timing of the course results in the student not being able to use the service intended by a fee)
- natural disasters or other situations beyond the control of the campus

A student interested in pursuing a waiver must complete a student petition form which includes the request, the rationale and supporting documentation. The completed form must be submitted to the waiver authority, currently the Dean of Students. It is important to note that these are rare and the college always examines the totality of the situation, i.e., amount of financial aid received, overage check(s) sent to student, federal and state regulations, etc.

REGISTRATION ADJUSTMENT

A registration adjustment is an addition, deletion or change made to a student’s course schedule. Registration adjustments include, but are not limited to:
- dropping and/or adding a single course
- withdrawing from a single course
- withdrawing from all courses

It is the student’s responsibility to initiate drops or withdrawals.
A student who stops attending a course prior to the completion of the semester without following the College policy and procedures will receive the earned grade for the course and will be charged all appropriate fees. Such students will be denied any refund and may be deprived of future acceptance at other academic institutions. Failure to attend class does not in itself constitute cancellation. The College reserves the right to drop a student from a course.

**Dropping and/or Adding Courses**

Students may add courses through the online registration process through the first five (5) business days of fall and spring terms and for the first three (3) business days of summer term. Business days are defined as Monday through Friday, excluding posted holidays. For any course that does not begin the first week of the semester, a student must add the course within one business day following the first day of the course. Any exceptions must be approved in writing by the instructor and the appropriate instructional Dean and processed through the Registrar’s Office. Tuition must be paid by the tuition due date.

Students may add courses at any time during the semester if the course has not started and there are openings in the course.

For courses that start the first week of the semester, a student may drop these courses through the first five (5) business days of that semester to receive a tuition adjustment. For courses that do not start the first week of the semester, a student has the right to attend one class and still retain the right to drop the course. The drop must be accomplished within one business day following the first day of the course. Students may drop courses through the online registration process. Courses dropped within the drop/add period do not appear on the transcript.

For flex lab and independent study courses, students have the first five (5) business days of the semester or the first five (5) days after registration (whichever is later) to drop the course. The registration date counts as the first day, and days are counted as business days, not calendar days or scheduled class days. For online and blended courses, the first day of class is the posted start date of the course or the semester.

**Withdrawing from a Single Course**

After the drop period of a term has elapsed, a student has the right to withdraw from a course through the online eService’s process. The final date for official course withdrawal shall be the date on which eighty percent (80%) of the days in the academic semester have elapsed. For courses not on a standard academic semester schedule, the final date for official course withdrawal shall be established as the date on which eighty percent (80%) of the instructional days for the course have elapsed. Withdrawal dates for each course can be viewed in the online course schedule.

Students withdrawing during the withdrawal period receive a transcript symbol of “W” on their transcript. While a “W” has no impact on the GPA calculation, it has a negative impact on percentage of completion used to evaluate Satisfactory Academic Progress for both academic and financial aid purposes. In addition, withdrawing from courses may have tuition and financial aid implications.

Beginning with the sixth (6) business day of the semester, there will be no refund for withdrawals from individual courses. Refunds will only be given for total withdrawals (i.e., withdrawing from all courses) according to the refund schedule.

**NOTE:** Although the student has the right to withdraw, it is the College’s expectation that a student desiring to do so will discuss course withdrawal with the relevant instructor(s) prior to withdrawing. At the discretion of the instructor, a student may forfeit the right to withdraw from any course in which the student has received a failing grade due to academic dishonesty. A student may not withdraw from any course that is completed or for which an earned grade has been assigned by the instructor.

After the withdrawal period has elapsed, a student with documented extenuating circumstances must have his/her withdrawal approved by the instructor and the appropriate Instructional Dean. The supporting document should be forwarded with the late withdrawal request to be included in the student's file. This can be done by submitting a registration adjustment form and marking “grade change” on the form or via email from a Ridgewater College email account.

**Withdrawing from All Courses**

A student may initiate a complete withdrawal from all courses by meeting with a counselor and completing the required forms in the Counseling Office, as long as the withdrawal period for any of the student’s courses has not elapsed. The student will receive a “W” with no designation as to passing or failing the courses. A student may not withdraw from any course which is completed or for which an earned grade has been assigned by the instructor.

**Student Services**

Student Services include a variety of campus-based activities designed to assist potential and current students in gathering information, making decisions about their lives, and implementing plans for their future. Student Services staff facilitate success for people from an early informational stage to beyond graduation.

**Goals of Ridgewater College Student Services Department:**

Mission and Vision: To provide a system of support to students in their pursuit of their educational goals.

1. **Customer Service:** to serve the needs of all callers, visitors, staff, faculty and students in the quickest, most friendly and assistive way possible. We will support, empower and challenge students as they explore, discover, and create their own identities. We will strive to provide the best cultural environment possible for every
Counseling Services
The College is sincerely interested in the success of its students. The entire counseling program places emphasis on students’ growth and independence through an increasing knowledge of themselves and of opportunities available for education, careers, and personal development.

Objectives
• Assist students in acquiring information and developing attitudes, insights and understanding about themselves and their environment, which are necessary for maximum growth and development.
• Inform students of educational opportunities to assist them in making appropriate educational choices.
• Assist new and potential students to experience successful entry into the college.
• Serve as consultants to members of the faculty and administration, as part of the educational team.
• Provide an effective communication program with area high schools and surrounding communities.
• Provide help to students needing assistance by referral to the Academic Support Centers. This may include tutoring services, evaluations where needed, and other study skills.

Services Provided
Student Services can provide information and services in each of the following areas: transfer, records, occupational, educational and community information, short-term personal counseling, career assessment, job placement (in school and out), course placement testing, and career guidance counseling to students.

Assistance is available to all students regarding concerns such as child care, transportation, finances, etc. Students may work with the counselor of their choice. There is no charge for their services.

Career Services
Career Services assists students, graduates and employers with their employment needs. Career Services is located on both campuses of Ridgewater College. Here, students will find resources and personal assistance in exploring careers and finding employment.

Career Services staff actively seeks out career opportunities for graduates. Ridgewater College has built a strong reputation for educating and assisting our graduates in finding related employment. Many programs have 100% placement rates.

Students and graduates who are registered with www.collegecentral.com/ridgewater have access to all employment opportunities that are posted directly to Ridgewater College by employers looking to fill their employment needs.

Career Services will also assist students in finding part-time employment while attending college. These part-time opportunities come to us as we work in cooperation with hundreds of employers in the Willmar and Hutchinson communities and are also posted at www.collegecentral.com/ridgewater.

Academic Assistance
Academic Support Centers are located on both the Willmar and Hutchinson campuses. In Willmar, the center is located in the Library, and in Hutchinson, it is located in Room 145. The Academic Support Centers provide a variety of academic services for students including assistance with basic communication, math and computer skills, coordination of study groups, peer tutoring, small group and one-on-one assistance for some classes, and assistance with program study skills. Whether you’re looking for a little help with an assignment you don’t quite understand, or need more extended help with a class, please stop by and talk with our staff to see if we can help support your academic success. There is no cost for services provided. The centers are open on class days during fall and spring semesters. Hours are from 8:00 a.m. to 4:00 p.m. Monday through Thursday and on Fridays, Hutchinson hours are 9:00 to 1:00 and Willmar campus is open from 8:00 to 2:00 p.m.

Disability Services
Ridgewater College offers support services to qualified individuals with documented disabilities. Students must disclose and request services through the Disability Services Office. Accommodations/services are coordinated based on documented need.

TRIO - Student Support Services
The TRIO - Student Support Services Office serves Ridgewater College students who have a serious commitment to academic excellence. Students are eligible for the program if they are a citizen or permanent resident of the United States; officially admitted to Ridgewater College; in need of academic support; and either a first-generation college student (neither parent nor guardian has completed a four-year degree), a low-income student, and/or a student with a documented disability.
Programs & Services

Natural Resources Academy - Selected new students have the opportunity to attend a summer academy and take a 3-credit Biology 0131 course tuition-free before fall semester classes begin. Summer academy coursework and workshops assist participants in acclimating to their new college environment.

Academic Advising - A program advisor is assigned to work individually with students to help develop an academic plan and assist them in achieving good grades. The assigned advisor also monitors the student’s academic progress while enrolled at Ridgewater College.

Group Study Opportunities - Timely intervention programs in the form of group study opportunities are available to all program participants directly through the TRIO program or referral to other college departments.

Transfer to Four-Year College - Students of the TRIO program have the opportunity to tour four-year colleges within the state of Minnesota. Advisors also discuss transfer opportunities and work with transfer schools to ensure a smooth transition for participants who transfer from Ridgewater College with an Associate’s degree.

Workshops, Cultural Events and Other Services - Throughout the school year, workshops are offered on relevant subjects to students of the program. Cultural events, field trips, and presentations are also offered. In addition, the TRIO program offers participants access to a dedicated computer lab and a short-term laptop and graphic calculator loan program.

How to Apply for TRIO - Applicants must be enrolled or accepted for enrollment at Ridgewater College in an Associate in Arts, Associate in Science, or Associate in Applied Science program. Call 320-222-8075 to receive an application or just stop by the TRIO - Student Support Services Office in Room A144 (Willmar) or Room 105 (Hutchinson). Return the completed application to the TRIO - Student Support Services Office and provide necessary proof of eligibility. The TRIO program is provided by a $237,143/year grant funded by the U.S. Department of Education TRIO Programs.

International Travel

Ridgewater College offers students the opportunity to travel to other countries with college credit. Various departments will offer such courses during spring break or summer school.

Bookstores

A bookstore is located on each Ridgewater College campus. The Bookstore is the place to purchase all the items needed to begin your classes. This includes books, tools, supplies, clothing and other school-related items. The Bookstore also offers books for rent and many e-book options. Students may also purchase snacks and beverages, postage stamps, greeting cards, software and some electronics at the Bookstore.

The bookstores are open every day that classes are in session as well as some evenings. Bookstore hours are posted on each campus. The Bookstore is open to students, faculty, and the general public.

Students that have met one of the tuition and fee payment requirements and are registered for at least one Ridgewater credit may charge up to $1,000 for required books and classroom kits (clothing and food are not included). Students with existing financial aid funds (grants, loans, agency or PSEO) may use available funds, after tuition and fees have been deducted, to charge textbooks. A picture I.D. is required when paying with check or credit card and for all financial aid transactions. Students may also purchase books and clothing online at www.ridgewaterbookstore.com. Students ordering books online have the option of paying with credit card or financial aid funds. Books can be picked up at the Bookstore or shipped UPS.

At the end of each semester, the Bookstore offers a “book buy back” where students can sell their books back to the Bookstore for cash. This allows the Bookstore to then offer the book used for students in the next semester. Rented textbooks must be returned to the Bookstore at the end of the semester and cannot be sold at the book buy back.

Textbook Refund Policy

- A receipt must be presented for all refunds or exchanges
- New books must be in good condition, free from any writing, highlighting, or creases.
- Shrink-wrapped items that are opened are nonreturnable.
- Special orders are non-returnable.
- Refunds will be allowed within the first five days of the semester.
- Textbooks purchased after the refund deadlines or for short length classes are refundable for up to 48 hours if they have not been used by the customer.

Library

The Ridgewater College libraries (Willmar and Hutchinson campuses) hold a print collection of over 50,000 volumes including 100,000 electronic books, over 250 unique periodical titles, and additional non-print materials available in a variety of formats. The library collections are searched through the PALS online catalog. Additionally, via interlibrary loan (ILL), materials from the collections of 125+ libraries in Minnesota are available through the state supported Minitex program. Numerous general and subject specific online databases provide citations and full text articles to magazines, journals, and newspaper articles, books, and a variety of other reference sources. Within each library, computer terminals are available to students for research and study. Reference services are provided to students individually, through bibliographic instruction, and in-library orientation sessions by the professional librarian. A professional librarian is also available 24/7 through a chat service.
The campus libraries are open as follows: Monday through Thursday from 7:30 a.m. to 7 p.m. and Friday from 8 a.m. to 4 p.m. with special hours during summer sessions.

The Willmar campus library is housed in the center of the library building while the Hutchinson campus library is in the northwest corner of the main building (Room 130).

**Peer Tutoring Program**

The Peer Tutor program gives students who are successfully achieving in a given subject the opportunity to help other students who are having difficulty. The Peer Tutors assist students with knowledge and skill in the needed areas.

If you would like to request a tutor, assistance may be obtained from the Peer Tutoring coordinators. On the Willmar campus, please contact Audrey VanBeck at 320-222-5263. On the Hutchinson campus, contact Terry Grinde at 320-234-8552.

**Assessment for Course Placement**

As part of its commitment to student success, Ridgewater College has developed a process to assess the reading and mathematics skills of new students, to develop minimum assessment standards for access to the college level curriculum, and to maintain a set of developmental education courses to bring students with inadequate skills to the minimum standard.

Adherence to this policy offers many benefits to students:

1. Supports student access and success by ensuring they have to develop skills to compete in the college level curriculum;
2. Increases success in college level courses, resulting in improvement in persistence and graduation rates;
3. Eases transfer among Minnesota State institutions since a single, portable assessment method will be in place at all Minnesota State institutions;
4. Assures that the integrity of the college-level curriculum can be maintained by ensuring students enrolled in courses have achieved the prerequisite academic skill levels;
5. Allows development of seamless and successful transitions from high school to college. Explicit benchmarks for college readiness can be connected to high school graduation standards.

Ridgewater College requires all students to complete an incoming student assessment that includes basic measures of reading comprehension and mathematics unless they meet the exemption criteria.

The College will use the assessment instrument and minimum course placement scores required by Minnesota State Board Policy 3.3.

The College also uses a set of screening questions to identify students with possible English Language Learner (ELL) needs. If identified by the screening process, these students are also asked to complete the ELL Accuplacer assessments (ELL Listening and ELL Reading, Language, Sentence assessments) for appropriate placement into developmental ELL and English courses.

The incoming student assessment shall not be used to make decisions related to college admission.

**Minimum Standards for Access to College-Level Courses**

Students who score below Ridgewater College's minimum test standards must successfully complete appropriate developmental education through courses or other means before enrolling in selected college-level courses. Retesting is allowed under certain circumstances (see Ridgewater College Test Center Procedures).

Students placed in MATH 0097 by their math placement score who think the placement is incorrect are encouraged to retake the math portion of the Accuplacer placement exam.

**Criteria for Student Exemptions**

Students may be exempt from all or part of the incoming student assessment based on the following criteria:

1. Documentation of Accuplacer scores if:
   a. The test date is within three (3) years for the reading comprehension or sentence skills assessments, inclusive of the current calendar year, or
   b. The test date is within two (2) years for the mathematics assessment, inclusive of the current calendar year.

2. Documentation of subject area test scores on the ACT test taken within three calendar years, inclusive of the current calendar year, for mathematics. A student who obtains the following minimum scores or higher shall be placed in the corresponding college-level course(s).
   a. Reading. A student who presents a reading subject area test score of 21 or higher shall be placed in courses that designate college-level reading skills as a prerequisite.
   b. Mathematics. A student who presents a mathematics subject area test score of 22 or higher shall be placed in College Algebra.

3. Documentation of completion of college-level coursework from a post-secondary institution as follows:
   a. For sentence skills exemption: C- or higher in an equivalent English course.
   b. For mathematics exemption: C- or higher in an equivalent math course.
   c. For reading exemption: 24 credits or more in at least two of the following three areas: history and the social and behavioral sciences; humanities and fine arts; mathematical/logical reasoning or natural sciences (with a cumulative GPA of 2.0 or higher).

4. Documentation of completion of developmental coursework from a post-secondary institution as follows:
   a. For reading or sentence skills exemption: C- or higher in an equivalent course.
   b. For mathematics exemption: C- or higher in an equivalent course.

5. Documentation of completion of a bachelor’s degree or higher. If the degree includes a college-level mathematics class, all assessments will be waived. If not, the student will be required to take the mathematics assessment.

6. Enrollment is exclusively in non-credit courses or programs.
General Information

Grading
Ridgewater College operates on a semester system. After each semester, grade reports will be available on the web at www.ridgewater.edu through eServices.

The following grading system is used at Ridgewater College to report academic achievement and to compute the student's grade point average.

<table>
<thead>
<tr>
<th>Grading Symbol</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
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<tr>
<td>B-</td>
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<tr>
<td>C+</td>
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<tr>
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<tr>
<td>D</td>
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<tr>
<td>D-</td>
<td>0.67</td>
</tr>
<tr>
<td>F (Failure)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Other Transcript Symbols

NC  Attempted course but did not earn credit. No grade point value earned.
I  Incomplete.
P  C or higher level of performance attained. Earned credit but no grade point value.
W  Withdrawal. No credit earned.
AU  Audit - no credit earned. No grade assigned or grade point value.
IP  In progress - entered by Registrar's Office for courses still in progress at end of current semester. No grade assigned at this time.
Z  Course registered for current semester. No grade assigned at this time.

Test Center
Ridgewater College's Test Center exists to meet the needs of both Ridgewater and area students in the areas of testing. The Test Center has three specific purposes:
1. To give assessment tests for students entering Minnesota State Colleges and Universities and needing to be assessed, as well as for students transferring to other institutions requiring the Accuplacer for entrance or admission purposes.
2. To give make-up tests or proctor tests for students of Ridgewater College.
3. To proctor exams for students from other institutions enrolled in distance learning courses. Ridgewater College is a test proctoring site listed on MN Online and has the ability to proctor both online and paper/pencil tests.

Definitions
The following definitions are important to the interpretation of the Assessment for College Placement Policy:

COLLEGE LEVEL - Courses offered by Ridgewater College numbered above 100 in the transfer division and above 1000 in the technical division, which count toward the credit requirements of a certificate, diploma, or associate degree.

DEVELOPMENTAL EDUCATION - Courses numbered below 100 in the transfer division and below 1000 in the technical division, intended for students who do not meet minimum assessment standards. These courses do not count toward a certificate, diploma, or associate degree.

Health Promotions
Ridgewater College strives to provide students with information related to wellness, nutrition, stress management, etc. We offer a number of activities on campus that promote such concepts. We also annually host the Red Cross Bloodmobile, a health fair, and a host of educational symposiums and speakers.

Cooperative Education/Internships
Cooperative education is also available to students at Ridgewater College. Placement is made with an agency, business or industry related to the student's major. The primary objective is to provide the student with a combination of field experience alternated with academic study to provide a more meaningful education. It is further intended that students will achieve the practical exposure necessary to make their field experience relevant to their long-range occupational goals. For more specific information, contact an advisor or cooperative education supervisor and complete the required forms.

Audit
Students auditing courses are required to pay the regular tuition and fees but are not required to take tests or complete assignments. No credit is awarded for audited courses. Students wishing to audit a course must declare this at the time of registration. Students wishing to audit a course may enroll on a space-available basis. Financial aid is not awarded for an audited course. A student does not need to be admitted to the college to audit a course.
INCOMPLETES

The mark “I” (incomplete) is a temporary grade that is assigned only in exceptional circumstances. A student may request a grade of “I” when coursework has been satisfactory and the majority of coursework has been completed, but the student is unable to complete all course requirements before the end of the semester. The “Incomplete Grade Request Form” must be signed by both the instructor and the student and submitted to the Student Services Office by the end of the course. Coursework must be completed and a grade submitted to the Student Services Office by a mutually agreed-upon date, not to exceed the end of the following semester. A grade of “F” will be recorded if this deadline is not met.

GRADE POINT AVERAGE

Grade point average (GPA) is the student’s grade point total divided by the grade point credit total. Each grade report shows the student’s GPA for the term and cumulative GPA since admission. An “I,” “P,” “IP,” or “W” does not carry a grade point value and, as such, is not calculated in the GPA. “I,” “P,” and “W” credits do not count toward total registered credits. “IP” does not count toward total registered credits in the calculation of satisfactory academic progress.

REPEATING COURSES

A course may be repeated for an improved grade. A change of grade request form must be submitted to the Student Services Office for the change to be recorded. Only the higher grade will be counted toward graduation and in the computation of the overall grade point average. An “R” will be entered on the transcript next to the initial grade to indicate the course was repeated. The maximum number of credits that may be repeated is 18. A student may repeat a course no more than two times.

If a student wishes to satisfactorily repeat or complete a course for which s/he previously earned an “F”, the student must register for the course again.

To view the entire grading system policy, go to https://www.ridgewater.edu/about/student-rights-responsibilities/satisfactory-academic-progress/.

ATTENDANCE

Faculty may have a written attendance policy. Attendance requirements are written into the course syllabus and explained to all students. Fair treatment will be afforded to all students under any and all circumstances.

GRADUATION REQUIREMENTS

To be considered eligible for graduation with an associate degree, diploma, or certificate (9 credit minimum as defined by Minnesota State), each student must meet the following requirements:

1. Complete all courses and achieve a cumulative grade point average of 2.0 or better on a 4.0 grading scale. In addition, diplomas and degrees may require minimum passing grades for specific courses.
2. Fulfill all financial obligations to the college.
3. A student seeking candidacy for an associate degree, diploma or certificate must submit an “Application for Graduation” form to the Student Services Office when the student pre-registers for his/her last semester in residence. (A student must be within 10 credits or 12 credits internship of completing his/her degree or diploma to participate in graduation ceremony.) A separate application is required for each degree, diploma and/or certificate. An accurate Degree Audit Report (DARS) must be attached. The audit must be for the major indicated on the application and it must read “ALL REQUIREMENTS COMPLETED – IN PROGRESS COURSES USED” or “ALL REQUIREMENTS IDENTIFIED BELOW HAVE BEEN MET.”
4. Residence: To be eligible for graduation, a student must have earned at least 1/3 of the semester credits at Ridgewater College and must be enrolled at the college during the semester in which the degree requirements are completed. An exception may be made when a student who has completed at least 20 credits at Ridgewater College lacks 10 or fewer credits for graduation. Such students may petition the administration for permission to complete the degree requirements through transfer of acceptable nonresident credit. Petitions/Transcripts will be evaluated on a case-by-case basis for recency or to insure compliance with current graduation standards. For extenuating circumstances, such as entry into the military service, this transfer of acceptable credits must occur within a reasonable amount of time after the student transferred from Ridgewater College. The petition form, which is available from the counselors, must be submitted in the year in which the degree is to be awarded.
5. Participation: All students seeking an associate degree or diploma are expected to participate in the graduation ceremonies.
6. Time Limit: Students graduating in fewer than four years must meet the graduation and degree requirements in the current college catalog or those degree requirements in effect during their first term at Ridgewater College. Students graduating more than four years after the date of first enrollment must meet the requirements stated in the catalog in effect for the year in which graduation occurs.

ACADEMIC HONORS

At the end of each semester, students who have completed a minimum of twelve (12) credits will be named to the Dean’s list if they have a semester GPA of at least 3.50. Students graduating with a diploma or degree will graduate with Honors if they have a cumulative GPA of at least 3.50, with High Honors if they have a cumulative GPA of at least 3.75, and with Highest Honors if they have a cumulative GPA of 4.00.
**ACADEMIC SUSPENSION GUIDELINES AND PROCEDURES**

**Satisfactory Academic Progress**

Ridgewater College maintains an open door admission policy, assesses students admitted, and provides developmental coursework and other programs of assistance to support student success. Students must perform at an acceptable academic level to continue enrollment and to receive financial aid. Students will be evaluated both qualitatively (GPA) and quantitatively (completion percentage and maximum time frame).

**Qualitative Measure of Progress**

To earn a certificate, diploma, or associate degree from Ridgewater College, a student must have a cumulative Grade Point Average (GPA) of 2.0 or better in college-level courses. Accordingly, a 2.0 GPA is the standard for all satisfactory academic progress.

If a program or discipline has academic standard guidelines and procedures that are more stringent than the Ridgewater College Academic Suspension Guidelines and Procedures, the program/discipline guidelines supersede these guidelines and procedures.

**Quantitative Measure of Progress**

A. **REQUIRED COMPLETION PERCENTAGE**

Students must earn 66.67% of the cumulative credits registered. The completion percentage will be calculated dividing the credits successfully completed by the credits attempted. Courses for which the student receives an F, NC, W, I and FN are treated as attempted but not successfully completed.

B. **MAXIMUM TIMEFRAME**

Students may continue to receive financial aid through the number of credits required for the completion of a Ridgewater College degree/diploma/certificate multiplied by 150%. Students who have attempted over 75 semester credits should meet with their advisor to fill out an academic plan. Students who have double majors will be evaluated based on the required course work for both programs. Students who change programs or return for an additional degree/diploma/certificate will be evaluated based on their current program of study requirements.

**Evaluation Period**

Students will be reviewed at the end of each term (fall, spring, and summer). Faculty will submit grades to the Registrar within 72 hours of the end of each term to allow enough time for progress to be evaluated. Reviews will be completed prior to the 5th day of the academic term.

**Failure to Meet Standards**

**Warning Status**

If at the end of the evaluation period a student has a cumulative GPA of less than 2.0 and/or a completion percentage below 66.67%, the student will be allowed to continue at Ridgewater College under a warning status for one evaluation period. Students are strongly encouraged to meet with their advisor and/or counselor.

Reinstatement of Students on Warning Status: If at the end of the warning period a student who has been on warning status has met Ridgewater College’s cumulative qualitative and quantitative standards, the student will return to good academic standing.

**Suspension**

Suspension of Students on Warning Status: If at the end of the warning period a student who has been on warning status has not met Ridgewater College’s cumulative qualitative and/or quantitative standards, he/she will be suspended immediately.

**Maximum Time-Frame Suspension**

If at the end of the evaluation period a student has failed to meet Ridgewater College’s standard for measurement of maximum time-frame, he/she shall be suspended from financial aid eligibility immediately upon completion of the evaluation.

**Suspension of Students for Extraordinary Circumstances**

Students may be suspended from financial aid in the event of extenuating circumstances including, but not limited to, previously suspended (and reinstated) students whose academic performance falls below acceptable standards during a subsequent term of enrollment; students who register for courses, receive financial aid, and do not attend any classes; and students whose attendance patterns appear to abuse the receipt of financial aid.

A student who has been placed on suspension status at another Minnesota State institution shall have that suspension in effect at Ridgewater College. A student would have to follow the appeal process stated below to be considered for re-instatement.

**Suspension for Inability to Meet Program Requirements within the Maximum Time Frame**

If at the end of any evaluation period Ridgewater College determines that it is not possible for a student to raise her or his GPA or course completion percentage to meet the standards before the student would reach the end of the program for which he or she is receiving financial aid, he/she shall be suspended from financial aid eligibility immediately upon completion of the evaluation.

**Notification**

Students who fail to meet standards and are being placed on warning, probation or suspension prior to the start of the next semester will be notified in writing by the Registrar. Included with the written notification of suspension will be an Appeal Form as well as the date the appeal must be returned.

**Appeals**

Students who are suspended due to unsatisfactory academic progress (from this or any other Minnesota State institution) have the right to appeal based on an error of record or on extenuating/ unusual circumstances. Examples of extenuating circumstances that may be considered for an appeal include, but are not limited to, death of a relative, illness, hospitalization, injury of the student or other unusual circumstances the student believes should be given consideration. Students are notified in writing via their suspension letter that sitting out a period of time in and of itself does not re-establish eligibility. The student must submit, as part of the appeal, documentation regarding why the student failed to make satisfactory academic progress, and what has changed in the student’s situation that would allow the student to demonstrate satisfactory academic progress at the end of the next evaluation period. Students must provide proof of the extenuating
circumstances in addition to a written explanation, along with their Appeal Form.

An appeal may be approved only if Ridgewater College:

- Has determined that the student will be able to meet SAP cumulative (Pace and GPA) standards after the subsequent evaluation period; or
- Has assigned to the student an academic plan that will require a term GPA standard of 2.00 and a term completion standard of 85.00%. This academic plan shall also determine the appropriate credit load and courses that the student may attempt.

Students who have been suspended for not meeting SAP standards (here or at another Minnesota State college or university) that have successfully completed (at a 2.0 or higher GPA) 12 or more college-level transferable credits at an accredited college or university since that suspension do not have to go through the appeals process.

We will analyze any submitted transcripts to determine whether or not the student would be allowed to re-enter on probation.

Results of all appeals shall be communicated to students in writing and shall include the standards that the student is expected to meet and/or the academic plan that the student is expected to complete in order to retain eligibility. Notifications of denied appeals shall describe the reason for the denial and the process for appealing the denial.

Students are strongly encouraged to meet with a counselor to review an Academic Inventory as well as to establish an Academic Improvement Plan to accompany their appeal.

All appeals will be initially considered by the Director of Financial Aid. Appeals of reinstatement denials may be considered by an Appeals Committee which will meet at the end of each evaluation period and as needed throughout the remainder of the year. The Chief Academic Officer will establish an Academic Suspension Appeals Committee that will consist of 1-2 Academic Deans, the Financial Aid Director, and the Registrar. The committee will also include 2-4 faculty (with representation from campuses) as well as a counselor from each campus.

Students who have a grade change after the initial evaluation may also appeal for a new evaluation. Students who successfully appeal will be allowed to continue enrollment under their previous status.

**Probation Status**

A student who has successfully appealed will be placed on financial aid probation for one semester. If at the end of the next semester (evaluation period), a student on probation status:

- a. has met the cumulative and pace standards, the student will be returned to good standing;
- b. has failed to meet the cumulative qualitative and pace standards but have satisfied the conditions specified in their academic plan, the student will be allowed to continue for a subsequent semester on probation;
- c. has failed to meet the cumulative qualitative and pace standards and failed to meet the conditions specified in their academic plan, the student shall be suspended immediately.

**Reinstatement**

Students who have been suspended and wish to return to college (or who are currently suspended from any other Minnesota State institution) and who feel as though they have mitigated their extenuating circumstances shall follow the appeals process described above.

**Additional Elements**

A. **TREATMENT OF GRADES**

- **Completion Percentage**: The completion percentage will be calculated by dividing successfully completed credits by attempted credits. Courses for which a student receives an “I,” “F,” “NC,” “W” or “FN,” are considered not successfully completed. In Progress “IP” and Audited “AU” courses are not counted in the calculation of completion percentage.

- **Grade Point Average**: Grade point average (GPA) is the student's grade point total divided by the grade point credit total. Each grade report shows the student’s GPA for the term and cumulative GPA since admission. An “I,” “AU,” “P,” “NC,” “IP” or “W” does not carry a grade point value and, as such, is not calculated in the GPA.

- **Incompletes**: Credits for which an “I” is received are considered attempted credits but not successfully completed credits for the purpose of monitoring satisfactory academic progress. Thus, an “I” does not impact GPA but does negatively impact the cumulative completion percentage.

- **Registered Credits**: The total number of credits for which a student is officially enrolled at the end of the drop/add period each term.

B. **ACADEMIC AMNESTY**

Ridgewater College does not offer academic amnesty.

C. **AUDITED COURSES**

Audited courses will not be funded by financial aid and are not included in any satisfactory academic progress measurements.

D. **CONSORTIUM CREDITS**

Credits for which financial aid is received under a consortium agreement shall be recorded in the Student Data System to be included in cumulative GPA, pace percentage, and maximum timeframe calculations.

E. **REMEDIAL/DEVELOPMENTAL COURSES**

Credits awarded for course work with a course prefix below 100. Students may receive financial aid for developmental credits up to a maximum of 30 semester credits. Developmental courses do not count toward graduation, but will be included in the qualitative and pace percentage measurement of satisfactory academic progress.

Up to 30 developmental credits shall be excluded from the maximum timeframe calculation.

F. **REPEATED COURSES**

A course may be repeated for an improved grade. A student will not be permitted to receive financial aid for more than one repetition of a previously passed course. A change of grade request form must be submitted to the Records and Registration Office for the change to be recorded. Only the higher grade will be counted toward graduation and in the computation of the overall grade point average. All attempts are counted toward calculation of the overall completion rate.
An “R” will be entered on the transcript next to the initial indicate the course was repeated. The grade to maximum number of credits that may be repeated is 18. A student may repeat a course no more than two times. If a student wishes to satisfactorily repeat or complete a course for which he/she previously earned an “F” or “NC,” the student must register for the course again.

G. TRANSFER CREDITS
Transfer credits accepted by Ridgewater College and applied to the student’s program requirements shall be counted as credits attempted for calculation of completion percentage. Grades associated with these credits shall not be used in calculating cumulative GPA. Credits accepted in transfer and applied toward a student’s general education or degree requirements shall apply towards maximum time frame evaluation.

H. WITHDRAWALS
Credits for which a “W” is received are considered attempted credits but not successfully completed credits for the purpose of monitoring satisfactory academic progress. Thus, a “W” does not impact GPA but does negatively impact the cumulative completion percentage.

Definitions:
Academic Plan - A student who successfully appeals for reinstatement may be required by an institution to complete, during a probationary period, specific requirements contained in an academic plan developed for that student by the institution.
Evaluation Period - Institutions shall measure Satisfactory Academic Progress at the end of each academic term or at the mid-point of programs less than one year in length.
Suspension of Students on Warning Status - A student on suspension status is not eligible to attend. Students who have been suspended may regain their eligibility only through the institution’s appeal process or when they are again meeting the institution’s satisfactory academic progress cumulative grade point average and completion percentage standards.
Maximum Time Frame - The maximum number of cumulative attempted credits within which a student must complete his or her academic program.
Probation Status - A status under which a student who has successfully appealed a suspension shall regain his or her financial aid eligibility for one evaluation period, after which he or she must either have met the institution’s cumulative GPA and completion percentage standards, or have successfully completed the requirements of an academic plan developed for that student by the institution.
Qualitative Measure - The Grade Point Average (GPA) a student must maintain in order to retain eligibility.
Quantitative Measure - The “pace” at which a student must progress through his or her program in order to retain eligibility.
Required Completion Percentage - The percentage of cumulative attempted credits a student must successfully complete in order to retain eligibility.
Warning Status - A status under which a student shall continue to retain her or his eligibility for one evaluation period despite a determination that she or he has not met either an institution’s grade point average standards, or completion percentage standard or both.

GRADE APPEAL POLICY
Ridgewater College recognizes the long-standing and widely accepted practice that the individual classroom instructor is the final authority in evaluating student performance in his/her courses. Also recognized is the fact that this right brings with it a responsibility to provide students with a clear statement of course grading policies, and of fairly and consistently applying these policies. A corollary to this is the student’s right to receive from an instructor an explanation of any grade received.

While recognizing the rights and responsibilities of the instructor, in extraordinary circumstances students have the right to appeal for a grade review in instances where they believe that a final course grade was assigned unfairly or in a manner inconsistent with the stated course grading policy. To be precise, the following three categories are the only legitimate basis for a grade appeal at Ridgewater College:

Arbitrariness: The course grade awarded represents such a substantial departure from accepted academic norms as to demonstrate that the instructor did not actually exercise professional judgment.
Prejudice: The grade awarded was motivated by ill will, and is not indicative of the student’s academic performance in the course.
Error: The instructor made a mistake in fact (e.g., a calculation error or omission), or failed to give students enrolled in the course adequate notice of grading policies. In cases where a student believes that a grade has been assigned incorrectly based on one or more of the grounds stated above, it is expected that the student will seek to resolve any concerns informally by speaking directly with the course instructor before beginning a formal appeal process. The formal appeals process should not be undertaken lightly, nor should it be undertaken merely because a student is unhappy with the grade received in a course.

A student who has questions regarding his/her course grade must speak with the instructor within two weeks from the date grades are posted online.

If, after speaking with the instructor in a good-faith effort to resolve a grade dispute, a student still believes that his/her course grade was assigned in a way that is arbitrary, prejudicial, or in error according to the categories listed above, the student may make a formal grade appeal no later than two weeks after speaking with the instructor. If no formal appeal is made by the end of these two weeks, then the student will in general have no rights to formally appeal the course grade.

FORMAL GRADE APPEAL
Grade appeals will proceed according to the following steps:

Step 1
A written appeal will be submitted by the student to the instructor of the class. The appeal is a formal request to the course instructor that the student’s specific concerns about the grade be completely addressed. The student must complete the Grade Appeal Form, which
The Step 2 Appeal is submitted to the Dean of Instruction, with a copy sent to the course instructor. The student should retain a copy of these materials for his/her records. The Dean will review the materials submitted by the student. This review may include a conference with the student and/or the course instructor, and may include a joint meeting with both in order to reach a mutually agreeable resolution.

In cases in which a mutually agreeable solution is not reached, the Dean’s office will, within two weeks, issue a written opinion to the student and the course instructor.

It should be well-noted that there is no presumption or requirement that instructors will accept the Dean’s recommendation.

In cases where this is not possible (due, e.g., to travel or other appropriate reasons), the instructor will respond to the student as soon as possible past the two week limit.

Transferring Credits

Transfer from Ridgewater College

Ridgewater College offers services and policies that will make it easier for students to plan their progress and prevent loss of time and credits. Help is available from the counselors, academic advisors and transfer specialists on each campus.

Written Intrasystem Agreements:

- For transfer of general education (Minnesota Transfer Curriculm) or the Associate in Arts degree.
- For early application/admission to a university.
- That tell which courses qualify for transfer in key areas such as engineering and nursing.
- Clearly stated criteria for admission to the institution/major selected.
- Clear policies that tell kinds of courses a college or university will accept for transfer.
- A transfer appeals process on every campus that advisors and transfer specialists can assist with.

Facts about Transfer of Credits

The receiving college or university decides what credits transfer and whether those credits meet its degree requirements. The accreditation of originating and receiving institutions can affect the transfer of the credits earned. 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”). Not everything that transfers will fulfill graduation requirements. Baccalaureate degree programs usually count credits in three categories: general education, major/minor courses and prerequisites and electives. The
key question is, “Will your credits fulfill requirements of the degree or program you choose?” If students change career goals or majors, they might not be able to complete all degree requirements within the usual number of graduation credits.

**PREPARING FOR TRANSFER**

Students currently enrolled in a college or university should select the more appropriate suggestions as follows:

1. Tell the campus transfer specialist about individual plans. Find out who can help select courses that will transfer.
2. Visit the intended transfer college. Pick up a college catalog and a transfer brochure.
3. Call the intended transfer college. Find out what admissions criteria are for the institution/major of interest. Request transfer application materials.
4. Find out what materials (e.g. portfolio, transcripts, test scores) may be required for admission. Ask whether there are transfer scholarships available and whether there is a deadline for all materials to be submitted. If information about financial aid is needed, find out how to apply and by what date.
5. Make an appointment to talk with an advisor/counselor in the college or program selected. Ask about course transfer and admission criteria. Prepare for this meeting by reading catalog information about specific majors or areas of interest.
6. If there has been a break in college attendance, meet with an admissions officer at your intended transfer college to plan the necessary steps.

**APPLYING FOR TRANSFER ADMISSION**

Application for admission is always the first step in transferring. Fill out the application as early as possible prior to the deadline, typically 6-12 months before intended transfer. Enclose the application fee. Request that official transcripts be sent from every institution previously attended. Students might be required to provide a high school transcript or GED test scores as well.

Re-check to be certain that all necessary paper work has been supplied to the college or university. Most colleges make no decisions until all required documents are on file. If no communication has been received from your intended college of transfer after one month, call to check on the status of the application.

After you are notified of acceptance for admission, transcripted credits will be evaluated for transfer. At a minimum, a written evaluation should tell which courses transfer and which do not. How courses specifically meet degree requirements may not be decided until orientation or declaration of a major.

**TRANSFERRING**

If there are questions about transcript evaluation, call the Admissions Office and ask to speak with the transcript evaluator. Ask why judgments were made about specific courses. Many concerns can be cleared up if you understand why decisions were made. If not satisfied, appeal. See “Your Rights as a Transfer Student” which follows.

For details on transfer of Minnesota Transfer Curriculum, refer to the Minnesota Transfer Curriculum section beginning on page 30.

**YOUR RIGHTS AS A TRANSFER STUDENT**

- A clear, understandable statement of an institution’s transfer policy.
- A fair credit review and an explanation of why credits were or were not accepted.
- A copy of the formal appeals process.
- A review of eligibility for financial aid or scholarships.

**TRANSCRIPTS**

Transcripts can only be released with a written request by the student. The request should include the student’s name and signature, address, phone number and Social Security number. It should also include the address to which the transcript should be sent. There is a $7.50 fee for official transcripts. This request should be brought to the Student Services Office.

**MISCELLANEOUS**

**Alcohol/Drug Abuse Policy**

Ridgewater College recognizes alcohol and drug misuse and abuse as a potential health, safety, and security problem and that the use of illicit drugs and the unlawful possession and use of alcohol is wrong and harmful. It is the intent of Ridgewater College to provide a drug-free, healthy, safe, and secure educational and work environment.

The College has implemented a program to prevent the illicit use of drugs and abuse of alcohol by students and employees. This policy addresses the issues raised by the Drug-Free Schools and Communities Act Amendments of 1989 (Public Law 101-226). All students and employees will be provided with a copy of the college Alcohol and Drug Abuse Prevention policy annually and must abide by the terms of the policy. The complete policy can be viewed at https://ridgewater.edu/about/college-governance/college-policies/. Click on Chapter 5 for the information.

**Campus Security**

Ridgewater College complies with the Student Right to Know Act of 1990, as amended, and the Higher Education Amendment of 1992. Policies, prevention services, and crime statistics are available in the Student Services Office on either the Hutchinson or Willmar campuses. These reports can be accessed at www.ridgewater.edu. Select the tab “More RC” and click on Campus Crime Report.
COLLEGE COMPUTERS AND NETWORKS
Use of college computers and networks is meant to further the educational mission of the college, support the instructional objectives of college courses/programs, and enhance the educational experience of students. All rules and regulations in this policy document are designed to support these proper uses. For detailed information concerning student use of college computers and networks, see the Student Handbook online at www.ridgewater.edu.

DATA PRIVACY POLICY
Students may access Data Privacy information regarding students’ rights, responsibilities, and authorizations for the collection and release of data by accessing the following website: https://www.ridgewater.edu/wp-content/uploads/2018/06/Data-Practices-Policy.pdf. Click on Chapter 5. (Tennessee warning - M. S. 13.04, subd. 2)

EMAIL AND INTERNET
All students registering for credit coursework are assigned an official email account upon initial registration. Ridgewater College uses email as the primary method of communication with students. Students are responsible for information, notices, and deadlines disseminated through email.

FAMILY EDUCATION RIGHTS AND PRIVACY ACT (FERPA)
The purpose of the Family Education Rights and Privacy Act is to afford certain rights to students concerning their education records. The primary rights afforded are the right to inspect and review their education records, the right to seek to have the records corrected, and the right to have some control over the disclosure of information from the records. The College Data Practices Policy is located on our website at http://www.ridgewater.edu/more-rc/Pages/college-policies.aspx.

ORIENTATION
Orientation is mandatory for all first-time Ridgewater students. Once students have been accepted and have completed the required placement testing, they will be invited to attend an Orientation, Advising and Registration session. Students who have not completed this session will not be allowed to register for classes. Students who return after a two-year time lapse will be required to complete another orientation session.

PARKING FOR STUDENTS
For students who bring motor vehicles to campus, the following regulations are in effect:
Registration: All motor vehicles operated by students must be registered with the college.
Parking Permits: A parking permit is issued when a vehicle is registered. Hanging permits are provided for inside rearview mirrors. Each permit will cost $2.30 per credit taken at the college up to a maximum of $34.50 per semester. If a student owns more than one vehicle, additional permits may be obtained for $1 each upon proof of ownership. A new permit will be issued if a different vehicle has been purchased.

PERSONAL PROTECTIVE EQUIPMENT
Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be used and maintained in a sanitary and reliable condition by the student. Instructors shall base the requirement for personal protection equipment on an evaluation of the hazard relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified.
Protective eye and face equipment may be required in:
• Science, Medical Assistant, Nursing, Cosmetology, and/or Veterinary Technology classes to protect the student from the specific hazard exposure. Chemical resistant goggles, gloves and face shields are required in some classes and will be enforced by the instructor.
• All shop/lab activities while participating in or in the vicinity of activity that could result in exposure to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation. Use of industrial quality eyewear with side shields and/or face protection sufficient to protect against the specific hazard exposure will be required and enforced by the instructor. Examples of programs that may require eye and face protection may be: Art, Theater, Science labs, Cosmetology, Auto Body, Auto Mechanics, Agriculture, Electrician, Machine Tool, Carpentry, Welding, and Nondestructive Testing Technology.
• Any student failing to comply with eye and face protection requirements may be temporarily suspended from participation in said course and the registration of a student for such course may be cancelled for willful, flagrant, or repeated failure to observe requirements.
Foot, head and hand protection must be worn when working in areas where there is a danger of foot and/or head injuries due to falling or rolling objects, or objects piercing the sole, and where such employee’s feet are exposed to electrical hazards. Hand protection to protect against severe cuts, severe punctures, abrasions or absorption will be required and enforced by the instructor. Programs such as Car-
Tobacco Use

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The Minnesota Transfer Curriculum (MnTC) is the means by which students will transfer their completed lower division general education requirements to any public university in Minnesota beginning Fall, 1995. The specified transfer curriculum will be accepted as a package, allowing transfer of general education from two-year colleges to universities or for transfers from one university to another.

All such “packaged” courses or transfer curricula are certified by the faculty of the sending institution as meeting the goals and student competencies agreed upon by representatives of all public higher education systems in Minnesota.

Beginning Fall 1995, all students who enroll initially at Ridgewater College will be eligible to complete the MnTC. All new students who seek the Associate in Arts (AA) degree must complete the MnTC. New students who seek the Associate in Science (AS) or Associate in Applied Science (AAS) degree may complete portions of the MnTC. Students who enrolled at Willmar Community College/Ridgewater College before Fall 1995, and students who transfer credits into Ridgewater College from another school, may be eligible to complete the MnTC. If you are such a student, you must consult with a counselor and/or advisor in order to assess your eligibility and evaluate the MnTC for your specific situation.

Ridgewater College offers three degrees:
The Associate in Arts (AA) Degree. The MnTC was developed as the general education component (40 credits) of the AA degree. All students seeking an AA degree must complete the MnTC.

The Associate in Science (AS) Degree. AS programs are transfer degrees with courses approved by both Ridgewater College and participating institutions.

The Associate in Applied Science (AAS) Degree. AAS programs are transfer degrees with courses approved by both Ridgewater College and participating institutions.

Clubs and Organizations
The student life program seeks to complement academics by providing an educational environment outside the classroom for all students. The program provides opportunities for individuals to participate in activities geared toward their educational, social, cultural, and recreational interests.

The comprehensive student life program strives to ensure equitable opportunities for both women and men, provide opportunities for all students, and include a fair and open process that integrates students, faculty, and administrators. The college currently has over 40 active clubs on campus.

Art Gallery
The Willmar and Hutchinson campuses have art galleries which feature the work of many local artists, photographers, and students.

Sports — Varsity Athletics
Athletics play an important part of student life at Ridgewater College by providing exciting events for students, fans and boosters. Team practices are held on the Willmar campus but students from both campuses may participate. The Ridgewater Warriors compete in the Minnesota Community College Conference, Region 13 and national tournaments. Teams have earned a solid reputation as one of the best athletic programs in Minnesota.

Seven sports are offered:

<table>
<thead>
<tr>
<th>Men</th>
<th>Women</th>
<th>Co-Ed</th>
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<tbody>
<tr>
<td>Baseball</td>
<td>Softball</td>
<td>Clay Target</td>
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<tr>
<td>Basketball</td>
<td>Basketball</td>
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<tr>
<td>Wrestling</td>
<td>Volleyball</td>
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Campus Recreation
A variety of activities are also offered. Contact the Student Life Office for a list of activities offered each semester.

Minnesota Transfer Curriculum (MnTC)

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Students who enrolled at Willmar Community College/Ridgewater College before Fall 1995, and students who transfer credits into Ridgewater College from another school, may be eligible to complete the MnTC. If you are such a student, you must consult with a counselor and/or advisor in order to assess your eligibility and evaluate the MnTC for your specific situation.

Ridgewater College’s degrees, and their relation to the MnTC

Ridgewater College offers three degrees:

The Associate in Arts (AA) Degree. The MnTC was developed as the general education component (40 credits) of the AA degree. All students seeking an AA degree must complete the MnTC.

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General Information

Programs of Study
Minnesota Transfer Curriculum and Degrees, Diplomas, Certificates

four-year colleges and universities. An Associate in Science program shall include a minimum of 30 semester credits in general education courses. General education courses shall be selected from at least six of the ten goal areas of the MnTC. An AS degree may include the entire MnTC. (Minnesota State Policy 3.17) ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE. An AAS program shall include a minimum of 20 semester credits of liberal arts and sciences courses. General education courses shall be selected from at least three of the ten goal areas of the Minnesota Transfer Curriculum. (Minnesota State Policy 3.17)

Minnesota Transfer Curriculum Goals

The Minnesota Transfer Curriculum has ten goal areas:
1. Communication
2. Critical Thinking
3. Natural Sciences
4. Mathematical/Logical Reasoning
5. History and the Social and Behavioral Sciences
6. The Humanities and Fine Arts
7. Human Diversity
8. Global Perspective
9. Ethical and Civic Responsibility
10. People and the Environment

Ridgewater College courses which apply to the above goal areas are indicated on subsequent pages. An individual course may be used to meet two goal areas. In these instances, the course may be used twice to meet different goals, but the credits can only be counted once.

Academic Advising

It is important that students work closely with their advisor as they plan coursework designed to meet the requirements of the Ridgewater College General Education Minnesota Transfer Curriculum. Advisors will also assist students in achieving their educational goals, such as an Associate in Arts degree or meeting course requirements for a specific major. Students will meet with their advisor each semester prior to registering for classes.

Transfer of the Minnesota Transfer Curriculum

Transfer from a Minnesota State College or University:
- When a Minnesota State college or university has determined that the entire Minnesota Transfer Curriculum has been completed by a student, the entire Minnesota Transfer Curriculum shall be accepted as complete for the student at Ridgewater College.
- When a Minnesota State college or university has determined that a Minnesota Transfer Curriculum goal area has been completed by a student, the goal area shall be accepted as complete for that student at Ridgewater College.
- When a Minnesota State college or university has determined that a course meets goal area competencies for a student, the goal area competencies shall be accepted as meeting the same goal area at Ridgewater College.

Transfer from the University of Minnesota:
- When the University of Minnesota has determined that the entire Minnesota Transfer curriculum has been completed by a student, the entire Minnesota Transfer Curriculum shall be accepted as complete for that student at Ridgewater College.
- If evidence is presented that another Minnesota State institution has assigned a University of Minnesota course to a goal area, Ridgewater shall accept the course as meeting the same goal area competencies for that student.

Transfer from other Institutions:
- For course credits accepted in transfer from a regionally-accredited institution, Ridgewater College shall determine how each course meets Minnesota Transfer Curriculum requirements. If evidence is presented that another Minnesota State institution has assigned an accredited institution course to a goal area, Ridgewater shall accept the course as meeting the same goal area competencies for that student.
- If evidence is presented that another Minnesota State institution has assigned a non-accredited institution course to a goal area, Ridgewater will not accept the course as meeting goal area competencies. Students with courses from non-regionally accredited institutions must demonstrate learning outcomes by choosing from an option based on Ridgewater College’s Credit by Examination/Prior Learning Policy.

The full policy and procedures are available on the Ridgewater College website at www.ridgewater.edu.

Ridgewater College General Education/Minnesota Transfer Curriculum Distribution

40 Credits of General Education
NOTE: Numbers in parentheses indicate credit value of each course; bracketed numbers indicate cross-listed goals, if applicable.
1. COMMUNICATION
Goal: To develop writers and speakers who use the English language effectively and who read, write, speak and listen critically. There are two options to fulfill Goal One depending on testing placement and educational goals. Please work with your advisor to find the appropriate option for you.

- **Option 1**: 9 credits/3 courses
  - **Must take 1 CMST and 2 ENGL**
    - CMST 1210 - Introduction to Communication (3)
    - CMST 2200 - Public Speaking (3)
    - CMST 2250 - Small Group Communication (3)
    - ENGL 1209 - College Composition I (3)
    - ENGL 1210 - College Composition I (3)
    - ENGL 1220 - College Composition II (3)

- **Option 2**: 9 credits/3 courses
  - **Must take 1 CMST and 2 ENGL**
    - CMST 1210 - Introduction to Communication (3)
    - CMST 2200 - Public Speaking (3)
    - CMST 2250 - Small Group Communication (3)
    - ENGL 1209 - College Composition I (3)
    - ENGL 1210 - College Composition II (3)
    - ENGL 1230 - Scientific & Technical Writing (3)

2. CRITICAL THINKING
Goal: To develop thinkers who are able to unify factual, creative, rational and value-sensitive modes of thought. This goal will be satisfied by completing one course each from MnTC Goal Areas 1, 3, 4, 5 and 6.

3. NATURAL SCIENCES
Goal: To improve students’ understanding of natural science principles and of the methods of scientific inquiry. Students are encouraged to study both the biological and physical sciences.

- Minimum 8 credits/2 disciplines-one from Group A and one from Group B (courses may be cross-listed with Goals 7-10 as indicated below in brackets [ ])

**GROUP A**
- BIOL 1000 - Introduction to Biology (4) [10]
- BIOL 1010 - Introduction to Human Genetics (4)
- BIOL 1080 - Human Biology (4)
- BIOL 1510 - People, Sustainability, & Environment (4) [10]
- BIOL 2000 - General Biology I (5)
- BIOL 2010 - General Biology II (5) [10]
- BIOL 2100 - Human Anatomy (4)
- BIOL 2110 - Human Physiology (4)
- BIOL 2120 - Human Anatomy and Physiology I (4)
- BIOL 2130 - Human Anatomy and Physiology II (4)
- BIOL 2150 - Microbiology (4)
- BIOL 2300 - Genetics (4)
- ENVS 1410 - Environmental Science (4) [10]
- ENVS 1510 - People, Sustainability, & Environment (4) [10]

**GROUP B**
- CHEM 1000 - Intro to Chemistry (4) [10]
- CHEM 1010 - Survey of Chemistry (4) [10]
- CHEM 1020 - General Chemistry I (4) [10]
- CHEM 1030 - General Chemistry II (4)
- CHEM 1510 - Principles of Chemistry I (5) [10]
- CHEM 1520 - Principles of Chemistry II (5)
- ESCI 1100 - Physical Geology (4)
- ESCI 1120 - Introduction to Meteorology (4) [10]
- ESCI 1130 - Intro to Astronomy (4)
- ESCI 1140 - Natural Disasters (4) [10]
- PHYS 1000 - Concepts in Physics (4)
- PHYS 1010 - College Physics (4)
- PHYS 1020 - College Physics II (4)
- PHYS 1210 - General Physics (5)
- PHYS 1220 - General Physics II (5)
- SCI 1050 - Physical Science (4)
- SCI 1060 - Introduction to Forensic Science (4)

4. MATHEMATICAL/LOGICAL REASONING
Goal: To increase students’ knowledge about mathematical and logical modes of thinking.

- Minimum 3 credits/1 course
  - MATH 1000 - Quantitative Reasoning (3)
  - MATH 1090 - Elements of Algebra and Trigonometry (4)
  - MATH 1100 - Contemporary Concepts in Math (3)
  - MATH 1120 - College Algebra (4)
  - MATH 1160 - Trigonometry (3)
  - MATH 1190 - Accelerated Pre-Calculus (4)
  - MATH 1210 - Calculus I: Calc & Analytical Geometry (5)
  - MATH 1220 - Calculus II: Calc & Analytical Geometry (5)
  - MATH 2010 - Elementary Statistics (3)
  - MATH 2070 - Statistics & Its Applications (4)
  - MATH 2080 - Statistics for Social and Behavioral Sciences (4)
  - MATH 2100 - Introduction to Modern Mathematics I (3)
  - MATH 2110 - Introduction to Modern Mathematics II (3)
  - MATH 2230 - Calculus III: Calc & Analytical Geometry (4)
  - MATH 2330 - Linear Algebra & Differential Equations (5)
  - PHIL 1100 - Logic and Critical Thinking (3)
  - PSYC 2080 - Statistics for Social and Behavioral Sciences (4)

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.

- Minimum 9 credits/2 disciplines required. 3 disciplines recommended. (Courses may be cross-listed with Goals 7-10 as indicated below in brackets [ ])
  - ANTH 1010 - Introduction to Cultural Anthropology (3) [8]
  - ECON 1950 - Introduction to Economics (3) [9]
  - ECON 2060 - Principles of Micro-Economics (3) [10]
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.

- Minimum 9 credits/2 disciplines (courses may be cross-listed with Goals 7-10 as indicated below in brackets [ ])

- ART 1040 - Survey in Art (3) [7]
- ART 1060 - History of Modern Art (3) [7]
- ART 1070 - Women in Art (2) [7]
- ART 1200 - Introduction to Art Studio (3)
- ART 1250 - Art of Digital Photography (3)
- ART 1300 - Printmaking I (3)
- ART 1400 - Drawing (3)
- ART 1440 - Watercolor (3)
- ART 2260 - Elementary Art Education (3)
- ART 2300 - Two Dimensional Design (3)
- ART 2310 - Three Dimensional Design and Color (3)
- ART 2600 - Ceramics (3)
- ART 2610 - Painting (3)
- CMST 2260 - Interpersonal Communication (3) [7]
- CMST 2280 - Argument & Reasoning (3) [9]
- ENGL 1500 - Introduction to Literature (3) [7]
- ENGL 1600 - The Short Story (3) [8]
- ENGL 1700 - World Literature (3) [8]
- ENGL 1800 - American Writers: Modern & Contemporary (3) [9]
- ENGL 1900 - British Writers: Modern and Post-Modern (3) [8]
- ENGL 2110 - Multicultural Literature (3) [7]
- ENGL 2200 - Creative Writing (1-3)
- ENGL 2320 - Fantasy, Fable & Science Fiction (3) [8]
- ENGL 2390 - Gender & Sexuality in Literature (3) [7]
- ENGL 2950 - Special Topics in Literature (3)
- GLST 1010 - Introduction to Global Studies (3) [8]
- GLST 2100 - Global Studies Capstone (1) [8]
- HIST 2100 - East Asian History (3) [8]
- HIST 2220 - Western Civilization II (3) [8]
- HIST 2670 - Special Topics (1-3) [7]
- HUM 1050 - The Human Adventure (3) [8]
- HUM 1100 - Leadership Development Studies (3) [9]
- MUSC 1110 - Introduction to Music (3) [8]
- MUSC 1210 - From Bach to Broadway (3) [8]
- MUSC 1220 - Music of the U.S. (3) [7]
- MUSC 1230 - Fundamentals of Music (3)
- MUSC 1300 - Basic Musicianship I (4)
- MUSC 1310 - Basic Musicianship II (4)
- MUSC 1350 - Survey of Rock and Roll Music (3) [7]
- MUSC 1400 - Music in World Cultures (3) [8]
- PHIL 1010 - Introduction to Philosophy (3) [9]
- PHIL 1020 - Introduction to Ethics (3) [9]
- SPAN 2070 - Intermediate Spanish (4) [8]
- SPAN 2080 - Intermediate Spanish (4) [8]
- SPAN 2100 - Culture of Costa Rica Through Study & Immersion (4) [8]
- SPAN 2950 - Special Topics in Spanish-Advanced Language (4) [8]
- Theatre 1400 - Introduction to Theatre (3)
- Theatre 1410 - Introduction to Film (3)
- Theatre 1420 - Theatre Production & Stagecraft (3)
- Theatre 1500 - Beginning Acting (3)
- Theatre 2500 - Intermediate Acting (3)
### 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.

- 1 course (may be cross-listed with courses from Goals 3-6 as indicated below in brackets [ ])
  
  **Courses:**
  - CMST 2280 - Argument and Reasoning (3) [6]
  - CMST 2600 - Organizational Communication (3)
  - CMST 2230 - Listening (3)
  - CMST 2260 - Interpersonal Communication (3) [6]
  - CMST 2270 - Intercultural Communication (3)
  - ENGL 1500 - Introduction to Literature (3) [6]
  - ENGL 2110 - Multicultural Literature (3) [6]
  - ENGL 2390 - Gender & Sexuality in Literature (3) [6]
  - HIST 1110 - U.S. History to 1865 (3) [5]
  - HIST 1120 - U.S. History 1865 to Present (3) [5]
  - HIST 2500 - Minnesota History (3) [5]
  - HIST 2570 - Special Topics (1-3) [5]
  - HIST 2670 - Special Topics (1-3) [6]
  - MUSC 1220 - Music of the U.S. (3) [6]
  - MUSC 1350 - Survey of Rock and Roll Music (3) [6]
  - PSYC 1310 - Introduction to Psychology (4) [5]
  - PSYC 2120 - Psychology of Aging (3) [5]
  - SOC 1050 - Introduction to Sociology (3) [5]
  - SOC 1070 - Marriage & Family Living (3) [5]
  - SOC 2105 - Native American Studies (3) [5]
  - SOC 2250 - Sociology of Gender (3) [5]
  - SOC 2430 - Sociology of Aging (3) [5]
  - SOC 2440 - Sociology of Death & Dying (3) [5]
  - SOC 2507 - Topics in Sociology (1-3) [5]

### 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.

- 1 course (may be cross-listed with courses from Goals 3-6 as indicated below in brackets [ ])
  
  **Courses:**
  - ANTH 1010 - Intro to Cultural Anthropology (3) [5]
  - CMST 2500 - Computer-Mediated Communication (3)
  - ECON 2070 - Principles of Macro-Economics (3) [5]
  - ECON 2080 - Intro to International Business/Economics (3) [5]
  - ENGL 1600 - The Short Story (3) [6]
  - ENGL 1700 - World Literature (3) [6]
  - ENGL 1900 - British Writers: Modern and Post-Modern (3) [6]
  - ENGL 2320 - Fantasy, Fable & Science Fiction (3) [6]
  - GEOG 1400 - Introduction to Geography (3) [5]
  - GEOG 1410 - World Regional Geography (3) [5]
  - GLST 1010 - Introduction to Global Studies (3) [6]
  - GLST 2010 - Global Studies Capstone (3) [6]
  - HIST 1010 - World History to 1500 (3) [5]
  - HIST 1020 - World History 1500 to Present (3) [5]
  - HIST 2100 - East Asian History (3) [6]
  - HIST 2220 - Western Civilization II (3) [6]
  - HUM 1050 - The Human Adventure (3) [6]
  - MUSC 1110 - Introduction to Music (3) [6]
  - MUSC 1210 - From Bach to Broadway (3) [6]
  - MUSC 1400 - Music in World Cultures (3) [6]
  - POLS 1350 - International Relations (3) [5]
  - PSYC 2470 - International Study (1-3) [5]
  - SOC 2420 - Racial & Cultural Minorities (3) [5]
  - SOC 2508 - Topics in Sociology (1-3) [5]
  - SPAN 1070 - Beginning Spanish I (4)
  - SPAN 1080 - Beginning Spanish II (4)
  - SPAN 2070 - Intermediate Spanish (4) [6]
  - SPAN 2080 - Intermediate Spanish (4) [6]
  - SPAN 2100 - Culture of Costa Rica Through Study & Immersion (4) [6]
  - SPAN 2950 - Special Topics in Spanish - Advanced Language (4) [6]

### 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.

- 1 course (may be cross-listed with courses from Goals 3-6 as indicated below in brackets [ ])
  
  **Courses:**
  - CMST 2280 - Argument and Reasoning (3) [6]
  - CMST 2600 - Organizational Communication (3)
  - CMST 2230 - Listening (3)
  - CMST 2260 - Interpersonal Communication (3) [6]
  - CMST 2270 - Intercultural Communication (3)
  - ENGL 1800 - English Writers: Modern and Contemporary (3) [6]
  - HUM 1100 - Leadership Development Studies (3) [6]
  - PHIL 1010 - Introduction to Philosophy (3) [6]
  - PHIL 1020 - Introduction to Ethics (3) [6]
  - PSYC 1310 - Introduction to Psychology (4) [5]
  - PSYC 2120 - Psychology of Aging (3) [5]
  - SOC 1050 - Introduction to Sociology (3) [5]
  - SOC 1070 - Marriage & Family Living (3) [5]
  - SOC 2105 - Native American Studies (3) [5]
  - SOC 2250 - Sociology of Gender (3) [5]
  - SOC 2430 - Sociology of Aging (3) [5]
  - SOC 2440 - Sociology of Death & Dying (3) [5]
  - SOC 2507 - Topics in Sociology (1-3) [5]
  - CMST 2500 - Computer-Mediated Communication (3)
  - ECON 1900 - Personal Finance (3)
  - ECON 1950 - Introduction to Economics (3) [5]
  - ENGL 1600 - The Short Story (3) [6]
  - ENGL 1700 - World Literature (3) [6]
  - ENGL 1900 - British Writers: Modern and Post-Modern (3) [6]
  - ENGL 2320 - Fantasy, Fable & Science Fiction (3) [6]
  - GEOG 1400 - Introduction to Geography (3) [5]
  - GEOG 1410 - World Regional Geography (3) [5]
  - GLST 1010 - Introduction to Global Studies (3) [6]
  - GLST 2010 - Global Studies Capstone (3) [6]
  - HIST 1010 - World History to 1500 (3) [5]
  - HIST 1020 - World History 1500 to Present (3) [5]
  - HIST 2100 - East Asian History (3) [6]
  - HIST 2220 - Western Civilization II (3) [6]
  - HUM 1050 - The Human Adventure (3) [6]
  - MUSC 1110 - Introduction to Music (3) [6]
  - MUSC 1210 - From Bach to Broadway (3) [6]
  - MUSC 1400 - Music in World Cultures (3) [6]
  - POLS 1350 - International Relations (3) [5]
  - PSYC 2470 - International Study (1-3) [5]
  - SOC 2420 - Racial & Cultural Minorities (3) [5]
  - SOC 2508 - Topics in Sociology (1-3) [5]
10. PEOPLE AND THE ENVIRONMENT
Goal: To improve students' understanding of today's complex environmental challenges.

- 1 course (may be cross-listed with courses from Goals 3-6 as indicated below in brackets [ ])
  
  BIOL 1000 - Introduction to Biology (4) [3]
  BIOL 1410 - Environmental Science (4) [3]
  BIOL 1510 - People, Sustainability, and Environment (4) [3]
  BIOL 2010 - General Biology II (5) [3]
  CHEM 1000 - Introduction to Chemistry (4) [3]
  CHEM 1010 - Survey of Chemistry (4) [3]
  CHEM 1020 - General Chemistry I (4) [3]
  CHEM 1510 - Principles of Chemistry I (5) [3]
  ECLI 1100 - Physical Geology (4) [3]
  ECLI 1120 - Introduction to Meteorology (4) [3]
  ECLI 1140 - Natural Disasters (4) [3]
  ECON 2060 - Principles of Micro-Economics (3) [5]
  ENVS 1410 - Environmental Science (4) [3]
  ENVS 1510 - People, Sustainability, and Environment (4) [3]
  PSYC 2750 - Abnormal Psychology (3) [5]
  SOC 2510 - Topics in Sociology (1-3) [5]

For students seeking the Associate in Arts (AA) degree, it may be necessary to complete up to 7 additional general education credits to meet the Minnesota Transfer Curriculum 40 credit minimum. Additional credits must represent at least two goal areas chosen from areas 3-6.

ACADEMIC ADVISING
Each student is assigned an academic advisor. The advisor is familiar with the college program in the student’s area of interest and should be called upon to assist with the following:

- registration
- designing an educational plan to accomplish the student’s objectives
- understanding the general education program of the college
- planning for long-range educational goals
- questions, concerns, or problems
- petitions
- transfer advice

It is important that students work closely with their advisor as they plan coursework designed to meet the requirements of the Ridgewater College General Education Minnesota Transfer Curriculum. Advisors will also assist students in achieving their educational goals, such as an Associate in Arts degree or meeting course requirements for a specific major. Students will meet with their advisor each semester prior to registering for classes.

Academic advisors are available by appointment during regularly scheduled office hours.

RIDGEWATER COLLEGE PROGRAM OPTIONS

The following provides definitions and other details concerning degrees, diplomas, and certificates offered by Ridgewater College. Our programs conform to Minnesota State Policy 3.36.

ASSOCIATE IN ARTS (AA) DEGREE

The Associate in Arts (60 credits) is a transfer degree for which the Minnesota Transfer Curriculum (MnTC) was developed. AA degrees are 60 semester credits in length and may be awarded for successful completion of a liberal arts and sciences curriculum designed to constitute the first two years of a baccalaureate degree. In order to graduate in 4 semesters with no summer terms, a student will want to average 15 credits per semester. An AA degree must include the entire MnTC (40 semester credits) which, pursuant to Minnesota Statute, must transfer to any Minnesota State university. Students must, however, be provided proper advising, as they may need to enroll in specific courses to meet general education and program major requirements of a four-year institution. All new students seeking an AA degree who entered Ridgewater College in fall quarter of 1995 or later, must complete the MnTC as the general education core requirement. In addition to the 40 credits in the MnTC, Ridgewater College requires all students to complete two credits of Health and Wellness.

Requirements for the Associate in Arts degree:
1. A minimum of sixty (60) credits numbered 0100 or above, with an overall grade point average of 2.0 (C average) or higher.
2. Orientation requirement satisfied.
3. Satisfactory completion of the Minnesota Transfer Curriculum (MnTC).
4. Two (2) credits from these courses:
   a. Public Health 1050 - Personal and Community Health
   b. Public Health 1100 - Drug Education in Contemporary Society
   c. Physical Education 2200 - First Aid/CPR
   d. Public Health 1070 - Nutrition
   e. PE Activity Courses (1020-1400)

ASSOCIATE IN SCIENCE (AS) DEGREE

Associate in Science degrees are 60-64 semester credits in length with courses approved by both Ridgewater College and four-year colleges and universities. They may be awarded for successful completion of a program designed for transfer to a baccalaureate major in a related scientific or technical field, or may be designed for employment. An AS degree must have at least one articulation agreement between the college awarding the AS degree and a four-year institution awarding a related baccalaureate degree. Recipients of the AS degree will be prepared for transfer to baccalaureate majors in the same field.
Students seeking an AS degree will meet some, but not all, of the Minnesota Transfer Curriculum (MnTC) goal areas as part of their degree requirements. The AS degree must include a minimum of 30 semester credits in general education. General education must be selected from at least six of the ten goal areas of the MnTC. The AS degree must transfer pursuant to the terms and conditions of the articulation agreement, and the MnTC courses within the AS degree must transfer to any Minnesota State college or university.

Requirements for the Associate in Science degree:
The Associate in Science degree will include a maximum of 60 to 64 semester credits numbered at 1000 and above, including at least 30 from the Minnesota Transfer Curriculum (MnTC). A majority of the liberal arts and science courses shall be prerequisites to or specifically supportive of courses in the major.

The prerequisite and required courses of the student's curriculum precludes completion of the entire MnTC. The student's transfer needs will be best met, however, through completion of as many of the MnTC's ten goals as possible within the 60- to 64-credit framework of the AS degrees. Orientation and a cumulative grade point average of 2.0 (C average) or higher are required.

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

Associate in Applied Science (AAS) degrees are generally 60 to 72 credits in length and may be awarded for successful completion of a program primarily intended for employment. AAS degrees are typically not designed for transfer. This degree provides excellent preparation for the student planning immediate job entry at the end of two years. This degree requires a combination of technical and general education classes numbered 1000 and above. General education classes must be included in the degree from at least three of the ten goal areas of the Minnesota Transfer Curriculum (MnTC). The MnTC courses within the AAS degree must transfer to any Minnesota State college or university.

Several AAS degree programs are articulated with Bachelor of Applied Science (BAS) degrees. In these cases, the AAS degree must transfer pursuant to the terms and conditions of the articulation agreement, and the MnTC courses within the AAS degree must transfer to any Minnesota State college or university. See your faculty advisor or a college counselor for additional information.

DIPLOMA

Diplomas are 31 to 72 semester credits in length and may be awarded for successful completion of a program intended to provide students with employment skills. Diplomas are typically not designed for transfer. Any Minnesota Transfer Curriculum courses within a diploma must transfer to any Minnesota State college or university. The diploma is awarded to students who complete the technical and general studies requirements pertaining to the program. To qualify for a diploma, the student must complete the entire individual program curriculum as outlined in this catalog with a cumulative grade point average of at least 2.0 (C).

CERTIFICATES

Certificates are 9 to 30 semester credits in length and may be awarded for successful completion of a specialized program of study. Certificates are typically not designed for transfer. Any Minnesota Transfer Curriculum courses within a certificate must transfer to any Minnesota State college or university.

COOPERATIVE BACCALAUREATE PROGRAMS

Southwest Minnesota State University and Ridgewater College have partnered to offer the Bachelor of Science in Early Childhood Education for students completing the AS Early Childhood Degree from Ridgewater, Bachelor of Science (BS) in Business Administration, or the Bachelor of Applied Science (BAS) in Management, on the Willmar and Hutchinson campuses.

Students who have completed, or are in the process of completing the Associate in Arts (AA) degree, or the Minnesota Transfer Curriculum (MnTC), are eligible to apply for the Bachelor of Science degree. Also eligible to apply for the BAS degree are students who have completed, or are in the process of completing the Associate of Science (AS), Associate in Applied Science (AAS) degrees, or a two-year diploma. The program is currently conducted over a three-year cycle with courses offered primarily in the evening and/or weekend configurations. For information, call 800-722-1151 or 320-234-8599.

St. Cloud State University and Ridgewater College are teaming up to offer you classes in Criminal Justice Studies. Earn your Associate in Arts (AA) degree at Ridgewater College and the balance of credits can be earned through St. Cloud State University to complete your bachelor degree in Criminal Justice Studies. Criminal Justice is the study of how society deals with crime and other forms of injustice and victimization. St. Cloud State University's Bachelor's Degree program is an academic, career-oriented program with a foundation in the liberal arts and sciences. The program emphasizes the interrelatedness of law enforcement, court services, corrections, juvenile justice, and private security within the criminal justice continuum. This unique partnership between St. Cloud State University and Ridgewater College delivers high-quality, affordable courses offered on site at St. Cloud State University and online.
Careers
There are numerous careers one can choose from as a criminal justice major. Some of these include:

- Police Officer
- Probation/Parole officer
- Correctional Counselor
- Campus Security
- Homeland Security
- Private Security

For more information:
320-222-7612
www.stcloudstate.edu/continuingstudies/distance/cjs.asp
## Career/Technical Programs

<table>
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<tr>
<th>Programs of Study</th>
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<td>Accountant</td>
<td>AAS/Diploma</td>
<td>H, W</td>
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<tr>
<td>Accounting Clerk / Accounting Technician</td>
<td>Diploma</td>
<td>H, W</td>
</tr>
<tr>
<td>Activity Director / Activity Assistant</td>
<td>AAS/Diploma/Certificate</td>
<td>H, O</td>
</tr>
<tr>
<td>Administrative Assistant</td>
<td>AAS/Diploma/Certificate</td>
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<tr>
<td>Agri-Business</td>
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<td>Agriculture Power and Equipment Technician</td>
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<tr>
<td>Agronomy Technology</td>
<td>Diploma</td>
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<tr>
<td>Auto Body Collision Technology</td>
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<tr>
<td>Automation and Robotic Systems Technology</td>
<td>AAS/Diploma/Certificate</td>
<td>H</td>
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<tr>
<td>Automotive Service Technology</td>
<td>AAS/Diploma</td>
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<tr>
<td>Carpenter</td>
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<td>W</td>
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<tr>
<td>Computer Aided Drafting and Design</td>
<td>AAS/Diploma/Certificate</td>
<td>H, W, O</td>
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<tr>
<td>Computer Support Technician</td>
<td>AAS/Diploma/Certificate</td>
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<td>Cosmetology</td>
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<tr>
<td>Cosmetology - Esthetics, Skin Care</td>
<td>AAS/Certificate</td>
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<td>Cyber Security Specialist</td>
<td>AAS</td>
<td>H, W, B</td>
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<tr>
<td>Dairy Management</td>
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<td>Education Paraprofessional, Educ. Paraprofessional Title 1</td>
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<td>Electrician</td>
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<tr>
<td>Electronics Technology</td>
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<tr>
<td>Emergency Medical Technician</td>
<td>Certificate</td>
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<tr>
<td>Entrepreneurship</td>
<td>Certificate</td>
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<tr>
<td>Estheology / Advanced Esthetics</td>
<td>AAS/Certificate</td>
<td>W</td>
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<tr>
<td>Farm Business Management</td>
<td>Diploma/Certificate</td>
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<td>Farm Operation and Management</td>
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<tr>
<td>GPS/GIS Information Systems Technology (Agriculture)</td>
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<tr>
<td>Healthcare Administrative Assistant</td>
<td>AAS/Diploma/Certificate</td>
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<td>Health Information Technician</td>
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<tr>
<td>Health Support Specialist</td>
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<tr>
<td>HelpDesk</td>
<td>Certificate</td>
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<tr>
<td>Law Enforcement - Peace Officer</td>
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<tr>
<td>Legal Assistant</td>
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<tr>
<td>Linux Administrator</td>
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<td>Machine Tool Tech.-Machining Technician</td>
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<td>Machine Tool Tech.-Mold Making Technician</td>
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<td>Machine Tool Tech-CNC Precision Mfg. Technician</td>
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<tr>
<td>Manufacturing Production Technologies</td>
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<tr>
<td>Marketing and Design</td>
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<td>Marketing and Sales Management</td>
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<td>Massage Therapy</td>
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<td>Medical Assistant</td>
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<td>Medical Coding Specialist</td>
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<tr>
<td>Multimedia Design Technology</td>
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### PROGRAMS OF STUDY

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<tr>
<th>PROGRAMS OF STUDY</th>
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<td>Nondestructive Testing Technology</td>
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<td>Nursing - Practical Nursing</td>
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<td>Occupational Skills</td>
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<td>Office Assistant</td>
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<td>Paramedic</td>
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<td>Phlebotomist</td>
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<td>Process Controls Technician</td>
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### LIBERAL ARTS AND GENERAL EDUCATION

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<td>Business Transfer Pathway</td>
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<td>Chemical Dependency Counseling</td>
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<td>Communication Studies Transfer Pathway</td>
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<td>Early Childhood Education</td>
<td>AS/Certificate</td>
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<td>English Transfer Pathway</td>
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<td>Global Studies</td>
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<td>Health Sciences Broadfield</td>
<td>AS</td>
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<tr>
<td>Law Enforcement Pathway</td>
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<td>Liberal Arts</td>
<td>AA</td>
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<td>Nursing (MANE)</td>
<td>AS/BSN</td>
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<tr>
<td>Physical Education Teaching and Coaching</td>
<td>Certificate</td>
<td>W</td>
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</table>

While many of these programs do not offer a degree option, they are specifically designed to provide students with a foundation of a professional or graduate level degree.
ACCOUNTANT
Willmar and Hutchinson Campuses
Diploma/AAS Degree – 60 Credits

Opportunities for people in accounting are abundant in business, schools, government offices, and industrial plants in both the public and private sector. Related areas of employment are with computer systems or in office management. An accountant examines, analyzes, and interprets accounting data for the purpose of giving advice and preparing financial statements. The study of accounting occurs through lectures, labs and the use of computers. Certain skills and knowledge are common to accounting career occupations, regardless of specific job titles, and are included in all accounting career programs. General education classes are also available in this field.

Accountant – Diploma
Required Courses ........................................... Credits
ACCT 1800 Business Law .................................... 2
ACCT 1814 Payroll Accounting ............................ 3
ACCT 1815 Principles of Accounting I .................. 4
ACCT 1816 Principles of Accounting II ................. 4
ACCT 1831 Accounting Math & Calculators .......... 3
ACCT 1834 Computer Accounting Applications ...... 3
ACCT 1837 Spreadsheet Concepts and Applications .. 3
ACCT 1842 Income Tax ..................................... 4
ACCT 2814 Cost Accounting I ............................ 4
ACCT 2821 Intermediate Accounting I .................. 4
ACCT 2822 Intermediate Accounting II ................ 4
ACCT 2845 Auditing ........................................ 4
ACCT 2847 Fund/Non-Profit Accounting ............... 3
GSWS 1401 Employment Preparation .................. 1
Total Credits .............................................. 46

Electives Courses
(choose at least one course)
GSIS 1403 Professional Development Skills ............ 3
GSIS 1502 Human Relations ................................ 2
Total Credits .............................................. 2

Elective Courses
(choose at least one course)
ADS 1012 Business Presentations ........................ 2
GSCM 1112 Applied Oral Communications ............ 2
MSM 1205 Business Presentations ........................ 3

Elective Courses
(choose at least one course)
ADS 1012 Written Business Communications .......... 4
GSCM 1102 Applied Written Communications .......... 2
GSCM 1103 Applied Written Communications (Willmar) 3

Elective Courses
(choose from remaining courses to meet 14-credit requirement)
ACCT 2833 Database Concepts and Applications ........ 2
ADS 1007 Keyboard I ........................................ 2
ADS 1014 Written Business Communications .......... 4
ADS 1018 Personal Finance ................................ 2
ADS 1026 Database Microsoft Access ................... 3
ADS 1027 Business Environment ........................ 2
ADS 1042 PowerPoint ....................................... 3
ADS 1045 Computerized Accounting ..................... 1

ADS 2030 Word ............................................ 3
BUS 1010 Business and the American Economy .......... 3
ECON 1900 Personal Finance ................................ 3
GSCI 1201 Computer Technology ........................ 1
MSM 1212 Personal Finance ................................ 3
MSM 2101 Principles of Supervision ...................... 3
MSM 2203 Management Issues ......................... 3
Total Credits .............................................. 14
Total Diploma Credits ...................................... 60

Accountant – AAS Degree
Required Courses .......................................... Credits
ACCT 1800 Business Law ................................... 2
ACCT 1814 Payroll Accounting ............................ 3
ACCT 1815 Principles of Accounting I .................. 4
ACCT 1816 Principles of Accounting II ................. 4
ACCT 1831 Accounting Math & Calculators .......... 3
ACCT 1834 Computer Accounting Applications ...... 3
ACCT 1837 Spreadsheet Concepts and Applications .. 3
ACCT 1842 Income Tax ..................................... 4
ACCT 2814 Cost Accounting I ............................ 4
ACCT 2821 Intermediate Accounting I .................. 4
ACCT 2822 Intermediate Accounting II ................ 4
ACCT 2845 Auditing ........................................ 4
ACCT 2847 Fund/Non-Profit Accounting ............... 3
Total Credits .............................................. 45

Required General Education Courses
CMST 1210 Introduction to Communication ............ 3
ENGL 1210 College Composition I ........................ 3
Total Credits .............................................. 6

General Education Elective Courses
(select one of the Math courses below)
MATH 2012 College Algebra ................................ 4
MATH 2010 Elementary Statistics ........................ 3
MATH 2070 Statistics and Its Application ............... 4
Total Credits .............................................. 3-4

General Education Electives
(choose one of the ECON courses below)
ECON 1900 Personal Finance ................................ 3
ECON 2060 Principles of Microeconomics ............... 3
ECON 2070 Principles of Macroeconomics ............... 3

Choose enough credits to meet the 15-credit General Education requirements from any of the ten (10) MnTC Goal areas. See your advisor to select courses that fulfill this requirement.

Total AAS Degree Credits .................................. 60
ACCOUNTING CLERK
Willmar and Hutchinson Campuses
Diploma – 32 Credits
Accounting clerks perform a combination of calculating, posting and verifying duties to obtain primary financial data for maintaining accounting records. Certain skills and knowledge are common to accounting career occupations, regardless of specific job titles and are included in all accounting career programs.

### Required Courses

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<tr>
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<th>Course Title</th>
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<td>ACCT 1815</td>
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<td>Computer Accounting Applications</td>
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<tr>
<td>ACCT 1837</td>
<td>Spreadsheet Concepts &amp; Applications</td>
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**Total Credits:** 26

### General Studies

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<td>Applied Written Communications</td>
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**Total Credits:** 3

### Elective Courses

(choose at least one course)

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<td>Professional Developmental Skills</td>
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**Total Credits:** 3

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<td>Written Business Communications</td>
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<td>MSM 2203</td>
<td>Management Issues</td>
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**Total Elective Credits:** 3

**Total Diploma Credits:** 32

---

ACCOUNTING TECHNICIAN
Willmar and Hutchinson Campuses
Diploma – 45 Credits
Accounting technicians monitor and control various types of electronic data processing equipment used with accounting data. Certain skills and knowledge are common to accounting career occupations, regardless of specific job titles and are included in all accounting career programs.

### Required Courses

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<th>Course Title</th>
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<tr>
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<td>Spreadsheet Concepts &amp; Applications</td>
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<td>ACCT 2821</td>
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**Total Credits:** 38

### Elective Courses

(choose at least one course)

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**Total Credits:** 3

### Elective Courses

(choose at least one course)

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<tr>
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<td>Applied Written Communications</td>
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<tr>
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**Total Credits:** 3

### Elective Courses

(choose at least one course)

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**Total Credits:** 3

### Choose from remaining courses to meet 7 credits, if needed:

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<td>Keyboarding I</td>
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<td>1</td>
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<td>ECON 1900</td>
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<td>GSCI 1401</td>
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<td>1</td>
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<td>MSM 1212</td>
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<td>MSM 2110</td>
<td>Principles of Supervision</td>
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<td>MSM 2203</td>
<td>Management Issues</td>
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</table>

**Total Elective Credits:** 7

**Total Diploma Credits:** 45
### Activity Director

**Activity Assistant**

**Hutchinson Campus**

Diploma/AAS Degree – 36/60 Credits (plus 4 certificate options)

The Activity Director/Activity Assistant program of Ridgewater College offers career opportunities to work with the elderly. Activity professionals provide activity programming, planning, activity calendar development, intervention techniques, and volunteer management. An activity director manages the activity department, staff and program. Activity assistants carry out the daily activity program for all levels of the aging populations. Career opportunities are available for activity professionals in long-term care facilities, adult daycare centers, senior centers, assisted living, and senior housing facilities.

**NOTE:** Off-campus training for NCCAP certification is also available. Many courses available online.

### Activity Assistant – Diploma

#### Required Courses

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<tr>
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<td>ADR 1015</td>
<td>Activity Ideas</td>
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<td>ADR 1155</td>
<td>Crisis Intervention</td>
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<td>ADR 1180</td>
<td>Employment Readiness</td>
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<td>ADR 1405</td>
<td>Activity Program Development</td>
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<td>ADR 1410</td>
<td>Community Agencies and Organizations</td>
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<td>Activity Interventions</td>
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<tr>
<td>ADR 1500</td>
<td>MEPAP 1 Basic Activity Course</td>
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<td>ADR 1700</td>
<td>Standards of Practice in Activities</td>
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<tr>
<td>ADR 1790</td>
<td>Introduction to Alzheimer's Disease</td>
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<td>ADR 2000</td>
<td>Internship</td>
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<td>GSCM 1102</td>
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<td>GSIS 1403</td>
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**Total Credits:** 36

**Total Diploma Credits:** 36

### Activity Director – AAS Degree

#### Required Courses

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**Total Credits:** 45

**General Education Required Courses**

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<td>ENGL 1210</td>
<td>College Composition</td>
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**Total Credits:** 6

**Minnesota Transfer Curriculum**

General Education courses will be selected from at least three (3) of the ten (10) goal areas of the Minnesota Transfer curriculum. See your advisor to select courses that fulfill this requirement.

**Total Credits:** 9

**Total AAS Degree Credits:** 60

**NOTE:** Program participants are subject to background checks according to Minnesota state law. See page 9 of the catalog for more specific information.

### Certificate - Health Support Specialist

**Willmar and Hutchinson Campuses**

Diploma/AAS Degree – 48/60 Credits

Administrative assistants are employed by every size and type of public and private business organization. The programs are designed to provide students with strong computer software, keyboarding and communication skills. The role of the administrative assistant is always evolving and may include the ability to problem solve ambiguous issues, provide excellent internal and external customer service, manipulate spreadsheet data, assist in project management, and utilize online tools. The development of good oral and written communication skills will allow the administrative assistant to excel in today’s organizations. This program participates in Articulated College Credit partnerships. See page 6.

**Additional Options:**

Microsoft Office Specialist Cert., (pg. 80); Office Assistant Diploma (pg. 87)

### Diploma

**Required Courses**

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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**Total Credits:** 42

**Elective Courses** (select 6 credits from the courses below)

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<tr>
<td>ACCT 1800</td>
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**ADR 1180** Introduction to the Health Support Specialist

**ADR 1190** The Role of the HSS in Providing Meaningful Activities

**ADR 1195** Health Support Specialist in Memory Care

**ADR 1200** Health Support Specialist in Culinary Care

**ADR 1205** Health Support Specialist in Physiological Care

**ADR 1210** Health Support Specialist in Psychosocial Care

**ADR 1215** Health Support Specialist in Environmental Services
Agriculture Programs

Ridgewater College offers a wide variety of agriculture programs including:

- Agriculture Power and Equipment Technician
- Agri-Business
- Agricultural Science and Technology
- Agronomy Technology
- Dairy Management
- Farm Operation and Management
- GPS/GIS Technology for Agriculture

## AAS Degree

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<td>GSWS 1401</td>
<td>Employment Preparation</td>
<td>1</td>
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</table>

**Total Credits:** 42

### Elective Courses

(select 3 credits from the courses below)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1800</td>
<td>Business Law</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1045</td>
<td>Computerized Accounting Basics</td>
<td>1</td>
</tr>
<tr>
<td>ADS 1200</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>ADS 2090</td>
<td>Administrative Support Internship</td>
<td>2-6</td>
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<tr>
<td>MMDT 1021</td>
<td>HTML and the Web</td>
<td>3</td>
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<tr>
<td>MSM 2203</td>
<td>Management Issues</td>
<td>3</td>
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</table>

**Total Credits:** 3

### General Education Required Course

<table>
<thead>
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<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENGL 1210</td>
<td>College Composition I</td>
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</table>

**Total Credits:** 3

### General Education Electives

Choose one course from the following three options:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMST 1210</td>
<td>Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td>CMST 2250</td>
<td>Small Group Communication</td>
<td>3</td>
</tr>
<tr>
<td>CMST 2260</td>
<td>Interpersonal Communications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 3

### Goal Area 7: Human Diversity

See your advisor to select courses that fulfill this requirement.

**Total Credits:** 3

### Minnesota Transfer Curriculum

Choose from any goal area. See your advisor to select courses that fulfill this requirement.

**Total Credits:** 6

**Total AAS Degree Credits:** 60

---

## AGRICULTURE POWER AND EQUIPMENT TECHNICIAN

**Willmar Campus**

**Diploma — 72 Credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGRI 1001</td>
<td>Ag Orientation</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1201</td>
<td>Applied Mathematics in Agricultural Careers</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1520</td>
<td>Computers in Ag</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1540</td>
<td>Personnel Management for Ag Producers</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1580</td>
<td>Ag Sales and Service</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1771</td>
<td>Introduction to Precision Ag</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1774</td>
<td>Electronic Components and Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2100</td>
<td>Farm Shop Repair Skills</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2123</td>
<td>Agricultural Communications and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2140</td>
<td>Ag Power Maintenance and Repair</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2141</td>
<td>Ag Power Maintenance and Repair Lab</td>
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<tr>
<td>AGRI 2142</td>
<td>Hydraulics for Ag Power Systems</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2143</td>
<td>Fuel Systems and Emissions for Ag Power Systems</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2144</td>
<td>Electrical Systems for Ag Power</td>
<td>3</td>
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<tr>
<td>AGRI 2145</td>
<td>Powertrains for Ag Power Systems</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2146</td>
<td>Engines for Ag Power Systems</td>
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<tr>
<td>AGRI 2147</td>
<td>HVAC for Ag Power Systems</td>
<td>2</td>
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<tr>
<td>AGRI 2148</td>
<td>Ag Shop Procedures</td>
<td>1</td>
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<tr>
<td>AGRI 2191</td>
<td>CDL - Prep for Written Test</td>
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</tr>
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<td>AGRI 2192</td>
<td>CDL - Prep for Road Test</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 2402</td>
<td>Employment Preparation for Ag Professionals</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2800</td>
<td>Agriculture Internship (take twice, 3 credits each)</td>
<td>6</td>
</tr>
<tr>
<td>WELD 1190</td>
<td>Fundamentals of Welding</td>
<td>2</td>
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**Total Credits:** 58

### Technical Electives

**Highly Suggested Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AGRI 2150</td>
<td>Harvesting and Fall Tillage Equipment</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2151</td>
<td>Forage Harvesting and Tillage</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2160</td>
<td>Planters and Spring Tillage</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2221</td>
<td>Medium and Heavy Duty Truck Repair</td>
<td>3</td>
</tr>
</tbody>
</table>

### Other Technical Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AGRI 1650</td>
<td>Soils and Fertility Management</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1660</td>
<td>Introduction to Agronomy</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1670</td>
<td>Integrated Pest Management</td>
<td>3</td>
</tr>
</tbody>
</table>

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41
AGRI 1720  Corn and Soybean Production  3
AGRI 1770  GIS Applications  3
AGRI 1772  Remote Sensing/Image Analysis  2
AGRI 1773  GIS Problem Solving  2
AGRI 1776  GIS for Agricultural Producers  3
AGRI 2180  Ag Machinery Management  2
AGRI 2240  Pesticide/Fertilizer Equipment  3
AGRI 2250  Basic Custom Application  2
AGRI ****  Any other course with the AGRI prefix
Up to 4 non-AGRI prefix course(s).

General Studies
GSWS 1481  OSHA General Industry / First Aid  1

Total General Studies Credits  1

Total Program Credits:  72

AGRI-BUSINESS
Willmar Campus
Diploma/AAS Degree – 72 Credits
Agriculture continues to be an extremely high-tech industry. Many agri-business firms are providing more and more services to large farms. This program prepares students for occupations in ag-related businesses in the areas of feeds, seeds, plant food, crop protection, agricultural products, equipment, petroleum, ag sales and services, and office management. Specializations within the Agri-Business program include:
- Agronomy
- Ag Office Management
- Dairy
- Animal Science

Graduates may find employment at the technical, sales, office or managerial level. See related programs: Agriculture, Agronomy Technician, Farm Operation and Management, and Dairy Management. This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma
Required Courses  41
AGRI 1001  Ag Orientation  2
AGRI 1201  Applied Mathematics for Agricultural Careers  1
- Math 1120  College Algebra  4
AGRI 1520  Computers in Agriculture  3
AGRI 1550  Introduction to Ag Business  2
AGRI 1551  Ag Business Procedures and Records  3
AGRI 1552  Ag Business Credit and Finance  2
AGRI 1553  Agri-Business Management & Marketing  3
AGRI 1580  Agricultural Sales & Service  3
AGRI 1640  Ag Commodity Marketing  3
AGRI 1650  Soils and Fertility Management  3
AGRI 1660  Introduction to Agronomy  3
AGRI 1771  Introduction to Precision Ag  2
AGRI 2123  Agricultural Communications and Leadership  3
AGRI 2402  Employment Preparation for Ag Professionals  2
AGRI 2800  Agriculture Internship (take twice)  6

Total Credits:  41

Elective Courses
Choose electives for a total of 30 credits. See emphasis areas in addition to any course with an AGRI prefix and/or the following option.
WELD 1118  Agricultural Welding  2

Total Credits:  30

Highly suggested electives for Crop Emphasis:
AGRI 1621  Farm Management I  3
AGRI 1670  Integrated Pest Management  3
AGRI 1680  Crop Scouting Techniques  2
AGRI 1681  Crop Scouting Techniques Lab  1
AGRI 1700  Crop Protection Recommendations  2
AGRI 1720  Corn and Soybean Production  3
AGRI 1721  Fall Agriculture Field Experience Lab  1
AGRI 1722  Spring Agriculture Experience Lab  1
AGRI 1761  Ag Water Management  2
AGRI 1770  GIS Applications  3
AGRI 1780  Grain Handling and Storage  2
AGRI 2160  Planters and Spring Tillage  3
AGRI 2191  CDL - Prep for Written Test  1
AGRI 2192  CDL - Prep for Road Test  1
AGRI 2210  Ag Industry Machinery Maintenance  3
AGRI 2240  Pesticide/Fertilizer Equipment  3
AGRI 2250  Basic Custom Application  2

Highly suggested electives for Livestock Emphasis:
AGRI 1212  Dairy Evaluation  1
AGRI 1810  Introductory Animal Science  3
AGRI 1815  Meat Animal Reproduction  3
AGRI 1820  Animal Nutrition  3
AGRI 1830  Beef Cow calf  2
AGRI 1840  Beef Feedlot  2
AGRI 1870  Swine Breeding and Farrowing  3
AGRI 1871  Swine Nursery and Finishing  3
AGRI 1900  Sheep Management  1
AGRI 2191  CDL - Prep for Written Test  2
AGRI 2192  CDL - Prep for Road Test  1
AGRI 2210  Ag Industry Machinery Maintenance  3

Highly suggested electives for Dairy Emphasis:
AGRI 1210  Dairy Cattle Breeding and Reproduction  3
AGRI 1212  Dairy Evaluation  1
AGRI 1220  Dairy Facilities and Equipment  3
AGRI 1230  Raising Dairy Replacements  2
AGRI 1240  Dairy Cattle Anatomy, Physiology & Health  3
AGRI 1241  Cattle Health Lab  2
AGRI 1242  Palpation/Ultra-sounding of Dairy Cattle  1
AGRI 1243  Embryo Transfer  1
AGRI 1244  Hoof Trimming  1
AGRI 1260  Dairy Seminar I  1
AGRI 1261  Dairy Seminar II  1
AGRI 1270  Dairy Nutrition  3
AGRI 1681  Crop Scouting Techniques Lab  1
AGRI 1750  Forage Production  3
AGRI 1820  Animal Nutrition  3
GSCL 1141  Spanish Conversation/Culture  1

Highly suggested electives for Office Management Emphasis:
ADS 1007  Keyboarding I  2
ADS 1020  Administrative Office Procedures  4
ADS 1026  Access  3
ADS 2030  Word  3
ACCT 1814  Payroll Accounting  3
ACCT 1815  Principles of Accounting I  4
ACCT 1816  Principles of Accounting II  4

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**Programs of Study**

### General Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GSWS 1451</td>
<td>First Aid/Safety</td>
<td>1</td>
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**Total Diploma Credits:** 72

### AAS Degree

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AGRI 1001</td>
<td>Ag Orientation</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1201</td>
<td>Applied Mathematics for Agriculture Careers</td>
<td>1</td>
</tr>
<tr>
<td>or</td>
<td>Math 1120 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>AGRI 1520</td>
<td>Computers in Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1550</td>
<td>Introduction to Ag Business</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1551</td>
<td>Agri-Business Procedures and Records</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1552</td>
<td>Agri-Business Credit and Finance</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1553</td>
<td>Agri-Business Management &amp; Marketing</td>
<td>3</td>
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<tr>
<td>AGRI 1580</td>
<td>Agricultural Sales &amp; Service</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1640</td>
<td>Ag Commodity Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1650</td>
<td>Soils and Fertility Management</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1660</td>
<td>Introduction to Agronomy</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1771</td>
<td>Introduction to Precision Ag</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2800</td>
<td>Internship (3 credits, taken twice)</td>
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</table>

**Total Credits:** 38

**Elective Courses**

Take additional courses to complete a total of 18 technical electives. See emphasis areas below. Up to one 4-credit non-AGRI prefix course can be selected as a technical elective. Work with advisor to select courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>AGRI 1621</td>
<td>Farm Management I</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1670</td>
<td>Integrated Pest Management</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1680</td>
<td>Crop Scouting Techniques</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1681</td>
<td>Crop Scouting Techniques Lab</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1700</td>
<td>Crop Scouting Recommendations</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1720</td>
<td>Corn and Soybean Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1761</td>
<td>Ag Water Management</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1770</td>
<td>GIS Applications</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1780</td>
<td>Grain Handling and Storage</td>
<td>2</td>
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<tr>
<td>AGRI 2160</td>
<td>Planters and Spring Tillage</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2191</td>
<td>CDL - Prep for Written Test</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 2192</td>
<td>CDL - Prep for Road Test</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 2210</td>
<td>Ag Industry Machinery Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2240</td>
<td>Pesticide/Fertilizer Equipment</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2250</td>
<td>Basic Custom Application</td>
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**Total Credits:** 18

### Highly suggested electives for Crop Emphasis:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 1621</td>
<td>Farm Management I</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1670</td>
<td>Integrated Pest Management</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1680</td>
<td>Crop Scouting Techniques</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1681</td>
<td>Crop Scouting Techniques Lab</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1700</td>
<td>Crop Scouting Recommendations</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1720</td>
<td>Corn and Soybean Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
<td>1</td>
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<tr>
<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</td>
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<tr>
<td>AGRI 1761</td>
<td>Ag Water Management</td>
<td>2</td>
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<tr>
<td>AGRI 1770</td>
<td>GIS Applications</td>
<td>3</td>
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<tr>
<td>AGRI 1780</td>
<td>Grain Handling and Storage</td>
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<tr>
<td>AGRI 2160</td>
<td>Planters and Spring Tillage</td>
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<tr>
<td>AGRI 2192</td>
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<td>1</td>
</tr>
<tr>
<td>AGRI 2210</td>
<td>Ag Industry Machinery Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2240</td>
<td>Pesticide/Fertilizer Equipment</td>
<td>3</td>
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<tr>
<td>AGRI 2250</td>
<td>Basic Custom Application</td>
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**Total Credits:** 9

### Highly suggested electives for Livestock Emphasis:

<table>
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<tr>
<td>AGRI 1810</td>
<td>Introductory Animal Science</td>
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<tr>
<td>AGRI 1815</td>
<td>Meat Animal Reproduction</td>
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</tr>
<tr>
<td>AGRI 1820</td>
<td>Animal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1830</td>
<td>Beef Cow Calf</td>
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**Total AAS Degree Credits:** 72

### Highly suggested electives for Dairy Emphasis:

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>AGRI 1210</td>
<td>Dairy Cattle Breeding and Reproduction</td>
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<td>AGRI 1212</td>
<td>Dairy Evaluation</td>
<td>1</td>
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<tr>
<td>AGRI 1220</td>
<td>Dairy Facilities and Equipment</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1230</td>
<td>Raising Dairy Replacements</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1240</td>
<td>Dairy Cattle Anatomy, Physiology &amp; Health</td>
<td>3</td>
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<tr>
<td>AGRI 1241</td>
<td>Cattle Health Lab</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1242</td>
<td>Palpation/ultrasounding of Dairy Cattle Lab</td>
<td>1</td>
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<tr>
<td>AGRI 1243</td>
<td>Embryo Transfer Lab</td>
<td>1</td>
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<td>AGRI 1244</td>
<td>Hoof Trimming</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1260</td>
<td>Dairy Seminar I</td>
<td>1</td>
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<tr>
<td>AGRI 1261</td>
<td>Dairy Seminar II</td>
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<tr>
<td>AGRI 1270</td>
<td>Dairy Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1681</td>
<td>Crop Scouting Techniques Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1730</td>
<td>Forage Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1820</td>
<td>Animal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>GSCL 1141</td>
<td>Spanish Conversation / Culture</td>
<td>1</td>
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</table>

**Total Credits:** 6
AGRICULTURAL SCIENCE AND TECHNOLOGY
PRE-AGRICULTURAL EDUCATION FOR THE UNIVERSITY OF MINNESOTA

Willmar Campus (2+2 Program)
AS Degree – 60 Credits
This program is designed for students interested in earning a Bachelor of Science degree in Agricultural Education through partnership with the University of Minnesota.

For more information, call Curt Yoose at 800-722-1151 or 320-222-5274. This program participates in Articulated College Credit partnerships. Refer to page 6.

General Education (40 credits required)
CMST 1210 Introduction to Communication ........................................... 3
CMST 2200 Public Speaking .......................................................... 3
ENGL 1210 College Composition I ............................................... 3
ENGL 1220 College Composition II .............................................. 3
ECON 2060 Principles of Micro Economics .................................. 3
MATH 1120 College Algebra ..................................................... 4

Choose one of the following:
BIOL 1000 Introduction to Biology .............................................. 4
*BIOL 2000 General Biology I .................................................. 5
CHEM 1020 General Chemistry I .............................................. 4

Choose one of the following:
*PSYC 0131 Introduction to Psychology .................................... 4
SOC 1050 Introduction to Sociology ........................................... 4

Additional general education courses will be taken in the following MNTC areas of study:
Goal 5 - History & Behavioral Sciences (2 courses)
Goal 6 - Humanities and Fine Arts (2 courses)
Goal 8 - Global Perspective (1 course cross-referenced with Goal areas 5 or 6)

Electives: Choose 20 credits from list below with approval of advisor)
AGRI 1580 Ag Sales and Service ............................................... 3
AGRI 1621 Farm Management I or ........................................... 3
AGRI 1250 Farm Records & Business Analysis ............................ 3
AGRI 1650 Soils and Fertility Management ................................ 3
AGRI 1110 Soil and Fertility Management ................................ 3
AGRI 1660 Introduction to Agronomy ........................................ 3
AGRI 1120 Principles of Agronomy ........................................... 3
AGRI 1670 Integrated Pest Management .................................... 3
AGRI 1810 Introduction to Animal Science ................................ 3
AGRI 1260 Animal Science ...................................................... 3
AGRI 1820 Animal Nutrition ................................................... 3
BIOL 1410 Environmental Science ............................................. 4
BUS 2240 Financial Accounting ................................................ 4

Total AS Degree Credits: ...................................................... 60

AGRONOMY TECHNOLOGY
Willmar Campus
Diploma – 72 Credits
In agronomy centers across the Midwest, there is a serious shortage of qualified applicator technicians and agriculture sales and service staff. Because of this shortage, Agrilance agronomy centers and other agronomy centers, along with Ag Chem, have teamed up with the agriculture department at Ridgewater College. This partnership will provide education and work experience to students who will become employees of local agronomy centers. See related technical programs under Ag-Business, Agriculture, Farm Operation and Management, and Dairy Management. This program participates in Articulated College Credit partnerships. Refer to page 6.

Required Courses ................................................................. Credits
AGRI 1001 Ag Orientation ........................................................... 2
AGRI 1201 Applied Mathematics in Ag Careers ......................... 1
or Math 1120 College Algebra .................................................. 4
AGRI 1520 Computers in Agriculture ........................................ 3
AGRI 1550 Intro to Ag Business ................................................ 2
AGRI 1551 Ag Business Procedures and Records ....................... 3
AGRI 1552 Ag Business Credit and Finance .............................. 2
AGRI 1553 Agri-Business Management & Marketing ................. 3
AGRI 1580 Ag Sales & Service .................................................. 3
AGRI 1640 Ag Commodity Marketing ........................................ 3
AGRI 1650 Soils and Fertility Management ................................ 3
AGRI 1660 Introduction to Agronomy ........................................ 3
AGRI 1670 Integrated Pest Management .................................... 3
AGRI 1680 Crop Scouting Techniques ........................................ 2
AGRI 1700 Crop Protection Products ......................................... 2
AGRI 1720 Corn & Soybean Production ..................................... 3
AGRI 1770 GIS Applications ..................................................... 3
AGRI 1771 Introduction to Precision Ag ..................................... 2
AGRI 1780 Grain Handling and Storage ...................................... 2
AGRI 2123 Agricultural Communications and Leadership .......... 3
AGRI 2191 CDL - Preparation for Written Test ............................ 2
AGRI 2192 CDL - Preparation for Road Test .............................. 1
AGRI 2210 Ag Industry Machinery Maintenance ....................... 3
AGRI 2240 Pesticide/Fertilizer Equipment ................................. 3
AGRI 2250 Basic Custom Application ........................................ 2
AGRI 2402 Employment Preparation for Ag Professionals .......... 2
AGRI 2800 Agriculture Internship (3 credits x 2) ....................... 6
GSWS 1481 OSHA General Industry / First Aid .......................... 1

Total Credits: ........................................................................ 68

Highly Suggested Elective
AGRI 1681 Crop Scouting Technique .......................................... 1

Elective Courses (select 4 credits from the courses below)
AGRI 1621 Farm Management I ............................................... 3
AGRI 1622 Farm Management II .............................................. 3
AGRI 1721 Fall Agriculture Field Experience Lab ...................... 1
AGRI 1722 Spring Agriculture Experience Lab ......................... 1
AGRI 1730 Forage Production .................................................. 3
AGRI 1740 Specialty Crops ....................................................... 2
AGRI 1761 Ag Water Management ............................................ 2
AGRI 1773 GIS Problem Solving .............................................. 3
AGRI 2135 Electricity .............................................................. 2
AGRI 2800 Internship .............................................................. 3
WELD 1118 Agricultural Welding ............................................. 2
AGRI **** Any other course with the AGRI prefix

Total Credits: ........................................................................ 4

Total Diploma Credits: ................................................................ 72

Students planning to attend the University of Minnesota:
- must take courses marked by an asterisk.
- strongly recommend that AFEE 1001, AFEE 1002, and AFEE 2096 be taken prior to transfer.
- AGRI 1621 is not accepted at the University of Minnesota.
# AUDIO VIDEO SYSTEMS TECHNOLOGY

**Hutchinson Campus**

## Diploma/AAS Degree — 64/65 Credits

The Audio Video Systems Technology program offers opportunities for individuals to pursue careers in entertainment, advertising, communication, broadcast, and many other exciting industries. The curriculum is balanced between theory and operation of all types of audio equipment. Graduates acquire a strong background in electronics, as well as hands-on training in equipment operation for sound reinforcement, system installation, acoustical testing, and studio and remote recording.

### Diploma

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVT 1112</td>
<td>Intro to Console Operations</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1201</td>
<td>Introduction to Acoustics</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1350</td>
<td>Intro to Sound Reinforcement</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1420</td>
<td>Audio Transducers</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1507</td>
<td>Introduction to Systems Installation</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1531</td>
<td>Video Systems</td>
<td>2</td>
</tr>
<tr>
<td>AVT 1601</td>
<td>Introduction to Audio</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1602</td>
<td>Soldering and Cable Assembly</td>
<td>1</td>
</tr>
<tr>
<td>AVT 1605</td>
<td>System Documentation</td>
<td>2</td>
</tr>
<tr>
<td>AVT 1607</td>
<td>Audio Recording Lab</td>
<td>1</td>
</tr>
<tr>
<td>AVT 2110</td>
<td>Audio Signal Processing</td>
<td>3</td>
</tr>
<tr>
<td>AVT 2280</td>
<td>Systems Installation</td>
<td>3</td>
</tr>
<tr>
<td>AVT 2611</td>
<td>Electro-Acoustic Simulation</td>
<td>3</td>
</tr>
<tr>
<td>AVT 2612</td>
<td>Acoustical Testing</td>
<td>3</td>
</tr>
<tr>
<td>AVT 2620</td>
<td>Integrated System Control</td>
<td>2</td>
</tr>
<tr>
<td>AVT 2630</td>
<td>Audio Networking</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 1814</td>
<td>Electronics I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 1815</td>
<td>Electronics 2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 47

**Elective Courses**

Select 11 credits from the courses below:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVT 1015</td>
<td>Digital Video Production</td>
<td>3</td>
</tr>
<tr>
<td>AVT 2360</td>
<td>Audio Technology Internship</td>
<td>1-6</td>
</tr>
<tr>
<td>AVT 2375</td>
<td>Computer Recording Techniques</td>
<td>3</td>
</tr>
<tr>
<td>AVT 2950</td>
<td>Special Projects/Topics</td>
<td>1-6</td>
</tr>
</tbody>
</table>

**Total Credits:** 11

**Required General Studies Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSCM 1122</td>
<td>Applied Oral and Written Commun.</td>
<td>2</td>
</tr>
<tr>
<td>GSMS 1222</td>
<td>Applied Elementary Algebra</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits:** 4

### AAS Degree

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVT 1112</td>
<td>Intro to Console Operations</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1201</td>
<td>Introduction to Acoustics</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1350</td>
<td>Intro to Sound Reinforcement</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1420</td>
<td>Audio Transducers</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1507</td>
<td>Introduction to Systems Installation</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1531</td>
<td>Video Systems</td>
<td>2</td>
</tr>
<tr>
<td>AVT 1601</td>
<td>Introduction to Audio</td>
<td>3</td>
</tr>
<tr>
<td>AVT 1602</td>
<td>Soldering and Cable Assembly</td>
<td>1</td>
</tr>
<tr>
<td>AVT 1605</td>
<td>System Documentation</td>
<td>2</td>
</tr>
<tr>
<td>AVT 1607</td>
<td>Audio Recording Lab</td>
<td>1</td>
</tr>
<tr>
<td>AVT 2110</td>
<td>Audio Signal Processing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 47

**Elective Courses**

Select 3 credits from the courses below:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVT 1015</td>
<td>Digital Video Production</td>
<td>3</td>
</tr>
<tr>
<td>AVT 2360</td>
<td>Audio Technology Internship</td>
<td>1-6</td>
</tr>
<tr>
<td>AVT 2375</td>
<td>Computer Recording Techniques</td>
<td>3</td>
</tr>
<tr>
<td>AVT 2950</td>
<td>Special Projects/Topics</td>
<td>1-6</td>
</tr>
</tbody>
</table>

**Total Credits:** 3

**General Education Electives**

General Education courses will be selected from at least three (3) of the ten (10) goal areas of the Minnesota Transfer curriculum. Courses can be taken from any of the ten (10) goal areas.

**Goal 1: Communications**

- Choose at least one course

**Goal 4: Math/Logical Reasoning**

- Choose at least one course

**Goal 6: Humanities & Fine Arts**

- Choose at least one course

**General Education Electives**

General Education courses will be selected from at least 3 of the 10 goal areas of the Minnesota Transfer curriculum. Courses can be taken from any of the 10 goal areas.

**Total Credits:** 6

**Total General Education Credits:** 15

**Total AAS Credits:** 65

### Elective General Studies Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSWS 1401</td>
<td>Employment Prep</td>
<td>1</td>
</tr>
<tr>
<td>GSWS 1422</td>
<td>Quality Management</td>
<td>2</td>
</tr>
<tr>
<td>GSWS 1451</td>
<td>First Aid/CPR</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Credits:** 2

**Total Diploma Credits:** 64
### AUTO BODY COLLISION TECHNOLOGY

**Willmar Campus**

**Diploma/AAS Degree — 66/72 credits**

Automobile body technicians are skilled metal repair experts who may be involved with all phases of auto body repair. This program offers students an opportunity to use state-of-the-art equipment such as computerized measuring systems, laser-guided measuring systems, computerized paint mixing systems, and other sophisticated equipment found in high tech auto collision shops. Ridgewater College has one of the most up-to-date facilities in the state of Minnesota, with the latest in modern equipment for diagnosis and repair of cars and light trucks. Students spend a large amount of time in the shop applying the knowledge they have learned in the classroom.

#### Diploma

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABOD 1002</td>
<td>Automotive Trades Skills</td>
<td>2</td>
</tr>
<tr>
<td>ABOD 111</td>
<td>Minor Body Repair Technology</td>
<td>6</td>
</tr>
<tr>
<td>ABOD 112</td>
<td>Welding Processes and Corrosion Procedures</td>
<td>6</td>
</tr>
<tr>
<td>ABOD 113</td>
<td>Vehicle Preparation</td>
<td>3</td>
</tr>
<tr>
<td>ABOD 114</td>
<td>Body and Glass Service</td>
<td>1</td>
</tr>
<tr>
<td>ABOD 115</td>
<td>Automotive Refinishing</td>
<td>4</td>
</tr>
<tr>
<td>ABOD 116</td>
<td>Refinishing Lab and Estimating</td>
<td>11</td>
</tr>
<tr>
<td>ABOD 2131</td>
<td>Color Matching &amp; Blending Concepts</td>
<td>4</td>
</tr>
<tr>
<td>ABOD 2133</td>
<td>Collision Damage Replacement</td>
<td>4</td>
</tr>
<tr>
<td>ABOD 2135</td>
<td>Wheel Alignment and Mechanical Systems</td>
<td>9</td>
</tr>
<tr>
<td>ABOD 2145</td>
<td>Major Collision Repair Lab</td>
<td>5</td>
</tr>
<tr>
<td>ABOD 2146</td>
<td>Skillbuilding Lab</td>
<td>2-8</td>
</tr>
<tr>
<td>ABOD 2155</td>
<td>Collision Repair Business Operations</td>
<td>3</td>
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</table>

**Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABOD 2900</td>
<td>Auto Body Internship</td>
<td>1-6</td>
</tr>
</tbody>
</table>

**Total Diploma Credits:** 66

#### AAS Degree

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABOD 1002</td>
<td>Automotive Trades Skills</td>
<td>2</td>
</tr>
<tr>
<td>ABOD 111</td>
<td>Minor Body Repair Technology</td>
<td>6</td>
</tr>
<tr>
<td>ABOD 112</td>
<td>Welding Processes and Corrosion Procedures</td>
<td>6</td>
</tr>
<tr>
<td>ABOD 113</td>
<td>Vehicle Preparation</td>
<td>3</td>
</tr>
<tr>
<td>ABOD 114</td>
<td>Body and Glass Service</td>
<td>1</td>
</tr>
<tr>
<td>ABOD 115</td>
<td>Automotive Refinishing</td>
<td>4</td>
</tr>
<tr>
<td>ABOD 116</td>
<td>Refinishing Lab and Estimating</td>
<td>11</td>
</tr>
<tr>
<td>ABOD 2131</td>
<td>Color Matching &amp; Blending Concepts</td>
<td>4</td>
</tr>
<tr>
<td>ABOD 2133</td>
<td>Collision Damage Replacement</td>
<td>4</td>
</tr>
<tr>
<td>ABOD 2135</td>
<td>Wheel Alignment and Mechanical Systems</td>
<td>9</td>
</tr>
<tr>
<td>ABOD 2145</td>
<td>Major Collision Repair Lab</td>
<td>5</td>
</tr>
<tr>
<td>ABOD 2146</td>
<td>Skillbuilding Lab</td>
<td>2-8</td>
</tr>
</tbody>
</table>

**Technical Elective Course**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABOD 2900</td>
<td>Auto Body Internship</td>
<td>1-6</td>
</tr>
</tbody>
</table>

**Total Credits:** 57

**General Education Courses**

- Goal Area 1: Communications - Choose one course 3
- General Education Elective Courses - Choose courses from at least 3 of the 10 goal areas of the Minnesota Transfer curriculum 12

**Total AAS Degree Credits:** 72

### AUTOMATION AND ROBOTIC SYSTEMS TECHNOLOGY

**Hutchinson Campus**

**Diploma/AAS Degree — 64/67 credits**

The Automation and Robotic Systems Technology program brings the modern manufacturing environment into the classroom. Graduates are equipped with the skills needed to enter the advanced manufacturing industry. The program also offers current manufacturing employees an opportunity to update their skills and create opportunities for promotion to better paying jobs. This program participates in Articulated College Credit partnerships. Refer to page 6. See certificate option - Manufacturing Production Technologies, on page 77.

#### Diploma

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1514</td>
<td>Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1522</td>
<td>Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CST 1620</td>
<td>C# Programming</td>
<td>4</td>
</tr>
<tr>
<td>CST 1794</td>
<td>Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 1503</td>
<td>Interpreting Engineering Drawings</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 1814</td>
<td>Electronics 1</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 1815</td>
<td>Electronics 2</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2424</td>
<td>Troubleshooting Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1103</td>
<td>Mechanical Systems</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 1203</td>
<td>Control Systems I</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1205</td>
<td>Electro Mechanical Devices</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1211</td>
<td>Industrial Electricity</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1212</td>
<td>Process Control I</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 1230</td>
<td>Fundamentals of Machine Vision</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 1240</td>
<td>Fundamentals of Robotics</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1301</td>
<td>Fluid Power</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 1701</td>
<td>Industrial Networking</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 2105</td>
<td>Motion Control</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 2203</td>
<td>Control Systems II</td>
<td>3</td>
</tr>
<tr>
<td>MACT 1190</td>
<td>Principles of Machining Operations</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits:** 56

**Elective Courses** (select 8 credits from the courses below)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1518</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526</td>
<td>Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CST xxxxx</td>
<td>Choose any CMST course</td>
<td>3</td>
</tr>
<tr>
<td>CST 1510</td>
<td>System Diagnostics</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 1502</td>
<td>CAD I</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 2504</td>
<td>Electronic/Electrical Drawings</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 1110</td>
<td>Fundamentals of Low Pressure Boilers</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 2900</td>
<td>Internship</td>
<td>1.5*</td>
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<tr>
<td>ENGT 2950</td>
<td>Special Projects/Topics</td>
<td>1.5*</td>
</tr>
<tr>
<td>WELD 1190</td>
<td>Welding for Non-Welding Majors</td>
<td>2</td>
</tr>
<tr>
<td>GSCM 1112</td>
<td>Oral and Written Communication</td>
<td>2</td>
</tr>
<tr>
<td>GSMS 1222</td>
<td>Applied Elementary Algebra</td>
<td>2</td>
</tr>
<tr>
<td>MATH 1000</td>
<td>Quantitative Reasoning</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 8

**Total Diploma Credits:** 64

*Credits for this course are variable. See your advisor about this course.
AAS Degree

Required Courses ........................................ 50 Credits
CMAE 1514 Safety Awareness .......................... 2
CMAE 1522 Quality Practices .......................... 2
CST 1794 Introduction to Programming .............. 3
CST 1620 C* Programming ............................. 4
DRFT 1503 Interpreting Engineering Drawings ...... 2
ELEC 1814 Electronics 1 ................................. 3
ELEC 1815 Electronics 2 ................................. 3
ELEC 2424 Troubleshooting Techniques .............. 3
ENGT 1103 Mechanical Systems ....................... 2
ENGT 1203 Control Systems I ........................... 3
ENGT 1205 Electric Mechanical Devices .............. 3
ENGT 1211 Industrial Electricity ....................... 3
ENGT 1221 Process Controls ............................. 2
ENGT 1230 Fundamentals of Machine Vision ........ 2
ENGT 1240 Fundamentals of Robotics ................. 3
ENGT 1301 Fluid Power ................................... 2
ENGT 1701 Industrial Networking ...................... 2
ENGT 2105 Motion Control ............................... 3
ENGT 2203 Control Systems II ........................... 3
Total Credits: ............................................. 50

Elective Courses (select 2 credits from the courses below)
CMAE 1518 Manufacturing Processes .................. 2
CMAE 1526 Maintenance Awareness .................... 2
CST 1510 System Diagnostics ........................... 3
DRFT 1502 CAD I .......................................... 3
DRFT 2504 Electronic/Electrical Drawings .......... 2
ENGT 1110 Fundamentals of Robotics ................. 3
ENGT 1505 Predictive Maintenance .................... 2
ENGT 1701 Industrial Networking ...................... 2
ENGT 2105 Motion Control ................................ 3
ENGT 2900 Internship .................................. 1-3*
ENGT 2950 Special Projects/Topics .................... 1-3*
GSCM 1102 Applied Written Communication ....... 2
GSCM 1222 Applied Elementary Algebra ............. 2
MAC 1790 Principles of Machining Operations ....... 2
MAC 1810 Fundamentals of Precision Manufacturing 2
WELD 1190 Fundamentals of Welding ................. 2
Total Credits: ............................................. 2

General Education Courses (15 credits required)
MATH 1000 Quantitative Reasoning .................. 3
Math 0109 Elements of Algebra & Trigonometry .... 4
Math 0112 College Algebra ................................ 4
Total Credits: ............................................. 6-7

General Education Elective Courses
General Education courses must be selected from at least three of the ten goal areas of the Minnesota Transfer curriculum. Electives can be taken from any goal area. See your advisor to select courses that fulfill this requirement.
Total Credits: ............................................. 8-9
Total General Education Credits ......................... 15
Total AAS Degree Credits: .................................. 67

*Credits for this course are variable. See your advisor about this course.

Process Controls Technician Diploma

Required Courses ........................................ 38 Credits
CMAE 1514 Safety Awareness .......................... 2
CMAE 1518 Manufacturing Processes .................. 2
CST 1794 Introduction to Programming .............. 3
DRFT 1503 Interpreting Engineering Drawings ...... 2
ELEC 1814 Electronics 1 ................................ 3
ELEC 1815 Electronics 2 ................................ 3
ENGT 1103 Mechanical Systems ....................... 2
ENGT 1203 Control Systems I ........................... 3
ENGT 1205 Electric Mechanical Devices .............. 3
ENGT 1211 Industrial Electricity ....................... 3
ENGT 1221 Process Controls ............................. 2
ENGT 1301 Fluid Power ................................... 2
ENGT 2203 Control Systems II ........................... 3
Total Credits: ............................................. 38

Elective Courses ........................................ 13 Credits
CMAE 1522 Quality Practices .......................... 2
CMAE 1526 Maintenance Awareness .................... 2
CST 1001 Solving Computer Problems ................. 2
CST 1801 Visual Basic 1 ................................ 4
DRFT 1502 CAD I .......................................... 3
DRFT 2504 Electronic/Electrical Drawings .......... 2
ELEC 1816 Electronics 3 ................................ 3
ELEC 2624 Micro Controllers ............................ 2
ENGT 1110 Fundamentals of Low Pressure Boilers .. 2
ENGT 1505 Predictive Maintenance .................... 2
ENGT 1701 Industrial Networking ...................... 2
ENGT 2105 Motion Control ................................ 3
ENGT 2900 Internship .................................. 1-5
ENGT 2950 Special Projects/Topics .................... 1-5
GSCM 1102 Applied Written Communication ....... 2
GSCM 1222 Applied Elementary Algebra ............. 2
GSMS 1401 Employment Prep ad Retention ........... 1
GSWS 1451 First Aid/Safety ................................ 1
WELD 1190 Fundamentals of Welding ................. 2
Total Credits: ............................................. 13
Total Diploma Credits: .................................... 51
Process Controls Technician AAS Degree
Required Courses .................................................. 37 Credits
CST 1792     Introduction to Programming .................. 3
CST 1801     Visual Basic I .................................... 4
DRFT 1503    Interpreting Engineering Drawings .......... 2
ELEC 1814    Electronics I ...................................... 3
ELEC 1815    Electronics 2 ..................................... 3
ELEC 1816    Electronics 3 ..................................... 3
ELEC 2424    Troubleshooting Techniques .................. 3
ENGT 1103    Mechanical Systems ......................... 2
ENGT 1203    Control Systems I ......................... 3
ENGT 1205    Electro Mechanical Devices ............... 3
ENGT 1211    Industrial Electricity ...................... 3
ENGT 1221    Process Controls ......................... 2
ENGT 2203    Control Systems II ...................... 3
Total Credits: .......................................................... 37

Elective Courses  (select 8 credits from the courses below)
CST 1001     Solving Computer Problems ................. 2
DRFT 1001    Principles of Engineering/Engineering Tech .. 1
DRFT 1500    Drafting Basics ................................ 2
DRFT 1502    CAD I .............................................. 3\*•
DRFT 2504    Electronic and Electrical Drawings .......... 2
ENGT 1301    Fluid Power ....................................... 2
ENGT 1505    Predictive Maintenance ...................... 2
ENGT 2105    Motion Control .................................. 3
ENGT 2900    Internship ........................................ 1-5\*
ENGT 2950    Special Projects/Topics .................... 1-5\*
GSWS 1451    First Aid/CPR .................................... 1
MACT 1801    Fundamentals of Precision Manufacturing ... 2
NDT 1100     Manufacturing Processes .................... 2
WELD 1190    Fundamentals of Welding ................... 2
Total Credits: .......................................................... 8

General Education Electives:
A total of 15 general education credits are required. Courses must be selected from at least three (3) of the ten (10) goal areas of the Minnesota Transfer Curriculum.

Goal 1: Communications (choose one)
Goal 4: Mathematical/Logical Reasoning (choose one)
General Ed Electives (choose from any MnTC Goal Area)

Total General Education Electives ...................................... 15
Total Program Credits .................................................. 60

Certificate - Process Controls
Required Courses
ENGT 1203    Control Systems I ......................... 3
ENGT 1205    Electro Mechanical Devices ............... 3
ENGT 1211    Industrial Electricity ...................... 3
ENGT 1230    Fundamentals of Machine Vision .......... 3
ENGT 1240    Fundamentals of Robotics .................. 3
ENGT 1301    Fluid Power ....................................... 2
ENGT 2105    Motion Control .................................. 2
ENGT 2203    Control Systems ......................... 3
ENGT 2950    Special Projects/Topics .................... 2-4
Choose one of two options:
CST 1801     Visual Basic I ......................... 4
CST 1620     C# Programming ................................. 4
Total Credits: .......................................................... 30

AUTOMOTIVE SERVICE TECHNOLOGY
Willmar Campus
Diploma/AAS Degree — 65/72 credits
This program prepares individuals in all phases of auto repair from basic maintenance to complex diagnostic procedures. Because of the variety of work, technicians must be familiar with electrical and computer-controlled systems, transmissions, and electronic fuel injection. Students will have the opportunity to work with state-of-the-art equipment while repairing today’s cars and light duty trucks in a real world shop situation. The Automotive Service Technology program has met the required standards and achieved National Certification through Automotive Service Excellence (ASE). This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma
Required Courses .................................................. Credits
AUTO 1102     Automotive Trades Skills ................. 2
AUTO 1104     Vehicle Maintenance ....................... 4
AUTO 1114     Engine Repair and Diagnosis ............ 4
AUTO 1134     Drivetrain and Axles ....................... 4
AUTO 1142     Suspension I .................................. 2
AUTO 1152     Brakes 1 ........................................ 2
AUTO 1162     Electrical Systems 1 ..................... 2
AUTO 1182     Engine Performance 1 ...................... 2
AUTO 1202     Safety and Service Information .......... 2
AUTO 1234     Manual Transmission ...................... 4
AUTO 1354     Electrical Systems 2 ...................... 4
AUTO 2105     Service and Shop Operations ............ 5
AUTO 2124     Automatic Transmission ................. 4
AUTO 2174     Heating and Air Conditioning .......... 4
AUTO 2342     Suspension 2 .................................. 2
AUTO 2352     Brakes 2 ........................................ 2
AUTO 2384     Engine Performance 2 .................... 4
AUTO 2664     Electrical Systems 3 ..................... 4
AUTO 2764     Electrical Systems 4 ..................... 4
AUTO 2584     Engine Performance 3 .................... 4
Total Diploma Credits: .......................................... 65

Diploma
(For students who enrolled in Fall, 2014)
Required Courses .................................................. Credits
AUTO 1103     General Auto .................................... 3
AUTO 1115     Engine Repair .................................. 5
AUTO 1133     Manual Transmission ....................... 3
AUTO 1134     Drivetrain and Axles ....................... 4
AUTO 1142     Suspension I .................................. 2
AUTO 1152     Brakes 1 ........................................ 2
AUTO 1162     Electrical Systems 1 ..................... 2
AUTO 1182     Engine Performance 1 ...................... 2
AUTO 1212     Engine Diagnosis ......................... 2
AUTO 1364     Electrical Systems 2 ..................... 4

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BIOLOGICAL SCIENCES

Willmar Campus

AS Biological Sciences — 60 Credits

This program is designed for students interested in the various fields of biological sciences such as cell biology, environmental science, fish and wildlife management, forestry, genetics, and microbiology. Students majoring in biological sciences may also be interested in the following program areas: biochemistry, chemistry, pre-chiropractic, pre-dentistry, pre-medicine, pre-medical technology, pre-optometry, pre-pharmacy, and pre-veterinary medicine. The program listed below should be used as a guide since required courses vary considerably among the four-year institutions. Students planning a degree in biological sciences or one of the above fields should contact the biology department and work with a counselor or advisor to identify transfer options. A visit to the intended transfer institution by the spring of the first year is highly recommended. Work with your academic advisor to select courses that will best suit your educational goals.

Required Courses .......................... Credits
BIOL 1000  General Biology I  ............... 5
BIOL 2010  General Biology II  ............... 5
CHEM 1510  Principles of Chemistry I  ....... 5
CHEM 1520  Principles of Chemistry II  ....... 5
CHEM 2610  Organic Chemistry I  ........... 5
CHEM 2620  Organic Chemistry II  .......... 5
Total Credits: ........................................... 30

Elective Courses
(select 3 credits from the courses below)

Math 1120  College Algebra  .................. 4
MATH 1160  Trigonometry  .................... 3
MATH 1210  Calculus I: Calculus and Analytic Geometry 5
MATH 1220  Calculus II: Calculus and Analytic Geometry 5
MATH 2080  Elementary Statistics  .......... 3
Total Credits: ........................................... 3

Goal Area 1: Communications
See your advisor to select courses that fulfill this requirement.
Total Credits: ........................................... 6

Goal Area 5: History and the Social/Behavioral Sciences
See your advisor to select courses that fulfill this requirement.
Total Credits: ........................................... 3

Goal Area 6: The Humanities and Fine Arts
See your advisor to select courses that fulfill this requirement.
Total Credits: ........................................... 3

Required General Studies Courses
GSCI 1311  Industry Computer Applications 1
GSWS 1462  Industry Skills  .................... 2
Total Diploma Credits: ................................ 65

AAS Degree

Required Courses .......................... Credits
AUTO 1002  Automotive Trades Skills  ....... 2
AUTO 1104  Vehicle Maintenance  .......... 4
AUTO 1114  Engine Repair and Diagnosis  .... 4
AUTO 1134  Drivetrain and Axles  .......... 4
AUTO 1142  Suspension 1  .................... 2
AUTO 1152  Brakes 1  ............................ 2
AUTO 1162  Electrical Systems 1  .......... 2
AUTO 1182  Engine Performance 1  ......... 2
AUTO 1202  Safety and Service Information 2
AUTO 1234  Manual Transmissions  ......... 4
AUTO 1364  Electrical Systems 2  .......... 4
AUTO 2105  Service and Shop Operations  5
AUTO 2124  Automatic Transmissions  ....... 4
AUTO 2142  Suspension 2  .................... 2
AUTO 2152  Brakes 2 ............................ 2
AUTO 2184  Engine Performance 2  .......... 4
AUTO 2264  Electrical Systems 3  .......... 4
Total Credits: ........................................... 49

Technical Electives
AUTO 2124  Automatic Transmissions  ....... 4
AUTO 2174  Heating and Air Conditioning 4
AUTO 2284  Engine Performance 3  .......... 4
AUTO 2274  Brakes 2 ............................ 4
Required Credits .......................... 8

General Education Electives
General Education courses must be selected from at least three (3) of the ten (10) goal areas of the Minnesota Transfer curriculum.

Choose one MNTC Goal Area 1 course  .................. 3
Choose remaining credits from any goal area  ........ 12
Total Credits: ........................................... 15
Total AAS Degree Credits: ................................ 72
## Elective Courses

(select 15 credits from the courses below)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1310</td>
<td>Conservation of Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1410</td>
<td>Environmental Science</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1510</td>
<td>People, Sustainability, and the Environment</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2100</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2110</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2150</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2220</td>
<td>Field Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2470</td>
<td>International Study</td>
<td>1-3*</td>
</tr>
<tr>
<td>PHYS 0101</td>
<td>College Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 0102</td>
<td>College Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 0121</td>
<td>General Physics</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 0122</td>
<td>General Physics</td>
<td>5</td>
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</tbody>
</table>

Total Credits: 15
Total AS Degree Credits: 60

---

## BUSINESS PATHWAY

**Hutchinson and Willmar Campuses**

**AS Degree - 60 Credits**

### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1810</td>
<td>Introduction to Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1010</td>
<td>Business and American Economy</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1400</td>
<td>Business Computers</td>
<td>3</td>
</tr>
</tbody>
</table>
| or
| CSCI 1400 | Business Computers | 3 |
| BUS 2000 | Principles of Management | 3 |
| BUS 2010 | Legal Environment of Business | 3 |
| BUS 2100 | Principles of Marketing | 3 |
| BUS 2240 | Managerial Accounting | 4 |

Total Program Area Courses: 26

### MNTC Goal Area Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGL 1210</td>
<td>College Composition I (Goal 1)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1220</td>
<td>College Composition II (Goal 1)</td>
<td>3</td>
</tr>
<tr>
<td>Any CMST course (Goal 1, 6, 7, 8, 9)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Any Goal 3 Science course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 1120</td>
<td>College Algebra (Goal 4)</td>
<td>4</td>
</tr>
<tr>
<td>Math 2070</td>
<td>Statistics and its Applications (Goal 4)</td>
<td>4</td>
</tr>
<tr>
<td>ECON 2060</td>
<td>Principles of Microeconomics (Goals 5, 10)</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2070</td>
<td>Principles of Macroeconomics (Goals 5, 8)</td>
<td>3</td>
</tr>
<tr>
<td>Any Goal 6 course (recommend PHIL 1020, Intro to Ethics)</td>
<td>3</td>
<td></td>
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</tbody>
</table>

Total Required MNTC Goal Area Courses: 30

### Elective MNTC Goal Area

Any MNTC Goal Area course(s) | 4

Total AS Degree Credits: 60

---

## CARPENTRY

**Willmar Campus**

**Diploma/AAS Degree - 34/62/66 Credits**

Carpenters are involved in most types of construction activities for residential, commercial and farm buildings of various styles. Most carpenters will specialize in trade areas like finish work, rough framing, or concrete forming. Carpentry students build two houses each year. During the first year, students spend the majority of time in the school shop. Second-year students work predominantly outside at the construction site. Students may not take courses in any given semester until the courses in the previous semester are successfully completed. This program participates in Articulated College Credit partnerships. Refer to page 6.

### Carpenter Diploma

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECON 2070</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1810</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2000</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2010</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1400</td>
<td>Business Computers</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1010</td>
<td>Business and American Economy</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1100</td>
<td>Principles of Marketing</td>
<td>4</td>
</tr>
<tr>
<td>BUS 2240</td>
<td>Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS 2006</td>
<td>Advanced Carpentry Diploma</td>
<td>2</td>
</tr>
<tr>
<td>BUS 2007</td>
<td>Architectural CAD</td>
<td>2</td>
</tr>
<tr>
<td>BUS 2240</td>
<td>Managerial Accounting</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Electives: 2
Total Program Credits: 34

### Advanced Carpenter Diploma

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CF 1202</td>
<td>Applied Math for Carpentry Careers</td>
<td>2</td>
</tr>
<tr>
<td>CF 2306</td>
<td>Architectural CAD</td>
<td>2</td>
</tr>
<tr>
<td>CF 2329</td>
<td>Custom Cabinet Construction Lab</td>
<td>3</td>
</tr>
<tr>
<td>CF 2335</td>
<td>Interior/Exterior Finish Lab</td>
<td>4</td>
</tr>
<tr>
<td>CF 1229</td>
<td>Remodeling/Renovation lab</td>
<td>3</td>
</tr>
<tr>
<td>CF 1217</td>
<td>Construction Lab 2</td>
<td>3</td>
</tr>
<tr>
<td>CF 1203</td>
<td>Principles of Carpentry/Tool Safety 2</td>
<td>2</td>
</tr>
<tr>
<td>CF 1109</td>
<td>Foundations &amp; Concrete Lab 1</td>
<td>1</td>
</tr>
<tr>
<td>CF 1112</td>
<td>Construction Lab 1</td>
<td>4</td>
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<tr>
<td>CF 1203</td>
<td>Principles of Carpentry/Tool Safety 2</td>
<td>2</td>
</tr>
<tr>
<td>CF 1109</td>
<td>Foundations &amp; Concrete Lab 1</td>
<td>1</td>
</tr>
<tr>
<td>CF 1112</td>
<td>Construction Lab 1</td>
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<tr>
<td>CF 1109</td>
<td>Foundations &amp; Concrete Lab 1</td>
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<td>CF 1109</td>
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<td>CF 1109</td>
<td>Foundations &amp; Concrete Lab 1</td>
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<td>CF 1112</td>
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<td>Foundations &amp; Concrete Lab 1</td>
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<td>CF 1112</td>
<td>Construction Lab 1</td>
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<td>CF 1109</td>
<td>Foundations &amp; Concrete Lab 1</td>
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<tr>
<td>CF 1112</td>
<td>Construction Lab 1</td>
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Total Credits: 50-52
Elective Courses (10-12 credits required)

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CF 1202</td>
<td>Applied Math for Carpentry Careers</td>
<td>2</td>
</tr>
<tr>
<td>CF 1233</td>
<td>Introduction to Green Construction Methods</td>
<td>1</td>
</tr>
<tr>
<td>CF 2306</td>
<td>Architectural CAD</td>
<td>2</td>
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<tr>
<td>CF 2471</td>
<td>Construction Lab 5</td>
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<td>CF 2429</td>
<td>Remodeling/Renovation Lab 2</td>
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<tr>
<td>CF 2900</td>
<td>Internship</td>
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Total Credits: ........................................... 10-12

Total Diploma Credits: ..................................... 62

Advanced Carpentry AAS Degree

Required Technical Courses .................................. Credits

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
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<td>CF 1103</td>
<td>Principles of Carpentry/Tool Safety 1</td>
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</tr>
<tr>
<td>CF 1106</td>
<td>Construction Drawings</td>
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<td>CF 1109</td>
<td>Foundations &amp; Concrete Lab 1</td>
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<td>CF 1122</td>
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<td>CF 1118</td>
<td>Exterior Finish Lab 1</td>
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<tr>
<td>CF 1203</td>
<td>Principles of Carpentry/Tool Safety 2</td>
<td>2</td>
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<tr>
<td>CF 1217</td>
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<td>Remodeling/Renovation Lab 1</td>
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<td>CF 1232</td>
<td>Custom Cabinet Construction Lab</td>
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</tr>
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<td>CF 1235</td>
<td>Interior/Exterior Finish Lab 1</td>
<td>4</td>
</tr>
<tr>
<td>CF 2302</td>
<td>Construction Planning &amp; Management 1</td>
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<tr>
<td>CF 2306</td>
<td>Architectural CAD</td>
<td>2</td>
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<tr>
<td>CF 2309</td>
<td>Foundations and Concrete Lab 2</td>
<td>2-3</td>
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<td>CF 2315</td>
<td>Construction Lab 4</td>
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<td>CF 2321</td>
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<td>CF 2402</td>
<td>Construction Planning &amp; Management 2</td>
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<td>CF 2422</td>
<td>Building &amp; Energy Codes</td>
<td>2</td>
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<td>CF 2435</td>
<td>Interior/Exterior Lab 2</td>
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<tr>
<td>GSW 1481</td>
<td>OSHA General Industry / First Aid</td>
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</tbody>
</table>

Total Technical Courses ..................................... 51

NOTE: Variable credit elective courses are selected with advisor approval. CF 2309, CF 2315, and CF 2435 through internship experiences and coursework focused on a specific career goal.

Minnesota Transfer Curriculum

Goal 1: Communications (choose 1 course) ................................ 3
Goal 4: Mathematical/Logical Reasoning (choose 1 course) .......... 3
General Education Electives: Choose credits from any goal area ... 9
Gen Ed courses must be taken from at least 3 MnTC goal areas

Total Credits: .................................................................. 15

Total AAS Degree Credits: ............................................ 66

CHEMICAL DEPENDENCY COUNSELING EMPHASIS

Willmar and Hutchinson Campuses

Certificate - 30 Credits/AA Liberal Arts — 60 Credits

To become a Licensed Alcohol and Drug Counselor (LADC) in Minnesota, students must obtain a minimum of a bachelor’s degree, including 18 semester credits in alcohol and drug counselor education. Additionally, students must complete an 880-hour alcohol and drug counselor practicum as part of their degree requirement.

At Ridgewater, you can:

- Complete the 60-credit AA degree (first 2 years of a bachelor’s degree includes the required 18 semester credits for licensure).
- Complete the 30-credit Chemical Dependency Counselor certificate (includes the required 18 semester credits and the 880-hour practicum required for licensure). Please note, much of this certificate can be completed online or with weekend/ evening courses, making it ideal for the working professional. The 18 semester credits in alcohol and drug counselor education count toward both AA degree electives and the certificate requirement, which allows you to complete both with 74 credits.

Ridgewater’s Chemical Dependency counseling curriculum has been developed in accordance with the standards of Minnesota Board of Behavioral Health and Therapy and the Minnesota Certification Board. The curriculum is designed to develop knowledge of the symptoms of various forms of addiction, understanding the chemically dependent person, and specific skills for prevention, intervention, assessment, and treatment of chemical dependency.

Since the chemical counselor must be extremely empathic to the variety of human relationships, the entire curriculum seeks to enhance the student’s self-awareness and ability to interact with patients, social workers, psychologists, psychiatrists and related personnel.

NOTE: Individuals entering the chemical dependency counseling field who are chemically dependent must have had a period of one year sobriety before the pre-professional practicum and internship and pass a background check. See your advisor for further details.

Work with your academic advisor to select courses that will best suit your educational goals.

Certificate

Required Courses .................................................. Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSER 1010</td>
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<td>HSER 0200</td>
<td>Counseling Techniques</td>
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<tr>
<td>HSER 2010</td>
<td>Introduction to Case Management</td>
<td>3</td>
</tr>
<tr>
<td>HSER 0202</td>
<td>Group Process</td>
<td>3</td>
</tr>
<tr>
<td>HSER 0231</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>HSER 2340</td>
<td>Assessment and Intervention</td>
<td>3</td>
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<tr>
<td>HSER 0290</td>
<td>Internship I and II</td>
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</tbody>
</table>

Total Credits .................................................... 30

Total Certificate Credits .......................................... 30

---

51
**Associate in Arts Degree**

**Goal Area 1: Communications - 9 credits required**

- CMST 1210 Intro to Communication ............................................. 3
- ENGL 1210 College Comp I ......................................................... 3
- ENGL 1220 College Comp II ....................................................... 3

-or-

- CMST 1210 Intro to Communication ............................................. 3
- ENGL 1210 College Comp I ......................................................... 3
- ENGL 1230 Scientific and Technical Writing ................................... 3

**Goal Area 2: Critical Thinking**

- This goal will be satisfied by completing one course each from MnTC Goal Areas 1, 3, 4, 5 and 6.

**Goal Area 3: Natural Sciences**

- Minimum 8 credits/2 disciplines - one from Group A and one from Group B.

**Goal Area 4: Mathematics/Logical Reasoning**

- Minimum 3 credits/1 course. The following course is strongly recommended for students pursuing a chemical dependency counseling degree: MATH 2010.

**Goal Area 5: History and the Social/Behavioral Sciences**

- Minimum 9 credits/2 disciplines required. (courses may be cross-listed with Goals 7-10) The following courses are strongly recommended for students pursuing a chemical dependency counseling degree: PSYC 1310, SOC 1070, and SOC 2420.

**Goal Area 6: The Humanities and Fine Arts**

- Minimum 9 credits/2 disciplines required. 2 disciplines recommended. (courses may be cross-listed with Goals 7-10) The following courses are strongly recommended for students pursuing a chemical dependency counseling degree: PHIL 1020, CMST 2200, and CMST 2260.3

**Goal Area 7: Human Diversity**

- One course (courses may be cross-listed with Goals 3-6) The following course is a suggested course: PSYC 1310

**Goal Area 8: Global Perspective**

- One course (courses may be cross-listed with Goals 3-6) The following course is a suggested course: SOC 2420

**Goal Area 9: Ethical and Civic Responsibility**

- One course (courses may be cross-listed with Goals 3-6) CMST 2200 Public Speaking ......................................................... 3

**Goal Area 10: People and the Environment**

- One course (courses may be cross-listed with Goals 3-6) PSYC 2750 Abnormal Psychology ................................................... 3

**Health and Wellness:** Select a minimum of 2 credits

- PE Activity Courses (0102-0140) .................................................. 1
- PE 2200 First Aid/CPR ................................................................. 2
- PUBH 1050 Personal and Community Health .................................. 2
- PUBH 1070 Nutrition ................................................................. 3
- PUBH 1100 Drug Education in Contemporary Society ...................... 2

**Total Credits:** .............................................................................. 60

**Elective Courses**

The following courses are suggested electives:

- HSER 1010 Intro to the Study of Chemical Dependency .................... 3
- HSER 0200 Counseling Techniques ................................................... 3
- HSER 2010 Introduction to Case Management .................................... 2
- HSER 0202 Group Process ................................................................ 3
- HSER 0231 Pharmacology and Chemical Dependency ........................ 3
- HSER 2340 Assessment and Interviewing ......................................... 3
- HSER 2900 Cooperative Education .................................................. 12

**Total AA Liberal Arts Degree Credits:** ........................................... 60

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**CHEMISTRY**

Willmar Campus

**AS Chemistry — 60 Credits**

Students choosing to study chemistry may also be interested in the following program areas: biochemistry, biology, pre-dentistry, pre-chiropractic, pre-medicine, pre-medical technology, pre-optometry, pre-pharmacy, and pre-veterinary medicine. The program listed below should be used as a guide since required courses vary considerably among four-year institutions. Students should contact the chemistry department and work with a counselor or advisor to identify transfer options. A visit to the intended transfer institution is highly recommended.

**Required Courses** ......................................................................

- CHEM 1510 Principles of Chemistry I ............................................. 5
- CHEM 1520 Principles of Chemistry II ........................................... 5
- CHEM 2610 Organic Chemistry I .................................................... 5
- CHEM 2620 Organic Chemistry II ................................................... 5
- MATH 1210 Calculus I: Calculus and Analytic Geometry .................. 5
- MATH 1220 Calculus II: Calculus and Analytic Geometry ................ 5
- PHYS 1210 General Physics ........................................................... 5
- PHYS 1220 General Physics ........................................................... 5

**Total Credits:** .............................................................................. 40

**Elective Courses** (select 20 credits from the courses below)

The following courses are suggested general education courses.

- Courses from Goals 5 and 6 ......................................................... 11
- CMST 1210 Introduction to Communication ..................................... 3
- ENGL 1210 College Comp I ........................................................... 3
- ENGL 1220 College Comp II .......................................................... 3

**Total Credits:** .............................................................................. 20

**Total AS Degree Credits:** .......................................................... 60

* Check with your transfer institution for possible alternate courses for MATH 1220, PHYS 1210 and PHYS 1220.
COMMUNICATION STUDIES
TRANSFER PATHWAY
Willmar and Hutchinson Campuses
AA Degree - 60 credits

Goal Area 1: Communications (take 1 CMST & 1 ENGL course) . . . Credits
CMST 2200 Public Speaking ........................................... 3
CMST 2250 Small Group Communication .......................... 3
* CMST 1210 is not included in this degree, so it will not count toward the major nor transfer as a major course
ENGL 1210 College Composition I .................................... 3
ENGL 1220 College Composition II .................................... 3
Total Credits: ..................................................................... 9

Goal Area 2: Critical Thinking (Infused)

Goal Area 3: Natural Sciences
See your advisor to select courses that fulfill this requirement.
Total Goal 3 Credits .......................................................... 8

Goal Area 4: Mathematics/Logical Reasoning
See your advisor to select courses that fulfill this requirement.
Total Goal 4 Credits .......................................................... 3

Goal Area 5: History and the Social/Behavioral Sciences
See your advisor to select courses that fulfill this requirement.
Total Goal 5 Credits .......................................................... 9

Goal Area 6: Humanities and Fine Arts
(Must include two disciplines.) See your advisor to select courses that fulfill this requirement.
Total Goal 6 Credits .......................................................... 9

Goal Area 7: Human Diversity (1 course required)
See your advisor to select courses that fulfill this requirement.

Goal Area 8: Global Perspective (1 course required)
See your advisor to select courses that fulfill this requirement.

Goal Area 9: Ethical and Civic Responsibility (1 course required)
See your advisor to select courses that fulfill this requirement.

Goal Area 10: People and the Environment (1 course required)
See your advisor to select courses that fulfill this requirement.

MNTC Elective Courses (0 - 2 credits)
See your advisor to select courses that fulfill this requirement.
Total MNTC Credits .......................................................... 40

Health and Wellness ......................................................... 2 credits
PE Activity Courses (1020-1400)
PE 2200 First Aid/CPR .................................................... 2
PUBH 1050 Personal and Community Health ..................... 2
PUBH 1070 Nutrition ........................................................ 3
PUBH 1100 Drug Ed in Contemporary Society .................... 2

Elective Courses .............................................................. 18
See your advisor to select courses that fulfill this requirement.

Total Credits ..................................................................... 60

Within these 60 credits, you must complete the following required courses for the AA Communication Studies Transfer Pathway:
• CMST 2200 Public Speaking (3)
• CMST 2250 Small Group Communication (3)
• CMST 2260 Interpersonal Communication (3)
• CMST 2270 Intercultural Communication (3)

Ridgewater CMST courses other than the above four are not included in this degree and are not guaranteed to transfer to a CMST major at a Minnesota State University. Before registering for a CMST class not listed here, contact the CMST Department at the university you want to transfer to and ask if the course(s) will count in their major.

COMMUNICATION STUDIES
CERTIFICATE

Required Courses ............................................................ Credits
CMST 2200 Public Speaking ............................................. 3
CMST 2250 Small Group Communication ......................... 3
CMST 2260 Interpersonal Communication ........................ 3
CMST 2900 Communication Certificate Capstone ............... 1
Total Credits: ..................................................................... 10

Elective Courses
CMST 2230 Listening ....................................................... 3
CMST 2270 Intercultural Communication ............................ 3
CMST 2280 Argument and Reasoning ................................. 3
CMST 2400 Gender and Communication ............................. 3
CMST 2500 Computer-Mediated Communication ............... 3
CMST 2600 Organizational Communication ....................... 3
Total Elective Credits: ...................................................... 6
Total Certificate Credits: ................................................... 16

COMPUTER AIDED DRAFTING
AND DESIGN

Willmar and Hutchinson Campuses, Online
Diploma - 64 credits/AAS Willmar - 67 credits/Certificate - 29 credits

Computer Aided Drafting and Design is the process of visualizing and developing three-dimensional drawings that production workers use to fabricate and assemble products. Students will develop entry-level drafting skills on state-of-the-art equipment and software used in industry today. Students can choose traditional instruction or online instruction, or any combination of both, and have a flexible schedule including some evening class sections. This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma
Required Courses ........................................................... Credits
DRTF 1500 Drafting Basics ................................................ 2
DRTF 1502 CAD I ............................................................ 3
DRTF 1503 Interpreting Engineering Drawings .................... 2
DRTF 1504 Technical Sketching ....................................... 2
DRTF 1508 Applied Math .................................................. 2
DRTF 1510 CAD II .......................................................... 3
DRTF 1511 Intersections and Development ......................... 3
DRTF 1512 Dimensioning Principles ................................... 3
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<td>Geometric Dimensioning and Tolerancing</td>
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<tr>
<td>DRFT 2503</td>
<td>Parametric Design I</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 2504</td>
<td>Electronic and Electrical Drawings</td>
<td>2</td>
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<td>DRFT 2506</td>
<td>Sheet Metal Design</td>
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<tr>
<td>DRFT 2510</td>
<td>Design Drafting II</td>
<td>4</td>
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<tr>
<td>DRFT 2512</td>
<td>Technical References</td>
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<tr>
<td>DRFT 2513</td>
<td>Parametric Design II</td>
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<tr>
<td>DRFT 2515</td>
<td>Parametric Design III</td>
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<tr>
<td>DRFT 2516</td>
<td>Advanced Parametrics</td>
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**Elective Courses (select 15 credits from the courses below)**

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<tr>
<td>CMAE 1522</td>
<td>Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1528</td>
<td>Career Success Skills</td>
<td>1</td>
</tr>
<tr>
<td>GSCI 1401</td>
<td>Computer Technology</td>
<td>1</td>
</tr>
<tr>
<td>GSCM 1122</td>
<td>Oral and Written Communications</td>
<td>2</td>
</tr>
<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
<td>2</td>
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<tr>
<td>GSIS 1602</td>
<td>Personal Financial Management</td>
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<td>GSWS 1401</td>
<td>Employment Preparation</td>
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<td>DRFT 1001</td>
<td>Principles of Engineering/Engineering Tech</td>
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<tr>
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<td>Fundamentals of Parametric Design</td>
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<td>DRFT 1506</td>
<td>Manufacturing Processes</td>
<td>2</td>
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<td>Fixture Design and Tooling</td>
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<td>Computer Aided Manufacturing</td>
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<td>DRFT 2900</td>
<td>Internship</td>
<td>1-6</td>
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<td>DRFT 2950</td>
<td>Special Projects/Topics</td>
<td>1-6</td>
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<td>ENGT 1103</td>
<td>Mechanical Systems</td>
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<td>ENGT 1301</td>
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<td>Principles of Machining Operations</td>
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**Total Diploma Credits:** ................................................. **64**

**AAS Degree**

**Required Courses** ....................................................... **49 Credits**

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**Elective Courses (select 3 credits from the courses below)**

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<td>DRFT 1001</td>
<td>Principles of Engineering/Engineering Tech</td>
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</table>

**Goal Area 1: Communications** (choose one)

Choose any course from Goal 1 ................................................. **3**

**Goal Area 4: Mathematics/Logical Reasoning** (choose one)

MATH 1000    Quantitative Reasoning ............... **3**
MATH 1090    Elements of Algebra and Trigonometry | **4**
MATH 1120    College Algebra                    | **4**
MATH 1160    Trigonometry                      | **3**

**General Education Electives:**

Select 8-9 credits of general education courses from at least three of the 10 goal areas of the Minnesota Transfer Curriculum with recommendations from advisor. Recommended elective general courses include the following:

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<td>ECON 1950</td>
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Certificate Option: Computer Aided Technician

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<td>DRFT 1502 CAD I</td>
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<tr>
<td>DRFT 1503 Interpreting Engineering Drawings</td>
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<td>DRFT 1504 Technical Sketching</td>
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<td>DRFT 1510 CAD II</td>
<td>3</td>
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<tr>
<td>DRFT 1511 Intersections and Development</td>
<td>3</td>
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<td>DRFT 1512 Dimensioning Principles</td>
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<td>DRFT 2501 Geometric Dimensioning and Tolerances</td>
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<td>DRFT 2515 Parametric Design III</td>
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<tr>
<td>DRFT 2516 Advanced Parametrics</td>
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Total Certificate Credits: .......................................................... 29

COMPUTER PROGRAMMER

Hutchinson Campus

Diploma/AAS Degree — 50/60 Credits

All areas of the private and public sectors are in need of computer programmers. This two-year degree prepares the student to enter the workforce as a computer programmer or continue on to a four-year degree. Graduates will learn how to program computers using a variety of programming languages including C#, Java, Perl, PHP, and Visual Basic. Graduates will also learn many modern databases, Internet, operating systems, and server technologies. This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma

<table>
<thead>
<tr>
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<tbody>
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<td>CST 1022 HTML II and Javascript (or MMDT 1022)</td>
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<td>CST 1025 Network Basics (or MMDT 1025)</td>
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<td>CST 1146 PHP Programming (or MMDT 1146)</td>
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<td>CST 1600 Relational Database Design</td>
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<tr>
<td>CST 1602 Advanced Databases</td>
<td>3</td>
</tr>
<tr>
<td>CST 1620 C# Programming</td>
<td>4</td>
</tr>
<tr>
<td>CST 1640 Introduction to Java</td>
<td>3</td>
</tr>
<tr>
<td>CST 1794 Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>CST 2146 Data Driven Web (or MMDT 2146)</td>
<td>3</td>
</tr>
<tr>
<td>CST 2641 Introduction to Mobile Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: .......................................................... 33

Elective Courses

Choose 11 credits from any CST courses as approved by advisor.

Total Credits: .......................................................... 11

General Studies Required Courses

| GSMS 1222 Applied Elementary Algebra       | 2       |

Total Credits: .......................................................... 2

General Studies Elective Courses (select 4 credits)

| GSCM 1102 Applied Written Communications   | 2       |
| GSCM 1112 Applied Oral Communications       | 2       |
| GSCM 1122 Applied Oral and Written Communications | 2   |
| GSCM 1123 Applied Oral and Written Communications | 3   |
| GSIS 1502 Human Relations                    | 2       |
| GSWS 1401 Employment Preparation             | 1       |

Total Diploma Credits: .......................................................... 50

AAS Degree

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1021 HTML and CSS (or MMDT 1021)</td>
<td>3</td>
</tr>
<tr>
<td>CST 1022 HTML II and Javascript (or MMDT 1022)</td>
<td>3</td>
</tr>
<tr>
<td>CST 1025 Network Basics (or MMDT 1025)</td>
<td>2</td>
</tr>
<tr>
<td>CST 1146 PHP Programming (or MMDT 1146)</td>
<td>3</td>
</tr>
<tr>
<td>CST 1600 Relational Database Design</td>
<td>3</td>
</tr>
<tr>
<td>CST 1602 Advanced Databases</td>
<td>3</td>
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<tr>
<td>CST 1620 C# Programming</td>
<td>4</td>
</tr>
<tr>
<td>CST 1640 Introduction to Java</td>
<td>3</td>
</tr>
<tr>
<td>CST 1794 Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>CST 2146 Data Driven Web (or MMDT 2146)</td>
<td>3</td>
</tr>
<tr>
<td>CST 2641 Advanced Java</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Credits: .......................................................... 33

Elective Courses

Select 11 credits from any CST courses as approved by advisor.

Total Credits: .......................................................... 11

General Education Elective Courses

Goal 1 - Choose any Goal 1 CMST and 1 ENGL course

Total Credits: .......................................................... 6

General Education Electives

(select 4 credits from the courses below)

| MATH 1090 Elements of Algebra & Trigonometry | 4       |
| MATH 1120 College Algebra                    | 4       |

Total Credits: .......................................................... 8

General Education Electives

The AAS Degree requires Minnesota Transfer Curriculum from at least three different goal areas. See your advisor to select courses that fulfill this requirement. These courses are not required but are recommended.

| ECON 1900 Personal Finance                  | 3       |
| PHIL 1100 Logical and Critical Thinking     | 3       |

Total Credits: .......................................................... 6

Total AAS Degree Credits: .......................................................... 60
**COMPUTER SUPPORT TECHNICIAN**

*Hutchinson and Willmar Campuses*

**Diploma/AAS Degree — 50/60 Credits**

All areas of the private and public sectors are in need of computer support technicians. This two-year degree prepares the student to enter the workforce as a computer support technician or continue on to a four-year degree. Graduates will learn how to maintain computer hardware and software, assist network managers, and provide customer service for a variety of users and environments. Graduates will also learn many modern Internet, operating systems, and server technologies. This program participates in Articulated College Credit partnerships. Refer to page 6.

**Certificate Options:** Helpdesk Technician - 30 credits / Java - 20 credits / Linux Administrator - 20 credits / Windows Administrator - 20 credits

**Diploma**

**Required Courses** ................................................................. Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1025</td>
<td>Network Basics (or MMDT 1025)</td>
<td>2</td>
</tr>
<tr>
<td>CST 1026</td>
<td>TCP/IP Routing</td>
<td>1</td>
</tr>
<tr>
<td>CST 1027</td>
<td>Windows Workstation Support</td>
<td>3</td>
</tr>
<tr>
<td>CST 1261</td>
<td>Applications Support</td>
<td>2</td>
</tr>
<tr>
<td>CST 1510</td>
<td>System Diagnostics</td>
<td>3</td>
</tr>
<tr>
<td>CST 1511</td>
<td>Storage Media Diagnostics</td>
<td>3</td>
</tr>
<tr>
<td>CST 1600</td>
<td>Relational Database Design</td>
<td>3</td>
</tr>
<tr>
<td>CST 1794</td>
<td>Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>CST 1802</td>
<td>Helpdesk Diagnostics</td>
<td>1</td>
</tr>
<tr>
<td>CST 1802</td>
<td>Helpdesk Diagnostics (take twice)</td>
<td>1</td>
</tr>
<tr>
<td>CST 1861</td>
<td>Command Line and Registry</td>
<td>3</td>
</tr>
<tr>
<td>CST 2284</td>
<td>Network Security</td>
<td>3</td>
</tr>
<tr>
<td>CST 2504</td>
<td>A+ Certification Preparation</td>
<td>2</td>
</tr>
<tr>
<td>CST 2505</td>
<td>Introduction to Linux</td>
<td>3</td>
</tr>
<tr>
<td>CST 2514</td>
<td>Printer Diagnostics</td>
<td>2</td>
</tr>
<tr>
<td>CST 2802</td>
<td>Helpdesk Management</td>
<td>1</td>
</tr>
<tr>
<td>CST 2802</td>
<td>Helpdesk Management (take twice)</td>
<td>1</td>
</tr>
<tr>
<td>CST 2895</td>
<td>Customer Service</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Credits:** ....................................................................... 38

**Elective Courses**

Choose 7 credits from any CST courses as approved by advisor.

**Total Credits:** ....................................................................... 7

**General Education Required Courses**

**Goal 1:** Choose any Goal 1 CMST and ENGL course 6

**General Education Elective Courses**

The AAS Degree requires Minnesota Transfer Curriculum from at least three different goal areas. See your advisor to select courses that fulfill this requirement. These courses are not required but are recommended.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1900</td>
<td>Personal Finance</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1100</td>
<td>Logic &amp; Critical Thinking</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** ....................................................................... 9

**Total AAS Degree Credits:** ................................................................... 60

---

**COSMETOLOGY**

*Willmar Campus*

**Diploma/AAS Degree — 55/67 Credits**

Cosmetologists provide a variety of services in hair design such as perms, haircuts, color, and sculpting to create artistic designs. Through this program, students become proficient in everything from deep conditioning treatments to special occasion long hair styles. They also perfect skills in esthetics (skin care and makeup) and nail technology. The curriculum includes classroom instruction and clinical experience in the campus salon.

**Diploma**

**Required Courses** ................................................................. Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COS 1403</td>
<td>Cosmetology Fundamentals</td>
<td>1</td>
</tr>
<tr>
<td>COS 1404</td>
<td>Cosmetology Fundamentals Spa Track</td>
<td>1</td>
</tr>
<tr>
<td>COS 1405</td>
<td>Pre-Clinic Haircutting</td>
<td>4</td>
</tr>
<tr>
<td>COS 1407</td>
<td>Pre-Clinic Nail Care</td>
<td>3</td>
</tr>
<tr>
<td>COS 1409</td>
<td>Pre-Clinic Chemical Control</td>
<td>3</td>
</tr>
<tr>
<td>COS 1411</td>
<td>Pre-Clinic Skin Care</td>
<td>3</td>
</tr>
<tr>
<td>COS 1413</td>
<td>Pre-Clinic Hair Color</td>
<td>3</td>
</tr>
<tr>
<td>COS 1415</td>
<td>Pre-Clinic Hair Design</td>
<td>2</td>
</tr>
<tr>
<td>COS 1417</td>
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<td>2</td>
</tr>
<tr>
<td>COS 1418</td>
<td>Design Forum</td>
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**Total Diploma Credits:** ....................................................................... 50

---

**AAS Degree**

**Required Courses** ................................................................. Credits

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>CST 1025</td>
<td>Network Basics (or MMDT 1025)</td>
<td>2</td>
</tr>
<tr>
<td>CST 1026</td>
<td>TCP/IP Routing</td>
<td>1</td>
</tr>
<tr>
<td>CST 1072</td>
<td>Windows Workstation Support</td>
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<td>CST 1261</td>
<td>Applications Support</td>
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<td>CST 1510</td>
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<td>1</td>
</tr>
<tr>
<td>CST 1861</td>
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<td>Network Security</td>
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<tr>
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<td>Helpdesk Management (take twice)</td>
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</tr>
<tr>
<td>CST 2895</td>
<td>Customer Service</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Credits:** ....................................................................... 38

**Elective Courses**

Choose 7 credits from any CST courses as approved by advisor.

**Total Credits:** ....................................................................... 7

**General Education Required Courses**

**Goal 1:** Choose any Goal 1 CMST and ENGL course 6

**General Education Elective Courses**

The AAS Degree requires Minnesota Transfer Curriculum from at least three different goal areas. See your advisor to select courses that fulfill this requirement. These courses are not required but are recommended.

<table>
<thead>
<tr>
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<th>Title</th>
<th>Credits</th>
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<td>Personal Finance</td>
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<tr>
<td>PHIL 1100</td>
<td>Logic &amp; Critical Thinking</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** ....................................................................... 9

**Total AAS Degree Credits:** ................................................................... 60
### AAS Degree

**NOTE:** The AAS degree option in Cosmetology is a nonconcurrent AAS degree. These General Education courses may be taken prior to acceptance into the Cosmetology program or after completion of the program.

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COS 1403</td>
<td>Cosmetology Fundamentals</td>
<td>1</td>
</tr>
<tr>
<td>COS 1404</td>
<td>Cosmetology Fundamentals Spa Track</td>
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<tr>
<td>COS 1405</td>
<td>Pre-Clinic Haircutting</td>
<td>4</td>
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<tr>
<td>COS 1407</td>
<td>Pre-Clinic Nail Care</td>
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<tr>
<td>COS 1409</td>
<td>Pre-Clinic Chemical Control</td>
<td>3</td>
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<tr>
<td>COS 1411</td>
<td>Pre-Clinic Skin Care</td>
<td>3</td>
</tr>
<tr>
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<td>Pre-Clinic Hair Color</td>
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<tr>
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<td>COS 1417</td>
<td>Pre-Clinic Hair Care</td>
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<tr>
<td>COS 1418</td>
<td>Design Forum</td>
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<tr>
<td>COS 1435</td>
<td>Minnesota Laws &amp; Rules</td>
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<td>COS 1500</td>
<td>Clinical</td>
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<tr>
<td>COS 1519</td>
<td>Salon Success</td>
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<tr>
<td>COS 1661</td>
<td>Salon Fundamentals for Estheticians</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Technical Credits:** 71

**General Education Electives**

All students must complete a total of 15 credits taken from the following categories:

- **Goal Area 1: Communications** 3 credits
- **Goal Area 4: Mathematics/Logical Reasoning** 3-5 credits
- **Goal Area 5: History & Social/Behavioral Sciences** 3-4 credits
- **Goal Area 6: The Humanities and Fine Arts** 3-4 credits
- **General Education Electives (see advisor)** 0-3 credits

**Total Credits:** 15

**Total AAS Degree Credits:** 67

### Certificate - Estheology

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>COS 1411</td>
<td>Pre-Clinic Skin Care</td>
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<td>COS 1501</td>
<td>Clinical</td>
<td>12</td>
</tr>
<tr>
<td>COS 1435</td>
<td>Minnesota Law and Rules</td>
<td>2</td>
</tr>
<tr>
<td>COS 1661</td>
<td>Salon Fundamentals for Estheticians</td>
<td>2</td>
</tr>
<tr>
<td>COS 1662</td>
<td>Salon Fundamentals for Estheticians</td>
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<tr>
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**Total Credits:** 23

### Certificate - Nail Care Technology

**Required Courses:**

<table>
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<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>COS 1407</td>
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<td>3</td>
</tr>
<tr>
<td>COS 1502</td>
<td>Clinical</td>
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</tr>
<tr>
<td>COS 1435</td>
<td>Minnesota Laws and Rules</td>
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</tr>
<tr>
<td>COS 1519</td>
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</tr>
<tr>
<td>COS 1660</td>
<td>Salon Fundamentals for Nail Technology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total Credits:** 16

### AAS Degree – 50/60 Credits

**CYBER SECURITY SPECIALIST**

**Hutchinson and Willmar Campus**

**AAS Degree**

Providing security for computer networks is a critical skill set in today’s economy. This 2-year program is focused on providing students with the networking basics required of any technician, but also the understanding of network security to ensure systems and networks are adequately protected from cyber threats.

**Certificate Options:**

- Helpdesk Technician - 30 credits / Linux Administrator - 20 credits / Windows Administrator - 20 credits

**AAS Degree**

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1072</td>
<td>Windows Workstation Support</td>
<td>3</td>
</tr>
<tr>
<td>CST 1611</td>
<td>Web Server Administration</td>
<td>3</td>
</tr>
<tr>
<td>CST 1700</td>
<td>CCNA R &amp; S Introduction to Networks</td>
<td>3</td>
</tr>
<tr>
<td>CST 1701</td>
<td>CCNA R &amp; S Routing &amp; Switching Essentials</td>
<td>3</td>
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<tr>
<td>CST 1861</td>
<td>Command Line and Registry</td>
<td>3</td>
</tr>
<tr>
<td>CST 2274</td>
<td>Windows Server Install and Configure</td>
<td>3</td>
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<td>CST 2276</td>
<td>Windows Server Advanced Services</td>
<td>3</td>
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<tr>
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<td>Network Security</td>
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<td>CST 2608</td>
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<td>CCNA R &amp; S Scaling Networks</td>
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<td>CST 2703</td>
<td>CCNA R &amp; S Connecting Networks</td>
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<td>CST 2823</td>
<td>Network Intrusion</td>
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<td>CST 2824</td>
<td>Advanced Network Defense</td>
<td>3</td>
</tr>
<tr>
<td>CST 2826</td>
<td>Security Capstone</td>
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</tr>
<tr>
<td>CST 2840</td>
<td>Wireless LAN Networking</td>
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</tr>
</tbody>
</table>

**Total Credits:** 42

**Elective Courses**

Choose 3 credits from any CST courses as approved by advisor.

**Total Credits:** 3

**General Education (15 credits required)**

Goal Area 1 - two courses required for 6 credits.

Choose one ENGL and one CMST course.

**Recommended General Education Courses:**

- PHIL 110 Logic and Critical Thinking (Goal 4) 3 credits
- ECON 190 Personal Finance (Goal 9) 3 credits

**Total General Education Credits:** 15

**Total Program Credits:** 60.

---

**Programs of Study**

---
DAIRY MANAGEMENT

Willmar Campus

Diploma/AAS Degree – 72 Credits

The two-year Dairy Management program at Ridgewater College includes all phases of dairy management with an emphasis in owner/operator, agri-business, or employed manager.

Dairy Management program (diploma) students do a four-week paid internship each October and again in May. Dairy Management (AAS) students do a four-week paid internship in May or June between their freshman and sophomore year.

The internships provide opportunity to apply skills learned in college and to learn new skills that can best be learned on the job.

This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma

Technical Core Required for Ag Business Emphasis ............................ Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGRI 1001</td>
<td>Ag Orientation</td>
<td>2</td>
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<tr>
<td>AGRI 1201</td>
<td>Applied Mathematics in Ag Careers</td>
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<tr>
<td>MATH 1200</td>
<td>College Algebra</td>
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<td>AGRI 1210</td>
<td>Dairy Cattle Breeding and Reproduction</td>
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<td>AGRI 1211</td>
<td>Artificial Insemination</td>
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</tr>
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<td>AGRI 1220</td>
<td>Dairy Facilities and Equipment</td>
<td>3</td>
</tr>
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<td>AGRI 1230</td>
<td>Raising Dairy Replacements</td>
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<tr>
<td>AGRI 1240</td>
<td>Dairy Cattle Anatomy, Physiology &amp; Health</td>
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<td>AGRI 1241</td>
<td>Dental Health Lab</td>
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<td>Dairy Seminar I</td>
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<td>Dairy Seminar II</td>
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<td>AGRI 1550</td>
<td>Introduction to Ag Business</td>
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<td>AGRI 1551</td>
<td>Ag Business Procedures and Records</td>
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<td>Introduction to Agronomy</td>
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<tr>
<td>AGRI 2100</td>
<td>Farm Shop Repair Skills</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2123</td>
<td>Agricultural Communications and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2800</td>
<td>Internship (taken twice)</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credits: ......................................................... 61

Highly suggested Elective Courses

AGRI 1242 Palpation & Ultrasounding of Dairy Cattle .................................. 1
AGRI 1243 Embryo Transfer ........................................................................... 1
AGRI 1244 Hoof Trimming ............................................................................ 1
AGRI 1720 Corn and Soybean Production .................................................... 3
AGRI 1750 Forage Production ....................................................................... 3
AGRI 1761 Ag Water Management .................................................................. 2
AGRI 1771 Introduction to Precision Ag .................................................... 2
AGRI 2151 Forage Harvesting and Fall Tillage ............................................ 2
GSCL 1141 Spanish Conversation/Culture .................................................... 1

Other Elective Courses

AGRI 1721 Fall Agriculture Field Experience Lab ....................................... 1
AGRI 1722 Spring Agriculture Experience Lab ............................................ 1
AGRI 2191 CDL - Preparation for Written Test ........................................... 2
AGRI 2192 CDL - Preparation for Road Test ................................................. 1
WELD 1118 Agricultural Welding .................................................................... 2

AGRI **** Choose any course with the AGRI prefix

Up to 4 credits non-AGRI prefix course(s)

General Studies

GSWS 1481 OSHA General Industry / First Aid ............................................... 1

Total Credits: ........................................................................................... 72

Ag Business Option - Required (61) + Electives (10) ............................... 71
Farm Op Option - Required (61) + Electives (10) ....................................... 71

Total Diploma Credits: .............................................................................. 72

Technical Core Required for Farm Op Emphasis

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AGRI 1001</td>
<td>Ag Orientation</td>
<td>2</td>
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<tr>
<td>AGRI 1201</td>
<td>Applied Mathematics in Ag Careers</td>
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</tr>
<tr>
<td>MATH 1200</td>
<td>College Algebra</td>
<td>4</td>
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<tr>
<td>AGRI 1210</td>
<td>Dairy Cattle Breeding and Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1211</td>
<td>Artificial Insemination</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1220</td>
<td>Dairy Facilities and Equipment</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1230</td>
<td>Raising Dairy Replacements</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1240</td>
<td>Dairy Cattle Anatomy, Physiology &amp; Health</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1241</td>
<td>Dental Health Lab</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1260</td>
<td>Dairy Seminar I</td>
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Total Credits: ........................................................................................... 61
### Dairy Management AAS Degree
#### Technical Core Required for Ag Business Emphasis

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<thead>
<tr>
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<tr>
<td>AGRI 1001</td>
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<td>AGRI 1241</td>
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<tr>
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<td>AGRI 1261</td>
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**Total Credits:** 55

#### Technical Core Required for Farm Op Emphasis

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<tr>
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<td>AGRI 2100</td>
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**Total Credits:** 55

### Highly Suggested Elective Courses

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<tr>
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<td>AGRI 1761</td>
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### Other Elective Courses

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<tr>
<td>AGRI 1721</td>
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<tr>
<td>AGRI 1722</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 2123</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2191</td>
<td>2</td>
</tr>
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<td>AGRI 2192</td>
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<tr>
<td>WELD 1118</td>
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<td>AGRI ****</td>
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**Total Credits:** 1

### General Studies

<table>
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<tbody>
<tr>
<td>GSWS 1481</td>
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**Total Credits:** 1

### General Education Required Courses

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<tr>
<td>ENGL 1220</td>
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<td>CMST 1210</td>
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<td>CMST 2250</td>
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<tr>
<td>ENGL 1210</td>
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<tr>
<td>ENGL 1230</td>
<td>3</td>
</tr>
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</table>

**Total Credits:** 9

### General Education Electives

General Education courses will be selected from at least three (3) of the ten (10) goal areas of the Minnesota Transfer curriculum. Courses can be taken from any of the ten (10) goal areas.

**Total Credits:** 55

### Required Credits

**Total Credits:** 1

### Elective Credits

**Total Credits:** 1

### Total General Education Credits

**Total Credits:** 15

### Total AAS Degree Credits

**Total Credits:** 72

---

**DRAFTING AND DESIGN**

See Computer Aided Drafting and Design on pages 54-55.

### EARLY CHILDHOOD EDUCATION

**Willmar and Hutchinson Campuses, Online**

**AS Degree 60 Credits/Certificate — 16/19 Credits**

The Early Childhood Education program of Ridgewater College prepares students to provide developmentally appropriate activities for infants, toddlers, and preschoolers.

This Associate of Science degree can lead to a Bachelor of Science degree from Southwest Minnesota State University. Private preschools, childcare, Head Start, Early Childhood Family Education, kindergarten, and primary grade teaching are possible career directions with this degree.
Early childhood education is a growing career area with the possibility for leadership positions in agencies that provide support to families and children such as Head Start and other child care resource and referral agencies.

This program participates in Articulated College Credit partnerships. Refer to page 6.

Work with your academic advisor to select courses that will best suit your educational goals.

NOTE: Program participants are subject to background checks according to Minnesota state law. See page 9 of the catalog for more specific information.

**AS Degree**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECED 1015 Activity Ideas</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1110 Language Arts</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1115 Special Education</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1120 Child, Family and Community</td>
<td>2</td>
</tr>
<tr>
<td>ECED 1125 Child Development</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1610 Health in Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1620 Foundations of Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1630 Practices/Assessments in Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1631 Practices/Assessments in Early Childhood Lab</td>
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<tr>
<td>ECED 1640 Early Childhood Method and Curriculum Planning</td>
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</tr>
<tr>
<td>ECED 1641 Early Childhood Methods and Curriculum Planning Lab</td>
<td>1</td>
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<tr>
<td>ECED 2900 Internship</td>
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</table>

Total Credits: ......................................................... 30

**Goal Area 1: Communications**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CMST 1210 Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1210 College Composition</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 1220 College Composition II</td>
<td>3</td>
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</tbody>
</table>

Total Credits: ......................................................... 9

**Goal Area 3: Natural Sciences** At least 1 lab science course

Total Credits: ......................................................... 4

**Goal Area 4: Mathematics/Logical Reasoning**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1120 College Algebra</td>
<td>4</td>
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</table>

Total Credits: ......................................................... 4

**Goal Area 5: History and the Social/Behavioral Sciences**

At least 1 course required

Total Credits: ......................................................... 3-4

**Goal Area 6: The Humanities and Fine Arts**

At least 1 course required

Total Credits: ......................................................... 3

**Goals 7, 8, 9 or 10**

At least 1 course required (courses may be cross-listed with another goal area)

Total Credits: ......................................................... 5-6

**Recommended Courses**

(These courses are not required but are recommended)

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>ART 1200</td>
<td>Art Structure</td>
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<tr>
<td>ART 2260</td>
<td>Elementary Art Education</td>
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<tr>
<td>BIOL 1000</td>
<td>Introduction to Biology</td>
</tr>
<tr>
<td>ENV 1410</td>
<td>Environmental Science</td>
</tr>
<tr>
<td>ESCI 1100</td>
<td>Physical Geology</td>
</tr>
<tr>
<td>ESCI 1120</td>
<td>Introduction to Meteorology</td>
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<tr>
<td>ESCI 1130</td>
<td>Introduction to Astronomy</td>
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<td>ESCI 1140</td>
<td>Natural Disasters</td>
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<tr>
<td>GEOG 1400</td>
<td>Introduction to Geography</td>
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<tr>
<td>HIST 1110</td>
<td>United States History I</td>
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<tr>
<td>MATH 2100</td>
<td>Introduction to Modern Mathematics I</td>
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<tr>
<td>MUSC 1230</td>
<td>Fundamentals of Music</td>
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<tr>
<td>PSYC 1310</td>
<td>Introduction to Psychology</td>
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<tr>
<td>PSYC 2630</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>SOC 1070</td>
<td>Marriage and Family Living</td>
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<tr>
<td>SOC 2240</td>
<td>Racial and Cultural Minorities</td>
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Total AS Degree Credits: ......................................................... 60

**Certificate - Early Childhood Education**

<table>
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<tr>
<td>ECED 1120 Child, Family, and Community</td>
<td>2</td>
</tr>
<tr>
<td>ECED 1125 Child Development</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1610 Health, Safety, and Nutrition in Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1620 Foundations of Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>ECED 2900 Internship</td>
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</tr>
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Total AS Degree Credits: ......................................................... 16

**Certificate - Early Childhood Special Education (online only)**

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ECED 1105 Guiding Children's Behavior</td>
<td>2</td>
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<tr>
<td>ECED 1115 Special Education</td>
<td>3</td>
</tr>
<tr>
<td>ECED 1410 Introduction to Autism Spectrum Disorder</td>
<td>2</td>
</tr>
<tr>
<td>ECED 1420 Bullying: An Educator's Role</td>
<td>1</td>
</tr>
<tr>
<td>ECED 1430 Assistive Technology in Early Childhood</td>
<td>1</td>
</tr>
<tr>
<td>ECED 1440 Creating an Inclusive Early Childhood Environment</td>
<td>1</td>
</tr>
<tr>
<td>ECED 1150 Children's Mental Health</td>
<td>2</td>
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<tr>
<td>ECED 1630 Practices and Assessments</td>
<td>3</td>
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<tr>
<td>ECED 2900 Internship</td>
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<tr>
<td>GWS 1451 First Aid/CPR</td>
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Total AS Degree Credits: ......................................................... 19

**EDUCATION PARAPROFESSIONAL**

**Hutchinson Campus**

**Diploma/AAS Degree — 43/60 Credits**

The Education Professional Program is Minnesota's original and most successful post-secondary training program for paraprofessionals in education, training, and related services. This program provides the skills needed to work in an educational setting. Paraprofessionals work with children in day care centers, preschools, elementary schools and with children or adults with special needs.

A paraprofessional is an employee whose position is either instructional in nature or who delivers direct services to individuals and/or their parents.

NOTE: Program participants are subject to background checks according to Minnesota State Law. See page 9 of the catalog for more specific information. This program participates in Articulated College Credit partnerships. Refer to page 6.

**Diploma**

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<tr>
<td>ECED 1420 Bullying and the Educator's Role</td>
<td>1</td>
</tr>
<tr>
<td>ECED 1430 Assistive Technology in Early Childhood</td>
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</tr>
<tr>
<td>EDA 1005 Occupational/Service Learning</td>
<td>2</td>
</tr>
<tr>
<td>EDA 1010 Cultures in the Workplace</td>
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<tr>
<td>EDA 1015 Activity Ideas</td>
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<td>EDA 1065 Teaching Strategies</td>
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**Certificate - Early Childhood Education**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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<td>ECED 1120 Child, Family, and Community</td>
<td>2</td>
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<td>ECED 1125 Child Development</td>
<td>3</td>
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<tr>
<td>ECED 1610 Health, Safety, and Nutrition in Early Childhood</td>
<td>3</td>
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<tr>
<td>ECED 1620 Foundations of Early Childhood</td>
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<tr>
<td>ECED 2900 Internship</td>
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Total AS Degree Credits: ......................................................... 16

**Certificate - Early Childhood Special Education (online only)**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>ECED 1115 Special Education</td>
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<td>ECED 1410 Introduction to Autism Spectrum Disorder</td>
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<tr>
<td>ECED 1430 Assistive Technology in Early Childhood</td>
<td>1</td>
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<tr>
<td>ECED 1440 Creating an Inclusive Early Childhood Environment</td>
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<tr>
<td>ECED 1150 Children's Mental Health</td>
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<tr>
<td>ECED 1630 Practices and Assessments</td>
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<td>ECED 2900 Internship</td>
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<tr>
<td>GWS 1451 First Aid/CPR</td>
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Total AS Degree Credits: ......................................................... 19
Elective Courses

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<td>EDA 1025</td>
<td>Sign Language II</td>
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<tr>
<td>EDA 2800</td>
<td>Professional Development</td>
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</table>

**Minnesota Transfer Curriculum**

See your advisor to select courses that fulfill this requirement. General Education courses will be selected from at least three of the ten goal areas of the Minnesota Transfer Curriculum.

**Total Credits:** 15

**Total AAS Degree Credits:** 60

### Education Paraprofessional, Title I

**Hutchinson Campus**

**AAS Degree - 60 Credits**

**Required Courses**

<table>
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<td>EDA 1105</td>
<td>Behavior Intervention</td>
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<tr>
<td>EDA 1110</td>
<td>Language Arts</td>
<td>3</td>
</tr>
<tr>
<td>EDA 1115</td>
<td>Special Education</td>
<td>3</td>
</tr>
<tr>
<td>EDA 1125</td>
<td>Child Development I</td>
<td>3</td>
</tr>
<tr>
<td>EDA 1130</td>
<td>Child Development II</td>
<td>3</td>
</tr>
<tr>
<td>EDA 1150</td>
<td>Children’s Mental Health</td>
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</tr>
<tr>
<td>EDA 1155</td>
<td>Crisis Intervention</td>
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</tr>
<tr>
<td>EDA 1180</td>
<td>Employment Readiness (or GSWS 1401)</td>
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</tr>
<tr>
<td>EDA 1185</td>
<td>Math Activities</td>
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</tr>
<tr>
<td>EDA 2900</td>
<td>Internship I (variable 1-12 credits)</td>
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**Total Credits:** 40

**Elective Courses**

(These courses are not required but are recommended) Enrollment in UCA 1200 and UCA 1205 is determined by placement tests.

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<thead>
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**General Studies Required Course**

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<tbody>
<tr>
<td>GSWS 1451</td>
<td>First Aid &amp; Safety</td>
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**Total General Studies Credits:** 5

**Total Diploma Credits:** 43

### AAS Degree

**Required Courses**

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<td>Introduction to Autism</td>
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<td>Assistive Technology in Early Childhood</td>
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<td>Occupational/Service Learning</td>
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<tr>
<td>EDA 1010</td>
<td>Cultures in the Workplace</td>
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<td>EDA 1015</td>
<td>Activity Ideas</td>
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<td>EDA 1065</td>
<td>Teaching Strategies</td>
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<td>EDA 1115</td>
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<td>Child Development I</td>
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<tr>
<td>EDA 1180</td>
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<td>EDA 1185</td>
<td>Math Activities</td>
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<td>EDA 2900</td>
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<tr>
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**Total Credits:** 45

**Elective Courses**

(These courses are not required but are recommended)

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<td>EDA 1025</td>
<td>Sign Language II</td>
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**Technical Elective Options**

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<tr>
<td>ECED 1420</td>
<td>Bullying: An Educator's Role</td>
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<tr>
<td>EDA 1020</td>
<td>Sign Language I</td>
<td>2</td>
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<tr>
<td>EDA 2950</td>
<td>Special Topics</td>
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</table>
General Education Credits

General Education courses will be selected from at least three (3) of the ten (10) goal areas of the Minnesota Transfer Curriculum. Choose at least one course in Goal Areas 1 and 4 for a total of 6 credits. Courses can be taken from any of the ten (10) goal areas. See your advisor to select courses that fulfill this requirement.

Total Credits: .................................................. 20
Total AAS Degree Credits: ..................................... 60

ELECTRICIAN

Willmar and Hutchinson Campus

Diploma/AAS — 74/63 Credits

The Electrician program is designed to provide entry-level skills and knowledge to perform electrical work in all types of electrical installations in accordance with the National Electrical Code. A student can specialize as a construction, industrial or maintenance electrician. Students will wire a variety of different labs that will expose them to residential, commercial, industrial, agricultural, or maintenance electrical wiring. Second-year students will wire the Carpentry II program house.

Diploma

Required Courses

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<tr>
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<th>Credits</th>
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<tr>
<td>CNEL 1411</td>
<td>Circuits I</td>
<td>3</td>
</tr>
<tr>
<td>CNEL 1412</td>
<td>Circuits II</td>
<td>3</td>
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<tr>
<td>CNEL 1809</td>
<td>Electrical Materials Lab</td>
<td>2</td>
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<tr>
<td>CNEL 1810</td>
<td>Basic Wiring Lab 1</td>
<td>5</td>
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<tr>
<td>CNEL 1811</td>
<td>Basic Wiring Lab 2</td>
<td>4</td>
</tr>
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<td>CNEL 1815</td>
<td>Applied Math for Electricians</td>
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</tr>
<tr>
<td>CNEL 1820</td>
<td>National Electrical Code I</td>
<td>3</td>
</tr>
<tr>
<td>CNEL 1825</td>
<td>National Electrical Code II</td>
<td>3</td>
</tr>
<tr>
<td>CNEL 1830</td>
<td>Print Reading, Planning and Estimating</td>
<td>3</td>
</tr>
<tr>
<td>CNEL 1850</td>
<td>Lighting Equipment</td>
<td>2</td>
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<tr>
<td>CNEL 2413</td>
<td>Circuits 3 Lab</td>
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<tr>
<td>CNEL 2730</td>
<td>Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>CNEL 2731</td>
<td>Programmable Logic Controllers</td>
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<td>CNEL 2805</td>
<td>Electric Motors Lab</td>
<td>2</td>
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<td>CNEL 2830</td>
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<td>Specialized Systems</td>
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<td>Heating/Air Conditioning</td>
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<tr>
<td>CNEL 2900</td>
<td>Transformers</td>
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<td>CNEL 2901</td>
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<tr>
<td>GWS 1481</td>
<td>OSHA General Industry/First Aid</td>
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Total Credits: .................................................. 68

AAS Degree

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>CNEL 1001</td>
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<td>GWS 1481</td>
<td>OSHA General Industry/First Aid</td>
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</tbody>
</table>

Total Credits: .................................................. 68

Required General Education Courses

General Education courses must be selected from at least three (3) of the ten (10) goal areas of the Minnesota Transfer curriculum. Refer to pages 29-33 for a listing of the goal areas and courses assigned.

Total General Education Courses: ...................................... 15
Total Program Credits: ................................................ 83

ELECTRONICS TECHNOLOGY

Hutchinson Campus

Diploma/AAS Degree — 66/60/70/60 Credits

Electronics Technician

Electronic technicians are employed by industrial firms in the design, development and service of electronic products. The main emphasis of this program is to analyze, design and troubleshoot electronic circuitry. Starting with a strong foundation in basic electronics, it continues into a comprehensive, in-depth preparation for a wide variety of job opportunities.

This broad base gives graduates flexibility in the type of employment they choose. This program includes digital electronics, microprocessors, computer repair, computer networks, radio and video systems, automated systems, robotics, programmable logic controller and associated sensors and security systems. A systematic approach to trouble analysis is an important trait for success in this field.

Students are encouraged to pursue nationally recognized certifications including Cisco’s CCNA certification, the Computing Technology Industry Association A+ certification, Certified Electronics Technician, and IPC certification.

Wireless Communications Electronics

This program emphasizes understanding of radio frequency fundamentals,
employing a systems approach along with component-level troubleshooting and analysis. Systems integration and networking are also studied. This multi-facet-
ed approach to understanding the operation and troubleshooting of communi-
sation systems enables graduates to become effective technicians in the wireless industry.

Wireless Communications Electronics graduates are currently employed by various wireless companies and government agencies, including Rural Cellular Communications, Nextel, ATT, Qwest, Nortel Networks, MN/DOT, Minneapolis Police Department, Hennepin County Sheriff Department, the FBI, and many others.

Both electronics programs require the same core courses for the first two semesters. Students choose between Electronics Technician and Wireless Communications Electronics near the end of the second semester.

**Electronics Technician — Diploma**

**Required Courses**

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**Elective Courses**

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**Total Credits:** 45

**Electronics Technician — AAS Degree**

**Required Courses**

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**Total Credits:** 35

**Elective Courses**

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**Goal Area 1: Communications**

See your advisor to select courses that fulfill this requirement.

**Total Credits:** 4

**Total AAS Degree Credits:** 60

**General Studies**

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**Total Credits:** 9

**Total Diploma Credits:** 66
ENGLISH TRANSFER PATHWAY
Hutchinson and Willmar Campus
AA Degree - 60 credits

Goal Area 1: Communications .................................. 9 Credits

OPTION 1: 9 credits/3 courses

*Must take 1 CMST and 2 ENGL courses
CMST 1210  Introduction to Communication ...................... 3
CMST 2200  Public Speaking .................................. 3
CMST 2250  Small Group Communication ......................... 3
ENGL 1210  College Composition I ................................ 3
ENGL 1220  College Composition II ........................... 3

Option 2: 9 credits/3 courses

*Must take 1 CMST and 2 ENGL courses
CMST 1210  Introduction to Communication ...................... 3
CMST 2200  Public Speaking .................................. 3
CMST 2250  Small Group Communication ......................... 3
ENGL 1210  College Composition I ................................ 3
ENGL 1230  Scientific and Technical Writing .................... 3

Goal Area 2: Critical Thinking (Infused)

Goal Area 3: Natural Sciences .............................. 8 credits
See your advisor to select courses that fulfill this requirement.

Goal Area 4: Mathematics/Logical Reasoning ............... 3 credits
See your advisor to select courses that fulfill this requirement.

Goal Area 5: History and the Social/Behavioral Sciences .... 9 credits
(Must include two disciplines)
ANTH 1010  Introduction to Cultural Anthropology .............. 3
HIST 1120  United States History 1865 - Present ............. 3
Electives ............................................. 3
See your advisor to select courses that fulfill the electives.

Goal Area 6: Humanities and Fine Arts ............. 9 credits
Must include two disciplines
ENGL 1500  Introduction to Literary Studies ..................... 3
ENGL 2200  Creative Writing ................................ 3
Electives .............................................

Goal Area 7: Human Diversity (1 course required)
ENGL 2110  Multicultural Literature ............................ 3

Goal Area 8: Global Perspective (1 course required)
ENGL 1900  British Writers: Modern and Post-Modern .......... 3

Goal Area 9: Ethical and Civic Responsibility (1 course required)
ENGL 1800  American Writers: Modern & Contemporary ........ 3
POLS 1320  American National Government .................... 3

Goal Area 10: People and the Environment (1 course required)
See your advisor to select courses that fulfill this requirement.

Total MNTC Credits ............................................. 40

Health and Wellness ................................ Minimum 2 credits required
PE Activity Courses (1020-1400)
PE 2200  First Aid/CPR ...................................... 2
PUBH 1050  Personal and Community Health ..................... 2

Elective Courses ................................................. 6-11
See your advisor to select courses that fulfill this requirement.

Total Credits ................................................. 60

ENTREPRENEURSHIP
Hutchinson and Willmar Campus, Online
Certificate — 16 credits

Required Courses ................................................. Credits
ACCT 1800  Business Law ..................................... 2
MSM 2823  Introduction to Entrepreneurship .................... 3
MSM 2850  Introduction to Small Business Development ....... 2
Total Required Credits ............................................. 7

Elective Courses - Choose 3 credits of Marketing or Sales
MSM 1101  Principles of Marketing ............................. 3
MSM 1103  Basic Sales ....................................... 3
MSM 1220  Advertising and Promotion ........................ 3
MSM 2102  Professional Sales ................................ 3

Elective Courses - Choose 3 credits of Accounting or Business Math
ACCT 1810  Principles of Accounting .......................... 3
ACCT 1812  Payroll Preparation ................................ 2
ADS 1040  Office Accounting Concepts ....................... 2
ADS 1045  Computerized Accounting ........................... 1
MSM 1137  Business Math and Accounting .................... 3

Choose 3 credits from the following programs:
Accounting (ACCT), Administrative Support (ADS), Business (BUS),
Photography (PHOT), Marketing and Sales Management (MSM),
or Multimedia Design Technology (MMDT)

Total Elective Credits ............................................. 9
Total Credits ................................................. 16

9 credits

3 credits

2 credits
ESTHEOLOGY
Willmar Campus
AAS — 60 Credits + 3 certificate options

Advanced Esthetics - AAS Degree

Required Courses ................................. Credits
COS 1411 Pre-Clinic Skin Care .......................... 3
COS 1435 Minnesota Laws and Rules ........................ 2
COS 1461 Salon Fundamentals for Estheticians I ........................ 3
COS 1462 Salon Fundamentals for Estheticians II ........................ 2
COS 1501 Clinical ........................................ 12
COS 1519 Salon Success ............................... 1
COS 2460 Advanced Esthetics I .......................... 3
COS 2462 Advanced Esthetics II .......................... 3
COS 2464 Spa and Alternative Therapies ........................ 3
COS 2920 Adv. Esthetics Experiential Capstone ........................ 3
GSWS 1451 First Aid and CPR .............................. 1

Total Credits ......................................... 36

Elective Courses

ART 1040  Survey in Art ................................. 3
ART 2000  Art Structure ................................... 3
BIOL 1080  Human Biology .............................. 4
BIOL 2100  Human Anatomy ............................ 4
BIOL 2110  Human Physiology ........................... 4
CHEM 1010  Survey of Chemistry ........................ 4
CMST 1210  Introduction to Communications  .............. 3
CMST 2230  Listening ........................................ 3
CMST 2260  Interpersonal Communications .................. 3
ENGL 1210  College Composition I ...................... 3
GSIS 1502  Human Relations ............................. 2
MATH 1100  Contemporary Concepts in Math ............... 3
NURS 1617  Medical Terminology ........................ 1
PE 1220  Wellness and Fitness ........................... 2
PHIL 1100  Logic and Critical Thinking .................... 3
PSYC 1310  Introduction to Psychology .................... 4
PUBH 1070  Nutrition ........................................ 3
SOC 1050  Introduction to Sociology ...................... 3
SOC 1060  General Social Problems ....................... 3

Total Credits ......................................... 9

Required General Education

Choose at least one course from the following Goal Areas:
Goal 1: Communications
Goal 4: Mathematical/Logical Reasoning
Goal 5: History, Social & Behavioral Sciences
Goal 6: The Humanities and Fine Arts
General Education Elective (any goal area)

Total Credits ......................................... 15

It is recommended that the courses selected to fulfill the 15-credit general education requirement be chosen from the general education courses listed in the “Electives Courses” list.

Courses chosen to fulfill the 9 credits of electives are selected from remaining general education courses or non-general education courses listed.

Total AAS Degree Credits .................................. 60

FARM BUSINESS MANAGEMENT
Willmar and Hutchinson Campuses
Diploma — 60 Credits / Advanced Certificate — 30 Credits

This program is designed for individuals currently operating a farm business. The curriculum centers on financial record keeping, marketing, financial and technical management, and analysis and farm transfer.

The purpose of the program is to assist students in meeting their business and personal goals utilizing a sound knowledge of management and economic principles. The program is provided in an 18-county area surrounding Willmar and Hutchinson.

Instructors deliver the program using a variety of methods, including individualized instruction at the student’s location as well as small group meetings. Instructors meet with the students on a regular basis to evaluate the business and develop educational plans.

Farm Business Management Instructors
Robert MacSwain - Belgrade
Paul Filzen - Hutchinson
Kami Schoenfeld - Lac qui Parle/Chippewa County
Shawn Meyer - Litchfield
Robert Stommes - Melrose
Travis Birhanzl - Olivia
Doug Lind - Renville/Redwood/Yellow Medicine Counties
Deron Erickson - Wheaton/Barrett
Zach Rada - Willmar

FARM OPERATION AND MANAGEMENT
Willmar Campus
Diploma/AAS Degree — 72 Credits

The Farm Operation & Management program includes courses in all phases of technical agriculture with special emphasis on farm management. Four-week fall and spring internships allow students to be involved with harvesting and planting. Graduates have a wide variety of career possibilities in addition to working on their farm.
Specializations within the Farm Operation and Management program include: Agronomy, Ag Mechanics, Dairy, and Animal Science. See other related programs: Agri-Business, Agronomy Technician, Dairy Management, or the Liberal Arts AA degree. This program participates in Articulated College Credit partnerships. See page 6.

**Diploma**

**Technical Required Courses** ............................................ **Credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>AGRI 1001</td>
<td>Ag Orientation</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1201</td>
<td>Applied Mathematics in Agricultural Careers</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1120</td>
<td>College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>AGRI 1520</td>
<td>Computers in Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1540</td>
<td>Personnel Management for Ag Producers</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1621</td>
<td>Farm Management I</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1622</td>
<td>Farm Management II</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1623</td>
<td>Farm Management III</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1624</td>
<td>Farm Management IV</td>
<td>3</td>
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<td>AGRI 1640</td>
<td>Ag Commodity Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1650</td>
<td>Soils and Fertility Management</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1660</td>
<td>Introduction to Agronomy</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1711</td>
<td>Introduction to Precision Ag</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2100</td>
<td>Farm Shop Repair Skills</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2123</td>
<td>Agricultural Communications and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2800</td>
<td>Agriculture Internship (complete twice - 3 cr)</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Credits: ** .............................................. **41**

**Highly Suggested Electives for Crop Emphasis**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>AGRI 1670</td>
<td>Integrated Pest Management</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1680</td>
<td>Crop Scouting Techniques</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1681</td>
<td>Crop Scouting Techniques Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1700</td>
<td>Crop Protection Products</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1720</td>
<td>Corn &amp; Soybean Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1740</td>
<td>Specialty Crops</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1760</td>
<td>Agricultural Water Management</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1776</td>
<td>GIS for Agricultural Producers</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1780</td>
<td>Grain Handling and Storage</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2140</td>
<td>Ag Power Maintenance and Repair</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2141</td>
<td>Ag Power Maintenance and Repair Lab</td>
<td>4</td>
</tr>
<tr>
<td>AGRI 2150</td>
<td>Harvesting and Fall Tillage Equipment</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2160</td>
<td>Planters and Spring Tillage</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2240</td>
<td>Pesticide/Fertilizer Equipment</td>
<td>3</td>
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</tbody>
</table>

**Highly Suggested Electives for Livestock Emphasis**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</tr>
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<tbody>
<tr>
<td>AGRI 1810</td>
<td>Introductory Animal Science</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1815</td>
<td>Meat Animal Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1820</td>
<td>Animal Nutrition</td>
<td>3</td>
</tr>
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<td>3</td>
</tr>
<tr>
<td>AGRI 2230</td>
<td>Meat Animal Reproduction</td>
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**Highly Suggested Electives for Dairy Emphasis**

<table>
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<tbody>
<tr>
<td>AGRI 1210</td>
<td>Dairy Cattle Breeding &amp; Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1220</td>
<td>Dairy Facilities and Equipment</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1230</td>
<td>Raising Dairy Replacements</td>
<td>2</td>
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<tr>
<td>AGRI 1240</td>
<td>Dairy Cattle Anatomy, Physiology &amp; Health</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1241</td>
<td>Cattle Health Lab</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1242</td>
<td>Palpation &amp; Ultrasounding of Dairy Cattle</td>
<td>1</td>
</tr>
</tbody>
</table>

**AGRI 1244** | Hoof Trimming | 1 |
**AGRI 1260** | Dairy Seminar I | 1 |
**AGRI 1261** | Dairy Seminar II | 1 |
**AGRI 1270** | Dairy Nutrition | 3 |
**AGRI 1730** | Forage Production | 3 |
**AGRI 1820** | Animal Nutrition | 3 |
**AGRI 2151** | Forage Harvesting and Fall Tillage | 2 |

**GSCL 1141** | Spanish Conversation/Culture | 1 |

**Other Technical Electives:**

<table>
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<tbody>
<tr>
<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
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</tr>
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<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1741</td>
<td>CDL - Preparation for Written Test</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1742</td>
<td>CDL - Preparation for Road Test</td>
<td>1</td>
</tr>
<tr>
<td>WELD 1118</td>
<td>Agricultural Welding</td>
<td>2</td>
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</table>

Up to 4 credits non-AGRI prefix course(s)

**General Studies: 1 credit required**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>GSWS 1481</td>
<td>OSHA General Industry / First Aid</td>
<td>1</td>
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</tbody>
</table>

**Total Required Credits: ** .............................................. **41**

**Total Elective Credits: ** .............................................. **30**

**Total General Studies Credits: ** .............................................. **1**

**Total Diploma Credits: ** .............................................. **72**

**AAS Degree**

**Technical Required Courses** ............................................ **Credits**

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<td>GSWS 1481</td>
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**Total Credits: ** .............................................. **39**

**Highly Suggested Electives for Crop Emphasis**

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<td>Harvesting and Fall Tillage Equipment</td>
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<td>AGRI 2160</td>
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<td>Pesticide/Fertilizer Equipment</td>
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**Highly Suggested Electives for Dairy Emphasis**

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<tr>
<td>AGRI 1242</td>
<td>Palpation &amp; Ultrasounding of Dairy Cattle</td>
<td>1</td>
</tr>
</tbody>
</table>
AGRI 1830  Beef Cow Calf ........................................... 2
AGRI 1840  Beef Feedlot ........................................... 2
AGRI 1870  Swine Breeding and Farrowing ................. 3
AGRI 1871  Swine Nursery and Finishing ................. 3
AGRI 1900  Sheep Management .................................... 1

Highly Suggested Electives for Dairy Emphasis
AGRI 1210  Dairy Cattle Breeding & Reproduction ........ 3
AGRI 1220  Dairy Facilities and Equipment ................. 3
AGRI 1230  Raising Dairy Replacements .................... 2
AGRI 1240  Dairy Cattle Anatomy, Physiology & Health .... 3
AGRI 1241  Cattle Health Lab .................................. 2
AGRI 1260  Dairy Seminar I ................................. 1
AGRI 1261  Dairy Seminar II .................................. 1
AGRI 1270  Dairy Nutrition .................................... 3
AGRI 1730  Forage Production ................................ 3
AGRI 1820  Animal Nutrition ................................... 3
AGRI 2191  Forage Harvesting and Fall Tillage ............ 2
GSCL 1141  Spanish Conversation/Culture .............. 1

Other Technical Electives
AGRI **** Any course with the AGRI prefix
AGRI 1721  Fall Agriculture Field Experience Lab ....... 1
AGRI 1722  Spring Agriculture Experience Lab ......... 1
AGRI 2123  Agricultural Communications and Leadership .... 3
AGRI 2191  CDL - Preparation for Written Test ............ 2
AGRI 2192  CDL - Preparation for Road Test .............. 1
WELD 1118  Agricultural Welding .......................... 2

Up to 4 credits non-AGRI prefix course(s)
Total Required Technical Electives ...................................... 18

General Education Required Courses
Choose one CMST and one ENGL course:
CMST 1210  Introduction to Communication ............ 3
CMST 2200  Public Speaking .................................... 3
CMST 2250  Small Group Communication .................. 3
ENGL 1210  College Composition I ......................... 3
ENGL 1220  College Composition II .......................... 3
ENGL 1230  Scientific and Technical Writing ............ 3

Total Credits: ......................................................... 9

General Education Electives
Choose general education courses from at least 3 of the 10 Goal Areas to meet MN Transfer Curriculum requirements.
Total Credits: ......................................................... 9

Electives
BIOL/ENVS 1410  Environmental Science ............... 4
BIOL/ENVS 1510  People, Sustainability & the Environment ........ 4
ESCI 1140  Natural Disasters .................................. 4
HIST 2950  Holocaust ........................................... 2
HIST/BIO/ENVS 2470  International Study ............. 13

Total Credits .......................................................... 40

 Required Courses (two courses) ........................................ Credits
GLST 1010  Introduction to Global Studies ............ 3
GLST 2010  Global Studies Capstone ..................... 1
Total Credits .......................................................... 4

Language Electives (one course)
CHIN 1010  Beginning Chinese I ............................ 5
CHIN 102  Beginning Chinese II ................................ 5
CMST 2270  Intercultural Communications ........... 3
SPAN 1070  Beginning Spanish I ............................. 4
SPAN 1080  Beginning Spanish II ............................ 4
SPAN 2070  Intermediate Spanish III .................... 4
SPAN 2080  Intermediate Spanish IV ..................... 4
Total Credits .......................................................... 15

Goal 8: Global Perspective (2 courses)
ANTH 1010  Introduction to Cultural Anthropology ...... 3
CHIN 1200  Chinese Culture .................................... 3
CMST 2500  Computer-Mediated Communication .... 3
ECON 2070  Principles of Macro-Economics ............ 3
ECON 2080  Intro to International Business/Economics .... 3
ENGL 1700  World Literature .................................. 3
GEOG 1400  Introduction to Geography ................... 3
GEOG 1410  World Regional Geography .................... 3
HIST 1010  World History I .................................. 3
HIST 1020  World History II .................................. 3
HIST 2100  East Asian History ................................ 3
HIST 2220  Western Civilization II .......................... 3
MUSC 1210  From Bach to Broadway ..................... 3
MUSC 1400  Music in World Cultures ....................... 3
POLS 1350  International Relations .......................... 3
POLS 2950  Special Topics .................................... 3
SOC 2420  Racial and Cultural Minorities ............... 3

Total Credits .......................................................... 16

GPS/GIS TECHNOLOGY FOR
AGRICULTURE

Willmar Campus
Diploma/AAS Degree – 72 Credits + Precision Farming Cert. - 19 Credits
The ag industry has an ever-increasing demand for graduates with an agronomy background who can provide decision-making data for the modern producer in the areas of field mapping, predicting field potential, soil sampling/soil analysis, fertility recommendations, yield monitoring, and many other such areas. The GPS/GIS Technology degree addresses these areas. This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma
Technical Course Required Courses ................................ Credits
AGRI 1001  Ag Orientation .................................... 2
AGRI 1201  Applied Mathematics in Agricultural Careers .... 1
MATH 1120  College Algebra ................................... 4
AGRI 1520  Computers in Agriculture ..................... 3
AGRI 1550  Introduction to Ag Business ................. 2

GLOBAL STUDIES
Hutchinson and Willmar Campuses, Online Certificate – 16 Credits
The Global Studies certificate provides a multi-disciplinary approach, offering the student a global perspective in understanding issues that affect today’s world. Successful completion of the certificate will give students the ability to integrate information from a variety of disciplines, broaden their understanding of the world, and prepare them to become citizens of that world. The certificate offers students the perspective and knowledge to better understand globalization, cultural differences, and the history, as well as the future of cross-cultural interaction. Global Studies is therefore the study of us and the world we share from a variety of perspectives. This certificate complements many academic fields and any career which benefits from a global/international perspective.

Required Courses (two courses) ........................................ Credits
GLST 1010  Introduction to Global Studies ............ 3
GLST 2010  Global Studies Capstone ..................... 1
Total Credits .......................................................... 4

Total Required Credits ............................................. 39
Total Elective Credits ............................................. 18
General Education Credits ........................................ 15
Total AAS Degree Credits: .......................................... 72

67

Programs of Study
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 1551</td>
<td>Agri-Business Procedures and Records</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1552</td>
<td>Agri-Business Credit and Finance</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1553</td>
<td>Agri-Business Management &amp; Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1580</td>
<td>Agricultural Sales and Service</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1640</td>
<td>Ag Commodity Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1650</td>
<td>Soils and Fertility Management</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1660</td>
<td>Introduction to Agronomy</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1720</td>
<td>Corn &amp; Soybean Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1770</td>
<td>GIS Applications</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1771</td>
<td>Introduction to Precision Agriculture</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1772</td>
<td>Remote Sensing/Image Analysis</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1773</td>
<td>GIS Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1774</td>
<td>Electronics Components/Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2123</td>
<td>Agricultural Communications and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2160</td>
<td>Planters and Spring Tillage</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2210</td>
<td>Ag Industry Machinery Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2402</td>
<td>Employment Preparation for Ag Professionals</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2800</td>
<td>Internship (taken twice)</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Required Credits**: 61

Highly Suggested Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGRI 1621</td>
<td>Farm Management I</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1670</td>
<td>Integrated Pest Management (IPM)</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1680</td>
<td>Crop Scouting Techniques</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1681</td>
<td>Crop Scouting Techniques Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1700</td>
<td>Crop Protection Recommendations</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1761</td>
<td>Ag Water Management</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1780</td>
<td>Grain Handling and Storage</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2161</td>
<td>Planter Meter Certification</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 2191</td>
<td>CDL - Preparation for Written Test</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2192</td>
<td>CDL - Preparation for Road Test</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 2240</td>
<td>Pesticide &amp; Fertilizer Equipment</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 2250</td>
<td>Basic Custom Application</td>
<td>2</td>
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</table>

**Total Technical Elective Credits**: 11

Other Technical Electives

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<tr>
<td>AGRI 1622</td>
<td>Farm Management II</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1730</td>
<td>Forage Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1740</td>
<td>Specialty Crops</td>
<td>2</td>
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<tr>
<td>AGRI 2130</td>
<td>Small Engine Repair</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2135</td>
<td>Electricity</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2260</td>
<td>Ag Energy/Alternative Fuels</td>
<td>3</td>
</tr>
<tr>
<td>WELD 118</td>
<td>Agricultural Welding</td>
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</table>

**Total General Studies Credits**: 1

**Total General Education Credits**: 9

**Total Diploma Credits**: 72

### AAS Degree

**Required Technical and General Studies Courses:**

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGRI 1001</td>
<td>Ag Orientation</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1520</td>
<td>Computers in Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1550</td>
<td>Intro to Ag Business</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1551</td>
<td>Agri-Business Procedures and Records</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Required Credits**: 61

**Total Elective Credits**: 10

**Total Diploma Credits**: 72

### Certificate - Precision Farming

**Required Technical Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 1770</td>
<td>GIS Applications</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1771</td>
<td>Introduction to Precision Agriculture</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1772</td>
<td>Remote Sensing/Image Analysis</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1773</td>
<td>GIS Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1774</td>
<td>Electronics Components/Troubleshooting</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Required Credits**: 3

**Total Diploma Credits**: 72
HEALTH INFORMATION TECHNICIAN

Willmar Campus, Online

AS Degree — 64 Credits

Health Information Technicians are an essential part of the health information and healthcare team. They control the use and release of health information in clinics, hospitals, nursing homes, government agencies, insurance companies — any place where medical information is generated, collected and stored. This career combines health, business and legal aspects into a promising future.

Most program graduates obtain employment in coding, release of information, quality improvement, abstracting or supervision. This is a two-year program accredited by the Commission on Accreditation for Health Informatics and Information Management (CAHIM) in association with the American Health Information Management Association’s Council on Accreditation. Graduates of an accredited program are eligible to take a national registration exam allowing them to become a Registered Health Information Technician (RHIT).

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HIMC 1100</td>
<td>Fundamentals of Health Information</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1110</td>
<td>Anatomy &amp; Physiology for HIT</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1115</td>
<td>Anatomy &amp; Physiology Applications for HIT</td>
<td>1</td>
</tr>
<tr>
<td>HIMC 1120</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1140</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1150</td>
<td>Legal Aspects of Health Information</td>
<td>2</td>
</tr>
<tr>
<td>HIMC 1250</td>
<td>Health Info. Tech. Experimental Foundations</td>
<td></td>
</tr>
<tr>
<td>HIMC 1320</td>
<td>Reimbursement Methodologies</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1330</td>
<td>Electronic Health Records</td>
<td>2</td>
</tr>
<tr>
<td>HIMC 1340</td>
<td>Health Records Documentation</td>
<td>1</td>
</tr>
<tr>
<td>HIMC 1350</td>
<td>Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2001</td>
<td>CPT Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2003</td>
<td>ICD Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2004</td>
<td>Advanced Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2006</td>
<td>ICD-10-PCS Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2020</td>
<td>HIT Review</td>
<td>1</td>
</tr>
<tr>
<td>HIMC 2040</td>
<td>Quality Management and Healthcare Statistics</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2240</td>
<td>Supervision of Health Information</td>
<td>2</td>
</tr>
<tr>
<td>HIMC 2250</td>
<td>Health Info. Tech. Experimental Capstone</td>
<td>2-3</td>
</tr>
<tr>
<td>HIMC 2270</td>
<td>Computerized Health Information</td>
<td>2</td>
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</table>

**Elective Course:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HIMC 2950</td>
<td>Special Projects/Topics</td>
<td>1-4</td>
</tr>
</tbody>
</table>

**Total Credits:** Minimum of 64

**Required General Education Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMST</td>
<td>Choose any CMST course</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1210</td>
<td>College Composition I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** Minimum of 48

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General Education Electives

Select general education courses (9 credits) with recommendation from advisor. Selection must result in courses completed from 3 of the Minnesota Transfer Curriculum goal areas.

**Total AAS Degree Credits:** 64

**NOTE:** A grade of “C-” or above must be achieved for all required Health Information Technician/Medical Coding Specialist (HIT/MCS) programs and required general education courses in the HIT degree and MCS diploma to progress in the program.

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HEALTH SCIENCES BROAD FIELD

Willmar Campus

AS Degree — 60 Credits

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1000</td>
<td>Introduction to Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2000</td>
<td>Human Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2100</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2150</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1010</td>
<td>Survey of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CMST 1210</td>
<td>Introduction to Communications</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1210</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1120</td>
<td>College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2110</td>
<td>Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1020</td>
<td>Introduction to Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1310</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 2630</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 1070</td>
<td>Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1050</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

Based on intended major                                                                 | 11

**Total AS Electives**                                                                 | 60

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HEALTHCARE ADMINISTRATIVE ASSISTANT

Willmar and Hutchinson Campuses

Diploma/AAS Degree - 48/60 Credits

Graduates learn specialized skills and receive a strong background in medical terminology usage and spelling. Learn how to prepare and maintain medical and financial records, make appointments, and work with patients. Certificate options: Medical Receptionist, Medical Transcriptionist (see page 80)

**Diploma**

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>*ADS 1001</td>
<td>Keyboarding I</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1012</td>
<td>Business Presentations</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1014</td>
<td>Written Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1042</td>
<td>PowerPoint</td>
<td>3</td>
</tr>
<tr>
<td><strong>ADS 1110</strong></td>
<td>Anatomy &amp; Physiology</td>
<td>3</td>
</tr>
<tr>
<td><strong>ADS 1120</strong></td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td><strong>ADS 1140</strong></td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1310</td>
<td>Med. Transcription/Quality/Production Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1320</td>
<td>Medical Office Management</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1323</td>
<td>Electronic Health Records</td>
<td>4</td>
</tr>
<tr>
<td>ADS 2030</td>
<td>Word</td>
<td>3</td>
</tr>
<tr>
<td>ADS 2322</td>
<td>Medical Insurance and Reimbursement</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1350</td>
<td>Pathophysiology</td>
<td>3</td>
</tr>
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</table>

**Total Credits:** 39

---
Elective Courses (select 3 credits from the courses below)

ACCT 1800  Business Law ........................................2
ACCT 1812  Payroll Preparation ..................................2
ADS 1027  Business Environment ................................2
ADS 1040  Office Accounting Concepts .........................2
ADS 1045  Computerized Accounting Basics .................1
ADS 1052  Excel (highly recommended) .......................3
ADS 2010  Desktop Publishing ..................................2
ADS 2015  Introduction to Project Management ..........2
ADS 2045  Advanced Word Processing .......................3
ADS 2090  Internship ...........................................2-6
ADS 2312  Medical Transcription II .........................3
ADS 2313  Medical Transcription III ........................3
HIMC 1100  Fundamentals of Health Information ........3
HIMC 1140  Legal Aspects of Health Information ........2
HIMC 2001  CPT Coding ....................................3
HIMC 2003  ICD-10-CM Coding ............................3
HIMC 2006  ICD-10-PCS Coding ............................3
MSM 2110  Principles of Supervision ........................3

Total Credits: ................................................................3

General Studies Required Courses

GSCI 1401  Computer Technology ................................1
GSIS 1403  Professional Development Skills ..............3
GSWS 1401  Employment Preparation .........................1

Total Credits: .............................................................5
Total Diploma Credits: .................................................48

* Enrollment determined by placement test
** Dual Numbering: These courses have both an ADS and HIMC option.

AAS Degree

Required Courses .................................................. Credits
*ADS 1007  Keyboarding ........................................2
ADS 1014  Written Business Communications ...........3
ADS 1042  PowerPoint ............................................3
ADS 1053  Excel ....................................................3
*ADS 1110  Anatomy and Physiology ........................3
**ADS 1120  Medical Terminology ............................3
**ADS 1140  Pharmacology ....................................3
ADS 1310  Med. Transcription/Quality/Production Mgmt. 3
ADS 1320  Medical Office Management .....................3
ADS 1323  Electronic Health Record Technology ..........4
ADS 2030  Word ....................................................3
ADS 2322  Medical Insurance and Reimbursement .......3
HIMC 1350  Pathophysiology ................................3

Total Credits: ................................................................40

Elective Courses

ACCT 1800  Business Law ........................................2
ADS 1012  Business Presentations .........................3
ADS 1026  Access ...............................................3
ADS 1027  Business Environment ..........................2
ADS 1040  Office Accounting Concepts ..................2
ADS 1045  Computerized Accounting Basics ..........1
ADS 1312  Medical Transcription II .......................3
ADS 1812  Payroll Preparation ................................2
ADS 2010  Desktop Publishing ................................2
ADS 2015  Introduction to Project Management ..........2
ADS 2045  Advanced Word Processing ...................3
ADS 2090  Healthcare Administrative Asst. Internship ...2-6
ADS 2312  Medical Transcription II .......................3
GSIS 1403  Professional Development Skills ............3
HIMC 1100  Fundamentals of Health Information .......3
HIMC 1150  Legal Aspects of Health Information .......2
HIMC 2001  CPT Coding ....................................3
HIMC 2003  ICD-10-CM Coding ............................3
HIMC 2006  ICD-10-PCS Coding ............................3
MSM 2110  Principles of Supervision ........................3

Total Credits: .............................................................3

General Studies Required Courses

GSCI 1401  Computer Technology ................................1
GSWS 1401  Employment Preparation .........................1

Total Credits: .............................................................2

General Education Required Courses

ENGL 1210  College Composition I ............................3
PSYC 1310  Introduction to Psychology ....................4

Total Credits: .............................................................7

Goal Area 1: Communications (choose one)

CMST 2110  Introduction to Communication ............3
CMST 2250  Small Group Communication ................3
CMST 2260  Interpersonal Communication ..............3

Total Credits: .............................................................3

General Education Electives

See your advisor to select courses that fulfill this requirement.

Total Credits: .............................................................5
Total AAS Degree Credits: ...........................................60

* Enrollment determined by placement test
** Dual Numbering: These courses have both an ADS and HIMC option.

Helpdesk Certificate (CST)

CST 1025  Network Basics (or MMD 1025) ...................2
CST 1072  Windows Workstation Support ...................3
CST 1261  Applications Support ...............................3
CST 1310  System Diagnostics ................................3
CST 1511  Storage Media Diagnostics .......................3
CST 1600  Relational Database Design .......................3
CST 1794  Introduction to Programming .....................3
CST 1802  Helpdesk Diagnostics ..............................1
CST 1861  Command Line and Registry .....................3
CST 2284  Network Security ....................................3
CST 2504  A+ Certification Preparation ....................2
CST 2802  Helpdesk Management ............................1
CST 2895  Customer Service ..................................1

Total Credits: ............................................................30
## Programs of Study

### LAW ENFORCEMENT

**Willmar Campus, Online**

**AAS - 67 Credits**

The Law Enforcement/Professional Peace Officer Education program at Ridgewater College is an established and successful two-year college degree program with many graduates pursuing successful careers. The curriculum, designed to prepare students to pass the Minnesota Peace Officer’s Standards and Training (POST) Board’s examinations, follows the objectives established by the POST board and has been certified by it. Work closely with your academic advisor to select courses that will best suit your educational goals.

### Associate in Applied Science Degree

#### Component I

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAWE 1030</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 1130</td>
<td>Minnesota Statutes</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2010</td>
<td>Criminal Procedures</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2230</td>
<td>Law Enforcement Communications &amp; Employment Prep.</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2310</td>
<td>Law Enforcement Operations and Community</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2410</td>
<td>Criminal Investigations</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2430</td>
<td>Homeland Security</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2450</td>
<td>Police Ethics and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2470</td>
<td>Juvenile Justice</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2510</td>
<td>Law Enforcement and Human Behavior</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2950</td>
<td>POST Seminar</td>
<td>1</td>
</tr>
<tr>
<td>LAWE 1010</td>
<td>Law Enforcement Practicum</td>
<td>12</td>
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</table>

**Total Credits:** 43

**Elective Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EMS 1016</td>
<td>Emergency Medical Technician - Basic</td>
<td>6</td>
</tr>
<tr>
<td>EMS 1033</td>
<td>First Responder</td>
<td>2</td>
</tr>
<tr>
<td>EMS 2008</td>
<td>EMT Blended Learning</td>
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<tr>
<td>EMS 2009</td>
<td>First Responder Blended Learning</td>
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**Total Credits:** 2

#### Component II

**General Education Required Courses**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1210</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1310</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>SOC 2410</td>
<td>Criminology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 2420</td>
<td>Racial and Cultural Minorities</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 13

**General Education Elective Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SOC 1050</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1060</td>
<td>General Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1070</td>
<td>Marriage and Family Living</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 3

**General Education Elective Courses**

Choose any CMST course                     3
Choose any MnTC elective course          3

**Total Credits:** 6

**Total AAS Degree Credits:** 67

---

### LAW ENFORCEMENT PATHWAY

**Wilmar Campus, Online**

**AS Degree - 68 Credits**

This program is designed for the student who is pursuing a career in the areas of probation and corrections.

#### Component I

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAWE 1030</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 1130</td>
<td>Minnesota Statutes</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2010</td>
<td>Criminal Procedures</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2310</td>
<td>Law Enf. Operations &amp; Community Criminal Investigations</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2410</td>
<td>Criminal Investigations</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2470</td>
<td>Juvenile Justice</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2510</td>
<td>Law Enforcement and Human Behavior</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 2950</td>
<td>POST Seminar</td>
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</tr>
<tr>
<td>LAWE 1010</td>
<td>Law Enforcement Practicum</td>
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**Choose one:** EMS 1033, 2009, 1016, or 2008

**Total Credits:** 36

#### Component II

**Required Courses**

<table>
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<tr>
<td>ENGL 1210</td>
<td>College Composition I</td>
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<tr>
<td>ENGL 1220</td>
<td>College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>CMST</td>
<td>Any CMST course (Goal 1, 6, 7, 8, 9)</td>
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</tr>
<tr>
<td>MnTC</td>
<td>Any Goal 3 area science course (Goal 3)</td>
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</tr>
<tr>
<td>PSYC 1310</td>
<td>Introduction to Psychology (Goals 5 and 7)</td>
<td>4</td>
</tr>
<tr>
<td>SOC 1050</td>
<td>Introduction to Sociology (Goals 5 and 7)</td>
<td>4</td>
</tr>
</tbody>
</table>

or

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 1060</td>
<td>General Social Problems (Goals 5 and 9)</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1070</td>
<td>Marriage and Family Living</td>
<td>3</td>
</tr>
<tr>
<td>SOC 2410</td>
<td>Criminology (Goals 5 and 9)</td>
<td>3</td>
</tr>
<tr>
<td>SOC 2420</td>
<td>Racial and Cultural Minorities (Goals 5 and 8)</td>
<td>3</td>
</tr>
<tr>
<td>MnTC</td>
<td>Any Goal 6 MnTC elective course (Goal 6)</td>
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</tr>
<tr>
<td>MnTC</td>
<td>Any MnTC elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 32

**Total AS Credits:** 68
LEGAL ASSISTANT
Willmar and Hutchinson Campuses, Online
Diploma/AAS Degree – 48/60 Credits

Pursue a career as a legal assistant in a law firm, courthouse, government agency or any other office engaging in legal work. The duties of a legal assistant vary, depending on the type of office. Office duties may include answering the phone, greeting clients, scheduling appointments, filing, transcribing documents, preparing billings and assisting attorneys during meetings. This program is designed to provide students with specialized administrative skills and the background in legal terminology, document preparation and office procedures. This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma
Required Courses
ACCT 1800 Business Law .................................................. 2
ADS 1012 Business Presentations ........................................... 3
ADS 1014 Written Business Communications .......................... 3
ADS 1020 Administrative Office Procedures ........................... 4
ADS 1201 Civil Litigation and Criminal Law ............................ 4
ADS 1202 Real Estate and Corporate Law ............................. 3
ADS 1203 Family Law and Estate Planning/Probate .................. 4
ADS 1204 Legal Documentation ............................................. 3
ADS 1205 Legal Office Management ....................................... 3
ADS 2030 Word ................................................................. 3
ADS 2201 Legal Research .................................................... 3
ADS 2202 Advanced Legal Practices ...................................... 2
GSCI 1401 Computer Technology ........................................... 1
GSIS 1403 Professional Developmental Skills ......................... 3
GSWS 1401 Employment Preparation ..................................... 1

Total Credits: ................................................................. 42

Elective Courses (select 6 credits from the courses below)
ACCT 1812 Payroll Preparation ............................................. 2
ADS 1007 Keyboarding I (or required score) ............................ 2
ADS 1026 Database Microsoft Access .................................... 3
ADS 1027 Business Environment ........................................... 2
ADS 1040 Office Accounting Concepts .................................. 2
ADS 1042 PowerPoint .......................................................... 3
ADS 1045 Computerized Accounting Basics ......................... 1
ADS 1053 Excel ................................................................. 3
ADS 1300 Medical Terminology ............................................. 2
ADS 2010 Desktop Publishing ............................................... 2
ADS 2015 Introduction to Project Management ....................... 2
ADS 2045 Advanced Word Processing ................................. 3
ADS 2290 Legal Assistant Program Internship ....................... 2-6

Total Credits: ................................................................. 6

Total Diploma Credits: ....................................................... 48

AAS Degree
Required Courses
ACCT 1800 Business Law ..................................................... 2
ADS 1014 Written Business Communications ......................... 4
ADS 1020 Administrative Office Procedures .......................... 4
ADS 1201 Civil Litigation and Criminal Law ............................ 4
ADS 1202 Corporate and Real Estate Law ............................. 3
ADS 1203 Family Law and Estate Planning/Probate .................. 4
ADS 1204 Legal Documentation ............................................. 3
ADS 1205 Legal Office Management ....................................... 3
ADS 2030 Word ................................................................. 3
ADS 2201 Legal Research & Appeal Procedures ...................... 3
ADS 2202 Advanced Legal Practices .................................. 2
GSCI 1401 Computer Technology ........................................... 1
GSIS 1403 Professional Developmental Skills ......................... 3
GSWS 1401 Employment Preparation ..................................... 1

Total Credits: ................................................................. 39

Elective Courses (select 6 credits from the courses below)
ACCT 1812 Payroll Preparation ............................................. 2
ADS 1012 Business Presentations ........................................... 2
ADS 1026 Database Microsoft Access .................................... 3
ADS 1027 Business Environment ........................................... 2
ADS 1040 Office Accounting Concepts .................................. 2
ADS 1042 PowerPoint .......................................................... 3
ADS 1043 PowerPoint III ....................................................... 1
ADS 1045 Computerized Accounting Basics ......................... 1
ADS 1053 Excel ................................................................. 3
ADS 1300 Medical Terminology ............................................. 2
ADS 2010 Desktop Publishing ............................................... 2
ADS 2015 Introduction to Project Management ....................... 2
ADS 2045 Advanced Word Processing ................................. 3
ADS 2290 Legal Assistant Program Internship ....................... 2-6

Total Credits: ................................................................. 6

Goal Area 1: Communications
ENGL 1210 College Composition I ....................................... 3

Goal Area 7: Human Diversity
Choose one course ............................................................ 3

General Education Electives
General Education courses must be selected from at least 3 of the 10 goal areas of the Minnesota Transfer curriculum. Elective courses may be taken from any of the ten (10) goal areas. ........................................... 6

Total General education Credits: .......................................... 15
Total AAS Degree Credits: ................................................... 60

Certificate - Legal Administrative Assistant
This certificate is designed for the student who has prior administrative support education and/or experience and who desires to gain the necessary knowledge and skills for employment in a legal office setting. Entrance into this certificate program assumes that the student has strong keyboarding, word processing, and oral and written communication skills. Entrance into this certificate program will require the approval of the program advisor prior to enrollment.

Required Courses
ADS 1201 Civil Litigation and Criminal Law ............................ 4
ADS 1202 Real Estate and Corporate Law ................................ 3
ADS 1203 Family Law and Estate Planning/Probate .................. 4
ADS 2201 Legal Research and Appeal Procedure ..................... 3

Total Credits: ................................................................. 14

Elective Courses
ACCT 1800 Business Law ..................................................... 2
ADS 2202 Advanced Legal Practices .................................. 2
ADS 1204 Legal Documentation ............................................. 3

Total Electives ................................................................. 4

Total Certificate Credits: .................................................... 18
LIBERAL ARTS
Willmar and Hutchinson Campuses, Online
AA Liberal Arts — 60 Credits
The liberal arts programs at Ridgewater College are designed to prepare students for transfer to baccalaureate majors at four-year colleges and universities. For those students who have already decided on a major, the programs described in this section of the catalog will provide guidelines to make sure that the relevant elements of the Minnesota Transfer Curriculum are satisfied and that the usual first two years of a major curriculum have been completed. Those students who are undecided about a specific major may wish to examine the programs described in this section as a way to explore some of the academic possibilities that Ridgewater College has to offer.

Even if you are undecided about your major or career plans, you should be careful to follow the requirements of the Minnesota Transfer Curriculum to ensure completion of your basic general education requirements before going on to a four-year institution.

In either case, decided or undecided, you are strongly urged to consult with one of our academic counselors and with your advisor early in your academic career to set goals and to plan your college education.

Courses in the liberal arts and sciences at Ridgewater College may be used to complete the lower division requirements for the following popular areas of study:

- Anthropology
- Art
- Biological Sciences
- Business
- Communications
- Computer Sciences
- Economics
- Education
- Elementary Education
- English
- History
- Human Services
- Journalism
- Law Enforcement
- Library Science
- Mathematics
- Music
- Nursing
- Philosophy
- Political Science
- Pre-Law
- Psychology
- Sociology
- Speech
- Theology
- Theater Arts

If you cannot find a program in this section that suits your goals, our counselors are prepared to discuss options with you and provide you with additional assistance and information.

Minnesota Transfer Curriculum (40 credits minimum)

Goal Area 1: Communications - 9 credits required

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMST 1210</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1210</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1220</td>
<td>3</td>
</tr>
</tbody>
</table>

Goal Area 2: Critical Thinking - covered across curriculum

This goal will be satisfied by completing one course each from MnTC Goal Areas 1, 3, 4, 5 and 6.

Goal Area 3: Natural Sciences - 8 credits required

Two disciplines required - one from Group A and one from Group B. See your advisor to select courses that fulfill this requirement.

Goal Area 4: Mathematics/Logical Reasoning - 3 credits required

See your advisor to select courses that fulfill this requirement.

Goal Area 5: History & the Social/Behavioral Sciences - 9 credits required

Two disciplines required. See your advisor to select courses that fulfill this requirement.

Goal Area 6: The Humanities and Fine Arts - 9 credits required

Two disciplines required. See your advisor to select courses that fulfill this requirement.

Goal Area 7: Human Diversity - 1 course required

See your advisor to select courses that fulfill this requirement.

Goal Area 8: Global Perspective - 1 course required

See your advisor to select courses that fulfill this requirement.

Goal Area 9: Ethical and Civic Responsibility - 1 course required

See your advisor to select courses that fulfill this requirement.

Goal Area 10: People and the Environment - 1 course required

See your advisor to select courses that fulfill this requirement.

Health and Wellness - 2 credits required

PE Activity Courses (1020-1400) ........................................ 1

Elective Courses 18 credits required

Total AA Liberal Arts Degree Credits: ................................ 60

Certificate Options:

- Chemical Dependency Counseling (page 52) - 30 credits
- Communication Studies (page 53) - 16 credits
- Global Studies (page 68) - 16 credits
- Phys Ed. Teaching & Coaching (page 88) - 10 credits

LINCOLN ADMINISTRATOR CERTIFICATE (CST)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CST 1025</td>
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<tr>
<td>CST 1036</td>
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<tr>
<td>CST 1611</td>
<td>3</td>
</tr>
<tr>
<td>CST 1615</td>
<td>3</td>
</tr>
<tr>
<td>CST 1794</td>
<td>3</td>
</tr>
<tr>
<td>CST 1802</td>
<td>1*</td>
</tr>
<tr>
<td>CST 2505</td>
<td>3</td>
</tr>
<tr>
<td>CST 2608</td>
<td>3</td>
</tr>
<tr>
<td>CST 2950</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: ................................................. 20

MACHINE TOOL CAREERS
Hutchinson Campus
Diploma/AAS Degree — 32/64/67 Credits

Machining is a craft that provides the key to modern manufacturing. The machine shape and finishes the metal parts that go into every consumer product. Ridgewater College graduates are in every area of manufacturing including machine operation, plant management, and sales of machine tools. The lab is state-of-the-art with equipment found in high-tech manufacturing firms like Computer Numerically Controlled (CNC) machines and CAD/CAM. This program participates in Articulated College Credit partnerships. Refer to page 6.
**Machining Technician Diploma**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1514</td>
<td>Safety Awareness</td>
</tr>
<tr>
<td>CMAE 1518</td>
<td>Manufacturing Processes</td>
</tr>
<tr>
<td>CMAE 1522</td>
<td>Quality Practices</td>
</tr>
<tr>
<td>CMAE 1526</td>
<td>Maintenance Awareness</td>
</tr>
<tr>
<td>MACT 1005</td>
<td>Blueprint Reading</td>
</tr>
<tr>
<td>MACT 1508</td>
<td>Applied Math</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
</tr>
<tr>
<td>MACT 1812</td>
<td>Fixture Design and Tooling</td>
</tr>
<tr>
<td>MACT 1831</td>
<td>Lathe Operations and Theory I</td>
</tr>
<tr>
<td>MACT 1836</td>
<td>Lathe Operations and Theory II</td>
</tr>
<tr>
<td>MACT 1840</td>
<td>2-Axis CNC I</td>
</tr>
<tr>
<td>MACT 1842</td>
<td>2-Axis CNC II</td>
</tr>
<tr>
<td>MACT 2811</td>
<td>CNC Programming and Set-up Mill</td>
</tr>
<tr>
<td>MACT 2815</td>
<td>CNC Programming and Set-up Lathe</td>
</tr>
<tr>
<td><strong>Total Credits:</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

**Elective Courses** (select 1 credit from the courses below)

| CMAE 1528 | Career Success Skills | 1 |
| DRFT 1502 | CAD I | 3 |
| ENGT 1103 | Mechanical Systems | 2 |
| ENGT 1301 | Fluid Power | 2 |
| MACT 1900 | Principles of Machining Operations | 2 |
| MACT 2503 | Parametric Design I | 3 |
| MACT 2507 | Practical Application of Geometric Dimensioning and Tolerancing | 3 |
| MACT 2950 | Special Topics/Projects | 1-3 |
| NDT 1100 | Manufacturing Processes | 2 |
| ONCR 1000 | OnCourse | 3 |
| WELD 190 | Fundamentals of Welding | 2 |
| **Total Credits:** | **3** |
| **Total Diploma Credits:** | **32** |

**CNC Precision Manufacturing Technician**

**CNC Diploma**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1514</td>
<td>Safety Awareness</td>
</tr>
<tr>
<td>CMAE 1518</td>
<td>Manufacturing Processes</td>
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<tr>
<td>CMAE 1522</td>
<td>Quality Practices</td>
</tr>
<tr>
<td>CMAE 1526</td>
<td>Maintenance Awareness</td>
</tr>
<tr>
<td>CMAE 1528</td>
<td>Career Success Skills</td>
</tr>
<tr>
<td>MACT 1005</td>
<td>Blueprint Reading</td>
</tr>
<tr>
<td>MACT 1508</td>
<td>Applied Math</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
</tr>
<tr>
<td>MACT 1812</td>
<td>Fixture Design and Tooling</td>
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<tr>
<td>MACT 1831</td>
<td>Lathe Operations and Theory I</td>
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<td>MACT 1836</td>
<td>Lathe Operations and Theory II</td>
</tr>
<tr>
<td>MACT 1840</td>
<td>2-Axis CNC I</td>
</tr>
<tr>
<td>MACT 1842</td>
<td>2-Axis CNC II</td>
</tr>
<tr>
<td>MACT 2506</td>
<td>Reverse Engineering for Machinists</td>
</tr>
<tr>
<td>MACT 2507</td>
<td>Practical Application of Geometric Dimensioning and Tolerancing</td>
</tr>
<tr>
<td>MACT 2803</td>
<td>Precision Grinding I</td>
</tr>
<tr>
<td>MACT 2805</td>
<td>Precision Grinding II</td>
</tr>
<tr>
<td>MACT 2811</td>
<td>CNC Programming and Set-up Mill</td>
</tr>
<tr>
<td>MACT 2813</td>
<td>CNC Vertical Machining Centers</td>
</tr>
<tr>
<td>MACT 2815</td>
<td>CNC Programming and Set-up Lathe</td>
</tr>
<tr>
<td>MACT 2820</td>
<td>Mentorship I</td>
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<tr>
<td>MACT 2821</td>
<td>Mentorship II</td>
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<tr>
<td>MACT 2826</td>
<td>Computer Assisted Machining I</td>
</tr>
<tr>
<td>MACT 2827</td>
<td>Computer Assisted Machining II</td>
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<tr>
<td>MACT 2890</td>
<td>CNC Turning Centers</td>
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<tr>
<td>MACT 2892</td>
<td>Advanced CNC I</td>
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<tr>
<td>MACT 2894</td>
<td>Advanced CNC II</td>
</tr>
<tr>
<td><strong>Total Credits:</strong></td>
<td><strong>52</strong></td>
</tr>
</tbody>
</table>

**Elective Courses** (not required)

| CMAE 1518 | Manufacturing Processes | 2 |
| CMAE 1522 | Quality Practices | 2 |
| CMAE 1526 | Maintenance Awareness | 2 |
| CMAE 1528 | Career Success Skills | 1 |
| DRFT 1502 | CAD I | 3 |
| ENGT 1103 | Mechanical Systems | 2 |
| ENGT 1301 | Fluid Power | 2 |
| MACT 1900 | Principles of Machining Operations | 2 |
| MACT 2503 | Parametric Design | 3 |
| MACT 2805 | Precision Grinding II | 2 |
| MACT 2811 | CNC Programming and Set-up Mill | 3 |
| MACT 2818 | Applied Math | 2 |
| MACT 2892 | Advanced CNC I | 3 |
| MACT 2894 | Advanced CNC II | 3 |

**CNC AAS Degree**

**Required Courses**

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>CMAE 1514</td>
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<tr>
<td>CMAE 1518</td>
</tr>
<tr>
<td>CMAE 1526</td>
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<td>MACT 2890</td>
</tr>
<tr>
<td>MACT 2892</td>
</tr>
<tr>
<td>MACT 2894</td>
</tr>
<tr>
<td><strong>Total Credits:</strong></td>
</tr>
</tbody>
</table>
### Elective Courses (3 credits required)
- DRFT 1001 Principles of Engineering/Engineering Technology .......................... 1
- DRFT 1502 CAD I ......................................................................................... 3
- ENGT 1103 Mechanical Systems .................................................................. 2
- ENGT 1501 Fluid Power ............................................................................... 2
- MACT 2503 Parametric Design I .................................................................. 3
- MACT 2950 Special Topics/Projects .......................................................... 1-6
- NDT 1100 Manufacturing Processes ........................................................... 2
- ONCR 1000 On Course ............................................................................... 3
- WELD 1190 Fundamentals of Welding ...................................................... 2

### Total Electives ....................................................................................... 3
### Total Program Credits .......................................................................... 64

### Mold Making AAS Degree

#### Required Courses ............................................................................... Credits
- CMAE 1514 Safety Awareness ................................................................. 2
- MACT 1005 Blueprint Reading for Machinists ....................................... 2
- MACT 1801 Fundamentals of Precision Manufacturing ....................... 2
- MACT 1812 Fixturing and Tooling .......................................................... 2
- MACT 1831 Lathe Operations and Theory I ........................................... 2
- MACT 1836 Lathe Operations and Theory II .......................................... 2
- MACT 1840 2-Axis CNC I ....................................................................... 3
- MACT 1842 2-Axis CNC II ...................................................................... 2
- MACT 2506 Reverse Engineering for Machinists .................................. 2
- MACT 2507 Practical Application of Geometric Dimensioning/Tolerancing ................................. 2
- MACT 2508 Precision Grinding I .............................................................. 2
- MACT 2509 Precision Grinding II ............................................................ 2
- MACT 2811 CNC Programming and Set-up - Mill ................................. 3
- MACT 2813 CNC Vertical Machining Centers ......................................... 3
- MACT 2815 CNC Programming and Set-up - Lathe ......................... 3
- MACT 2820 Mentorship I ........................................................................ 1
- MACT 2821 Mentorship II ....................................................................... 2
- MACT 2866 Computer Assisted Machining I .......................................... 2
- MACT 2867 Computer Assisted Machining II ......................................... 3
- MACT 2870 Mold Making I ...................................................................... 3
- MACT 2872 Mold Making II ................................................................. 3
- MACT 2890 CNC Turning Centers .......................................................... 3

#### Elective Courses ................................................................................... 0 Credits
- CMAE 1518 Manufacturing Processes and Production .......................... 2
- CMAE 1522 Quality Practices ................................................................ 2
- CMAE 1526 Maintenance Awareness ..................................................... 2
- CMAE 1528 Career Success Skills .......................................................... 1
- DRFT 1502 CAD I ..................................................................................... 3
- ENGT 1103 Mechanical Systems .............................................................. 2
- ENGT 1501 Fluid Power .......................................................................... 2
- MACT 1900 Principles of Machining Operations ................................... 2
- MACT 1908 Applied Math ....................................................................... 2
- MACT 2503 Parametric Design .............................................................. 3
- MACT 2950 Special Topics/Projects ....................................................... 1-6
- NDT 1100 Manufacturing Processes ...................................................... 2
- ONCR 1000 On Course .......................................................................... 3
- WELD 1190 Fundamentals of Welding .................................................. 2

#### General Education Courses ................................................................... 15

**MNTC Goal Area 1**
Choose one course ................................................................................. 3
MNTC Goal Area 4 (choose one of the following)
MATH 1000  Quantitative Reasoning  ...........................................  3
MATH 1090  Elements of Algebra and Trigonometry  ......................   4
MATH 1120  College Algebra  ..................................................   4

General Education Electives
Choose remaining credits from any Goal Area ..............................  8-9

General Education courses must be selected from at least three (3) of the ten (10) goal areas of the Minnesota Transfer curriculum. Courses can be taken from any of the ten goal areas.
Total General Education Credits .............................................  15
Total Program Credits: .........................................................  67

MANUFACTURING PRODUCTION TECHNOLOGY
Hutchinson Campus
Certificate - 16 credits

Certificate
Required Courses
CMAE 1514 Safety Awareness ..................................................  2
CMAE 1518 Manufacturing Processes and Production ..................  2
CMAE 1522 Quality Practices ..................................................  2
CMAE 1526 Maintenance Awareness ........................................  2

Total Credits: ........................................................................  8

Elective Courses (select 8 credits from the courses below)
CMAE 1528 Career Success Skills ............................................  1
CMST 1210 Introduction to Communication ................................  3
DRFT 1500 Drafting Basics ......................................................  2
DEFT 1502 CAD I ....................................................................  2-3
ELEC 1814 Electronics I ............................................................  3
ENGT 1103 Mechanical Systems ..............................................  2
ENGT 1203 Control Systems .....................................................  2
MACT 1801 Fundamentals of Precision Manufacturing ............  2
MACT 1831 Lathe Operations and Theory ...............................  3
MATH 1000 Quantitative Reasoning .........................................  3
ONCR 1000 On Course .............................................................  3
WELD 1312 Welding Processes ..............................................  2
WELD 1327 Gas Metal Arc Welding I .....................................  2

Total Credits: ........................................................................  8
Total Certificate Credits .........................................................  16

MARKETING AND DESIGN
Hutchinson Campus
AAS Degree - 60 credits

Current research indicates a high demand for web sites and Internet services. Businesses are looking for individuals who can develop and maintain web sites and have other marketing skills to develop promotional materials. The Marketing and Design program is designed for the people who desire a career in all aspects of marketing a business.

AAS Degree
Required Courses
MMDT 1002 Graphic Visualization ............................................  3
MMDT 1008 Introduction to Computer Graphics ........................  3
MMDT 1010 Typography and Color Theory ...............................  3
MMDT 1051 Image Editing .......................................................  3
MMDT 1124 Web Publishing .....................................................  3
MMDT 1152 Business of Multimedia .......................................  3
MSM 1101 Principles of Marketing .........................................  3
MSM 1103 Basic Sales Techniques ..........................................  3
MSM 1205 Business Presentations .........................................  3
MSM 1220 Advertising and Promotion ...................................  3
MSM 2105 Computer Applications .........................................  3
MSM 2110 Principles of Supervision ......................................  3
MSM 2125 E-Commerce & Social Media .................................  3

Total Credits: ........................................................................  39

Elective Courses (15 credits required)
ACCT 1800 Business Law .......................................................  2
ACCT 1810 Introduction to Accounting ....................................  3
ADS 1014 Written Business Communications .......................  3
ADS 2105 Introduction to Project Management .......................  2

TOTAL CREDITS: 67

MARKETING AND SALES MANAGEMENT
Willmar and Hutchinson Campuses
Diploma/AAS Degree - 66/60 credits

Ridgewater College offers several programs in the marketing field. Students can earn an AAS degree or diploma in marketing and sales management. All of the programs offer a curriculum that centers on theory and practical experience through internships. This program participates in Articulated College Credit partnerships. Refer to page 6.

See page 88 for related "Sales & Management Associate" Diploma.

Diploma
Required Courses ..................................................................  54
MSM 1012 Business Presentations (or choose ADS 1012) .........  3
MSM 1101 Principles of Marketing .........................................  3
MSM 1103 Basic Sales Techniques ..........................................  3
MSM 1137 Business Math and Accounting ..............................  3
MSM 1212 Personal Finance ..................................................  3
MSM 1220 Advertising and Promotion ...................................  3
MSM 1818 Internship ..............................................................  6
MSM 2105 Computer Applications .........................................  3
MSM 2110 Principles of Supervision ......................................  3
MSM 2125 E Commerce and Social Media ................................  3
MSM 2203 Management Issues .............................................  3
MSM 2823 Introduction to Entrepreneurship ............................  3

Total Credits: ........................................................................  60

Elective Courses (15 credits required)
ACCT 1800 Business Law .......................................................  2
ACCT 1810 Introduction to Accounting ....................................  3
ADS 1014 Written Business Communications .......................  3
ADS 2105 Introduction to Project Management .......................  2
GSIS 1403  Professional Development ................................................................. 3
GSWS 1401  Employment Preparation ................................................................. 1
MSM 1000  Student Success .................................................................................. 1
MMDT 1008  Introduction to Computer Graphics .................................................. 3
MMDT 1015  Introduction to Digital Video Productions ........................................... 3
MMDT 1057  Electronic Publishing ........................................................................ 3
MMDT 1088  Basic Digital Photography .................................................................. 3
MMDT 1152  Business of Multimedia ..................................................................... 3
MSM 1819  Internship II ....................................................................................... 1-3
MSM 2207  Merchandising Management .................................................................. 3
MSM 2833  International Business .......................................................................... 3
MSM 2850  Small Business Development ................................................................ 2
MSM 2950  Special Projects/Topics ......................................................................... 1-3
Total Credits: ....................................................................................................... 15
Total Diploma Credits: ......................................................................................... 54

AAS Degree - Option 1
Required Courses  .................................................................................................. Credits
MSM 1012  Business Presentations (or ADS 1012) ................................................. 3
MSM 1101  Principles of Marketing ........................................................................ 3
MSM 1103  Basic Sales Techniques ....................................................................... 3
MSM 1137  Business Math and Accounting ........................................................... 3
MSM 1212  Personal Finance ................................................................................ 3
MSM 1220  Advertising and Promotion .................................................................. 3
MSM 1818  Internship I ........................................................................................ 3-6
MSM 2102  Professional Sales ............................................................................... 3
MSM 2105  Computer Applications ...................................................................... 3
MSM 2110  Principles of Supervision .................................................................... 3
MSM 2125  E-Commerce and Social Media ........................................................... 3
MSM 2203  Management Issues .......................................................................... 3
MSM 2823  Introduction to Entrepreneurship ....................................................... 3
Total Credits: ....................................................................................................... 39
Elective Courses  .................................................................................................. Credits
MMDT 1152  Business of Multimedia ..................................................................... 3
MSM 1000  Student Success .................................................................................. 1
MSM 1819  Internship II ....................................................................................... 1-3
MSM 2207  Merchandise Management .................................................................. 3
MSM 2833  International Business .......................................................................... 3
MSM 2850  Small Business Development ................................................................ 2
MSM 2950  Special Projects/Topics ......................................................................... 1-3
Total Credits: ....................................................................................................... 6

General Education Electives
General Education courses will be selected from at least 3 of the 10 goal areas of the Minnesota Transfer Curriculum. See your advisor to select courses that fulfill this requirement. ................................................................. 9
Choose one Goal Area 1 CMST course .................................................................. 3
Total Credits: ....................................................................................................... 12
Elective Courses  (select 3 credits from the courses below)  .................................. Credits
ECON 2060  Principles of Microeconomics .......................................................... 3
ECON 2070  Principles of Macroeconomics .......................................................... 3
Total Credits: ....................................................................................................... 3

Total AAS Degree Credits: ................................................................................... 60

AAS Degree - Option 2
Select same Required courses as Option 1 ............................................................. 39
Choose any courses from electives as Option 1 ..................................................... 5

Total Credits: ....................................................................................................... 44

MASSAGE THERAPY
Willmar Campus
AAS Degree - 60 Credits / Diploma - 32 Credits
Massage Therapy is a rapidly growing profession that offers a wide variety of opportunities for the motivated and talented practitioner. It is widely recognized as an effective means of reducing the incidence of soft tissue disorders, pain, and dysfunction and as such, has become an important and respected part of both the traditional medical community and the beauty industry. Massage Therapy has now become one of the most popular complimentary therapies available since massage is no longer considered just a luxury, but rather an important part of an overall health and wellness program.

Students are trained in basic Esalen massage, deep tissue therapies, hot stone applications, and seated-chair massage, and are introduced to a variety of specialized massage techniques such as Reflexology, Shiatsu, Myofascial Release, Energy Work, and Pre/Post Event Sports massage. Also included are a number of adjunct therapies, including ear candling, the use of hot/cold stones for specific areas, and spa body treatments. The Massage Therapy practitioner must also understand anatomy and physiology, pathology, client communications, business practices, principles of holistic health, and first aid and safety, all of which are included in this program.

Diploma:

Required Courses  .................................................................................................. Credits
GSWS 1451  First Aid/Safety .................................................................................. 1
MTHE 1201  Basic Massage ................................................................................... 5
MTHE 1203  Massage Therapy Anatomy & Physiology I .................................... 3
MTHE 1204  Massage Therapy Business Practices/Comm. ................................... 1
MTHE 1205  Principles of Holistic Health ............................................................... 2
MTHE 1206  Clinical/Field Experience I ................................................................. 1
MTHE 1208  Introduction to Pathology .................................................................. 2
MTHE 1211  Advanced Massage .......................................................................... 5
MTHE 1212  Massage Therapy Anatomy & Kinesiology .................................... 3
MTHE 1213  Massage Therapy Business Practices/Comm. ................................... 2
MTHE 1214  Spa Treatments ................................................................................. 2
MTHE 1220  Massage Therapy Certification Prep ................................................ 1
MTHE 1230  Clinical/Field Experience II ............................................................... 2
Total Credits: ....................................................................................................... 30
### Elective Courses (choose one of the following) Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSCM 1122 Oral and Written Communications</td>
<td>2</td>
</tr>
<tr>
<td>or Any MnTC Goal Area 1 or 7 course</td>
<td>3</td>
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</table>

**Total Credits:** 32

### AAS Degree

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GSWS 1451 First Aid/Safety</td>
<td>1</td>
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<tr>
<td>MTHE 1201 Basic Massage</td>
<td>5</td>
</tr>
<tr>
<td>MTHE 1203 Massage Therapy Anatomy &amp; Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>MTHE 1204 Massage Therapy Business/Comm. I</td>
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<tr>
<td>MTHE 1205 Principles of Holistic Health</td>
<td>2</td>
</tr>
<tr>
<td>MTHE 1206 Clinical/Field Experience I</td>
<td>1</td>
</tr>
<tr>
<td>MTHE 1208 Introduction to Pathology</td>
<td>2</td>
</tr>
<tr>
<td>MTHE 1211 Advanced Massage</td>
<td>5</td>
</tr>
<tr>
<td>MTHE 1212 Massage Therapy Anatomy &amp; Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>MTHE 1213 Business Practices/Communication II</td>
<td>2</td>
</tr>
<tr>
<td>MTHE 1214 Spa Treatments</td>
<td>2</td>
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<tr>
<td>MTHE 1220 Massage Therapy Certification Prep</td>
<td>1</td>
</tr>
<tr>
<td>MTHE 1230 Clinical Field Experience II</td>
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</table>

**Total Credits:** 30

#### Elective Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ADS 1040 Office Accounting Concepts</td>
<td>2</td>
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<tr>
<td>ADS 1045 Computerized Accounting</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 1080 Human Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2100 Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2110 Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BUS 1010 Business and the American Economy</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1200 Business Computers</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1010 Survey of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CMST 1210 Introduction to Communications</td>
<td>3</td>
</tr>
<tr>
<td>CMST 2230 Listening</td>
<td>3</td>
</tr>
<tr>
<td>CMST 2260 Interpersonal Communications</td>
<td>2</td>
</tr>
<tr>
<td>ECON 1900 Personal Finance</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1950 Introduction to Economics</td>
<td>3</td>
</tr>
<tr>
<td>GSSS 1502 Principles of Marketing</td>
<td>3</td>
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<tr>
<td>GSM 1101 Basic Sales</td>
<td>3</td>
</tr>
<tr>
<td>GSM 1220 Advertising and Promotions</td>
<td>3</td>
</tr>
<tr>
<td>GSM 2825 Introduction to Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>GSM 2850 Small Business Development</td>
<td>2</td>
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<tr>
<td>MTHE 1225 Field Experience</td>
<td>1</td>
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<tr>
<td>MTHE 1250 Advanced Massage 2</td>
<td>1</td>
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<tr>
<td>MTHE 2950 Special Projects/Topics</td>
<td>1-6</td>
</tr>
<tr>
<td>PE 1180 Introduction to Yoga</td>
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</tr>
<tr>
<td>PE 1220 Fitness/Wellness</td>
<td>2</td>
</tr>
<tr>
<td>PSYC 1310 Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PUBH 1050 Personal/Community Health</td>
<td>2</td>
</tr>
<tr>
<td>PUBH 1070 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1050 Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1070 Marriage and Family Living</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 15

#### General Education

**Goal 1:** Communications (choose at least 1 course) | 3 |

**Goal 5:** History, Social, Behavioral Sciences (choose at least 1 course) | 3 |

Choose remaining credits from any goal area | 9 |

**Total Credits:** 15

**Total Program Credits:** 60

---

**NOTE:** Choice of general education courses must be made to include at least three Minnesota Transfer Curriculum Goal areas.

### MEDICAL ASSISTANT

**Willmar Campus**

**Diploma/AAS Degree - 49/60 credits**

**Certificate Option: Phlebotomist - 21 credits**

As a professional and multi-skilled worker, a medical assistant performs administrative and clinical duties in the healthcare field. Medical assistants are classified as allied health practitioners and can be found in physician offices, outpatient clinics, ambulatory facilities and other related businesses. This program prepares graduates to take the national test for certification, allowing the student to become a certified medical assistant.

The American Association of Medical Assistants (AAMA) which is responsible for the certification of medical assistants, has varied restrictions that may affect persons with a history of felony convictions. Successful completion of the program does not guarantee eligibility to take the certification examination. Prospective students are encouraged to contact the AAMA at 800-228-2262 concerning questions they may have regarding their eligibility for certification.

Minnesota law requires that any person who provides services that involve direct contact with patients and residents at a Minnesota licensed healthcare facility have a background study. An individual who is disqualified from having direct patient contact as a result of the study, and whose disqualification is not set aside by the Commissioner of Health, will not be permitted to participate in a clinical placement. Failure to participate in a clinical placement required by the Medical Assistant program at Ridgewater College, will result in ineligibility to qualify for a diploma in medical assisting.

The Ridgewater College Medical Assistant diploma program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Medical Assisting Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 North, Suite 158
Clearwater, FL 33763
Telephone: 727-210-2350

**Diploma Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDA 1002 Applied Communications/Scribing I</td>
<td>2</td>
</tr>
<tr>
<td>MEDA 1010 Anatomy and Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>MEDA 1021 Disease Conditions</td>
<td>3</td>
</tr>
<tr>
<td>MEDA 1102 Applied Communications/Scribing II</td>
<td>2</td>
</tr>
<tr>
<td>MEDA 1110 Human Relations for Healthcare</td>
<td>2</td>
</tr>
<tr>
<td>MEDA 1113 Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>MEDA 1135 Clinical Procedures I</td>
<td>3</td>
</tr>
<tr>
<td>MEDA 1225 Orientation to Medical Lab</td>
<td>3</td>
</tr>
<tr>
<td>MEDA 1235 Clinical Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>MEDA 1313 Human Development for Allied Health</td>
<td>2</td>
</tr>
<tr>
<td>MEDA 1324 Laboratory Skills I</td>
<td>1</td>
</tr>
<tr>
<td>MEDA 1326 Laboratory Skills II</td>
<td>1</td>
</tr>
<tr>
<td>MEDA 1328 Certification Exam Review I</td>
<td>1</td>
</tr>
<tr>
<td>MEDA 1451 Practicum Seminar</td>
<td>3</td>
</tr>
<tr>
<td>MEDA 1540 Medical Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>MEDA 2020 Certification Exam Review II</td>
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</tr>
<tr>
<td>MEDA 2032 Pharmacology</td>
<td>3</td>
</tr>
</tbody>
</table>
Programs of Study

MEDICAL CODING SPECIALIST
Hutchinson and Willmar Campuses
Diploma — 50 Credits
A medical coding specialist is a vital part of a health care team. By analyzing medical record information and assigning the proper codes to diagnoses and procedures, financial reimbursement to health care facilities is made by insurance companies and government agencies. This is especially important because patient billings must be compliant with federal regulations. Students will become familiar with anatomy, physiology, medical terminology, pharmacology, and computers. There is an emphasis on completeness, accuracy, and quality in all work. Diploma graduates are eligible to take the Certified Coding Associate (CCA) credential exam from the American Health Information Management Association (AHIMA). Diploma graduates can easily continue their education by obtaining an advanced degree such as the Health Information Technician AAS degree also offered at Ridgewater College.

Required Courses ................................. Credits
ADS 1007     Keyboarding .......................... 2
ADS 1012     Business Presentations ............ 3
ADS 1014     Written Business Communications 3
ADS 1030     Professional Development ........ 2
ADS 1300     Medical Terminology ............. 2
ADS 1314     Medical Office Procedures I ....... 4
ADS 2050     Professional Development II .... 1

Elective Courses (0 credits required)
GSIS 1502     Human Relations .................. 2
GSWS 1451     First Aid/CPR ........................ 1

Total Diploma Credits: .......................... Minimum of 50

MEDICAL RECEPTIONIST
Hutchinson and Willmar Campuses
Certificate — 22 Credits
Acceptance into this certificate program requires approval by program advisor.

Required Courses ................................. Credits
HIMC 1100     Fundamentals of Health Information .... 3
HIMC 1110     Anatomy & Physiology for HIT ....... 3
HIMC 1115     Anatomy & Physiology Applications for HIT...... 1
HIMC 1120     Medical Terminology ............. 3
HIMC 1140     Pharmacy ........................... 3
HIMC 1150     Legal Aspects of Health Information .... 2
HIMC 1320     Reimbursement Methodologies ...... 3
HIMC 1330     Electronic Health Records .......... 2
HIMC 1340     Health Records Documentation ...... 1
HIMC 1350     Pathophysiology ................... 3
HIMC 2001     CPT Coding .............................. 3
HIMC 2003     ICD Coding .............................. 3
HIMC 2004     Advanced Coding ................... 3
HIMC 2006     ICD-10-PCS Coding .................. 3
HIMC 2030     CCA Review ............................ 1
HIMC 2040     Quality Management and Healthcare Statistics 3
HIMC 2260     Medical Coding Specialist Experiential Capstone ... 2-3
MEDA 2002     Applied Written Communications/Scribing II ...... 2
CMST 1002     Any CMST course .................... 3

Elective Courses (2 credits required)
CMST Any CMST course ............................ 1

Total Diploma Credits: .......................... Minimum of 47

NOTE: A grade of “C-” or above must be achieved for all of the required Health Information Technician/Medical Coding Specialist programs (HIT/MCS) and required general education courses in the HIT degree and MCS diploma to progress in the program.

General Education Electives
General Education courses will be selected from at least 3 of the 10 goal areas of the Minnesota Transfer curriculum. Elective courses may be taken from any of the 10 goal areas to complete a total of 15 General Education credits.

General Education Electives. .......................... 15
Total Credits ........................................... 60

Goal Area 1: Communications
Choose one of the following courses:
CMST 1210    Introduction to Communications ........ 3
ENGL 1210    College Composition I .................. 3

Goal Area 4: Mathematical/Logical Reasoning
Choose any Goal 4 Math course ........................ 3

Goal Area 5: History, Social & Behavioral Sciences
Choose one of the following courses:
PSYC 1310    Introduction to Psychology ............ 4
SOC 1050     Introduction to Sociology .............. 3

General Education Courses (0 credits required)
MEDA 1002     Applied Communications/Scribing I .... 2
MEDA 1102     Applied Communications/Scribing II .... 2

Goal Area 2: Science
Choose one of the following courses:
ENGL 2210    Introduction to Literature .............. 3
GSIS 1502     Human Relations ...................... 2

Goal Area 3: Mathematical/Logical Reasoning
Choose one of the following courses:
HIMC 1350     Pathophysiology ..................... 3
HIMC 2001     CPT Coding ............................. 3
HIMC 2003     ICD Coding ............................. 3
HIMC 2004     Advanced Coding .................... 3
HIMC 2006     ICD-10-PCS Coding .................. 3
HIMC 2030     CCA Review ........................... 1
HIMC 2040     Quality Management and Healthcare Statistics 3
HIMC 2260     Medical Coding Specialist Experiential Capstone ... 2-3
MEDA 2002     Applied Written Communications/Scribing II ...... 2
CMST 1002     Any CMST course .................... 3

Total Diploma Credits: .......................... Minimum of 47

MEDICAL CODING SPECIALIST
Hutchinson and Willmar Campuses
Diploma — 49 Credits

A medical coding specialist is a vital part of a health care team. By analyzing medical record information and assigning the proper codes to diagnoses and procedures, financial reimbursement to health care facilities is made by insurance companies and government agencies. It is especially important because patient billings must be compliant with federal regulations. Students will become familiar with anatomy, physiology, medical terminology, pharmacology,

And companies.

Total Diploma Credits: .......................... 49

Goal Area 1: Communications
Choose one of the following courses:
CMST 1210    Introduction to Communications ........ 3
ENGL 1210    College Composition I .................. 3

Goal Area 4: Mathematical/Logical Reasoning
Choose any Goal 4 Math course ........................ 3

Goal Area 5: History, Social & Behavioral Sciences
Choose one of the following courses:
PSYC 1310    Introduction to Psychology ............ 4
SOC 1050     Introduction to Sociology .............. 3

General Education Courses (0 credits required)
MEDA 1010     Anatomy and Physiology I ............. 3
MEDA 1021     Disease Conditions ........................ 3
MEDA 1110     Human Relations for Healthcare ...... 3
MEDA 1113     Medical Terminology ..................... 3
MEDA 1135     Clinical Procedures I .................... 3
MEDA 1225     Orientation to Medical Lab ............. 3
MEDA 1235     Clinical Procedures II .................... 3
MEDA 1313     Human Development for Allied Health .... 2
MEDA 1324     Lab Skills I ............................... 1
MEDA 1326     Lab Skills II ............................... 1
MEDA 1328     Certification Exam Review I ............ 1
MEDA 1451     Practicum Seminar ....................... 3
MEDA 1540     Medical Office Procedures ............. 3
MEDA 2020     Certification Exam Review II .......... 2
MEDA 2032     Pharmacology ............................. 3
MEDA 2100     Practicum ................................. 5
MEDA 2310     Laboratory Procedures I ............... 1
MEDA 2320     Laboratory Procedures II ............... 2
### MULTIMEDIA DESIGN TECHNOLOGY

**Hutchinson Campus**

**Diploma/AAS Degree — 50/60 Credits**

Multimedia consists of designing electronic graphics, interactive programming, dynamic presentations, web pages for the Internet and other communication projects. Students will learn to present information in its most creative and stimulating forms integrating design, video, audio, animation and 3-D design technologies. Multimedia skills, as an emerging, evolving and exciting industry, are currently in demand in almost every field of business. See page 76 for Marketing & Design AAS degree. This program participates in Articulated College Credit partnerships. Refer to page 6.

#### Diploma

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMDT 1002</td>
<td>Graphic Visualization</td>
</tr>
<tr>
<td>MMDT 1008</td>
<td>Introduction to Computer Graphics</td>
</tr>
<tr>
<td>MMDT 1010</td>
<td>Typography and Color Theory</td>
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<tr>
<td>MMDT 1015</td>
<td>Digital Video Production</td>
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<tr>
<td>MMDT 1021</td>
<td>HTML and CSS (or CST 1021)</td>
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<tr>
<td>MMDT 1041</td>
<td>Information Illustration</td>
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<tr>
<td>MMDT 1051</td>
<td>Image Editing</td>
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<tr>
<td>MMDT 1088</td>
<td>Basic Digital Photography</td>
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<tr>
<td>MMDT 1112</td>
<td>Animation for Web Design I</td>
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<tr>
<td>MMDT 1142</td>
<td>Interface Design</td>
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<td>MMDT 1152</td>
<td>Business of Multimedia</td>
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<tr>
<td>MMDT 1180</td>
<td>Multimedia Portfolio</td>
</tr>
</tbody>
</table>

**Total Credits:** 37

#### Elective Courses

Choose 13 credits from any MMDT, CST, MSM, PHOT, ADS, ACCT, BUS, General Studies, MnTC Goal 1 or MnTC Goal 6 courses as approved by your advisor.

**Total Credits:** 13

**Total Diploma Credits:** 50

#### AAS Degree

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>MMDT 1002</td>
<td>Graphic Visualization</td>
</tr>
<tr>
<td>MMDT 1008</td>
<td>Introduction to Computer Graphics</td>
</tr>
<tr>
<td>MMDT 1010</td>
<td>Typography and Color Theory</td>
</tr>
<tr>
<td>MMDT 1015</td>
<td>Digital Video Production</td>
</tr>
<tr>
<td>MMDT 1021</td>
<td>HTML and CSS (or CST 1021)</td>
</tr>
<tr>
<td>MMDT 1041</td>
<td>Information Illustration</td>
</tr>
<tr>
<td>MMDT 1051</td>
<td>Image Editing</td>
</tr>
<tr>
<td>MMDT 1088</td>
<td>Basic Digital Photography</td>
</tr>
<tr>
<td>MMDT 1112</td>
<td>Animation for Web Design I</td>
</tr>
<tr>
<td>MMDT 1142</td>
<td>Interface Design</td>
</tr>
<tr>
<td>MMDT 1152</td>
<td>Business of Multimedia</td>
</tr>
<tr>
<td>MMDT 1180</td>
<td>Multimedia Portfolio</td>
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</tbody>
</table>

**Total Credits:** 37

#### Elective Courses

(8 elective credits required)

Choose 8 credits from any MMDT, CST, MSM, PHOT, ADS, ACCT or BUS courses as approved by your advisor.

**Total Credits:** 8

---

### MEDICAL TRANSCRIPTIONIST

**Hutchinson and Willmar Campuses**

**Certificate — 30 Credits**

Acceptance into this certificate program requires approval by program advisor.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ADS 110</td>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>ADS 1120</td>
<td>Medical Terminology</td>
</tr>
<tr>
<td>ADS 1140</td>
<td>Pharmacology in the Medical Office</td>
</tr>
<tr>
<td>ADS 1310</td>
<td>Medical Machine Transcription I-Qual/Production Mgmt</td>
</tr>
<tr>
<td>ADS 1323</td>
<td>Electronic Health Record Technology</td>
</tr>
<tr>
<td>ADS 2030</td>
<td>Word</td>
</tr>
<tr>
<td>ADS 2312</td>
<td>Medical Machine Transcription II</td>
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<tr>
<td>ADS 2313</td>
<td>Medical Transcription III</td>
</tr>
<tr>
<td>HIMC 1350</td>
<td>Pathophysiology</td>
</tr>
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</table>

**Total Credits:** 30

---

### MICROSOFT OFFICE SPECIALIST

**Hutchinson and Willmar Campus**

**Certificate — 15 Credits**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ADS 1026</td>
<td>Access</td>
</tr>
<tr>
<td>ADS 1042</td>
<td>PowerPoint</td>
</tr>
<tr>
<td>ADS 1053</td>
<td>Excel</td>
</tr>
<tr>
<td>ADS 2030</td>
<td>Word</td>
</tr>
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</table>

**Total Credits:** 12

#### Electives

Any ADS course(s) | 2

#### General Studies

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>GSCI 1401</td>
<td>Computer Technology</td>
<td>1</td>
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</table>

**Total Certificate Credits:** 15
General Education Required Courses
CMST - Any Goal 1 CMST course ........................................... 3
ENGL - Any Goal 1 ENGL course ........................................... 3
ART - Choose any Goal 6 ART course ..................................... 3
Total Credits: ................................................................. 9

Elective General Education Courses
General Education courses will be selected from at least 3 of the 10 goal areas of the Minnesota Transfer curriculum, as recommended by Advisor.
Total Credits: ................................................................. 6
Total AAS Degree Credits: .................................................. 60

NETWORK SYSTEMS ADMINISTRATION
Hutchinson and Willmar Campuses
Diploma/AAS Degree — 50/60 Credits
All areas of the private and public sectors are in need of Network Systems Administrators. This two-year degree prepares the student to enter the workforce as a Network Systems Administrator or continue on to a four-year degree. Graduates will learn how to maintain computer hardware and software, install and manage various server platforms, and provide customer service for a variety of users and environments. Graduates will also learn many modern database, Internet, operating system, and server technologies. This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma
Required Courses ......................................................... Credits
CST 1072  Windows Workstation Support .................................. 3
CST 161  Web Server Administration ....................................... 3
CST 1700  CCNA R & S Introduction to Networks ..................... 3
CST 1701  CCNA R & S Routing & Switching Essentials ............ 3
CST 1802  Helpdesk Diagnostics ........................................... 1
CST 1861  Command Line and Registry ................................ 3
CST 2274  Windows Server Install and Configure .................... 3
CST 2276  Windows Server Advanced Services ......................... 3
CST 2284  Network Security ................................................ 3
CST 2608  Linux Server Administration .................................. 3
CST 2702  CCNA R & S Scaling Networks ............................... 2
CST 2703  CCNA R & S Connecting Networks ......................... 2
CST 2802  Helpdesk Management ......................................... 1
CST 2823  Network Intrusion ............................................... 3
CST 2840  Wireless LAN Networking ..................................... 2
CST 2845  VoIP Networking ................................................ 2
Total Credits: ................................................................. 40

Elective Courses
Select 5 credits from any CST courses as approved by advisor.
Total Credits: ................................................................. 5

Elective Courses - (select 5 credits from the courses below)
GSCM 1102  Applied Written Communications ....................... 2
GSCM 1102  Applied Oral Communications ............................ 2
GSCM 1132  Applied Oral and Written Communications ............ 2
GSCM 1132  Applied Technical Writing .................................. 2
GSIS 1502  Human Relations ............................................... 2
GSMS 1222  Applied Elementary Algebra ................................ 2
GSWS 1401  Employment Preparation .................................... 1

Total Credits: ................................................................. 5

AAS Degree
Required Courses ......................................................... Credits
CST 1072  Windows Workstation Support ................................ 3
CST 161  Web Server Administration ..................................... 3
CST 1700  CCNA R & S Introduction to Networks ..................... 3
CST 1701  CCNA R & S Routing & Switching Essentials ............ 3
CST 1802  Helpdesk Diagnostics ........................................... 1
CST 1861  Command Line and Registry ................................ 3
CST 2274  Windows Server Install and Configure .................... 3
CST 2276  Windows Server Advanced Services ......................... 3
CST 2284  Network Security ................................................ 3
CST 2608  Linux Server Administration .................................. 3
CST 2702  CCNA R & S Scaling Networks ............................... 2
CST 2703  CCNA R & S Connecting Networks ......................... 2
CST 2802  Helpdesk Management ......................................... 1
CST 2823  Network Intrusion ............................................... 3
CST 2840  Wireless LAN Networking ..................................... 2
CST 2845  VoIP Networking ................................................ 2
Total Credits: ................................................................. 40

Elective Courses
Choose 5 credits from any CST courses as approved by advisor.
Total Credits: ................................................................. 5

General Education Required Courses
Choose any CMST course ................................................... 3
Choose any ENGL course .................................................... 3
Total Credits: ................................................................. 6

General Education Electives
The AAS Degree requires Minnesota Transfer Curriculum from at least three different goal areas. See your advisor to select courses that fulfill this requirement.
The following courses are not required but are recommended:
ECON 1900  Personal Finance ............................................. 3
PHIL 1100  Logic & Critical Thinking ................................... 3
Total Credits: ................................................................. 9
Total AAS Degree Credits: .................................................. 60

NONDESTRUCTIVE TESTING TECHNOLOGY (NDT)
Hutchinson Campus
Diploma/AAS Degree — 72/72/64 Credits
Nondestructive testing is the examination of an object or material in a manner which does not affect its future usefulness. Career opportunities exist in the aircraft, construction and manufacturing industries. Students study the theory of each NDT method and spend much of their time working in a fully equipped lab. They receive hands-on training on X-ray, radiography, isotope radiography, ultrasonics, computer-based eddy current, computerized acoustic emission and real-time X-ray equipment. This program is recognized by the American Society for Nondestructive Testing as one of the leading college programs in the country.
NDT Diploma

Required Courses ...................................................... Credits
GSCI 1312  Industry Computer Applications ...................... 2
GSWS 1401  Employment Preparation ................................ 1
NDT 1030  Basic Liquid Penetrant Inspection ...................... 2
NDT 1040  Intro to Radiographic Inspection ....................... 1
NDT 1050  Basic Radiographic Inspection I ........................ 2
NDT 1051  Basic Radiographic Inspection II ........................ 2
NDT 1060  Intro to Ultrasonic Inspection ........................... 2
NDT 1070  Basic Ultrasonic Inspection I ............................. 2
NDT 1071  Basic Ultrasonic Inspection II ............................ 2
NDT 1080  Basic Eddy Current Testing Inspection ................. 3
NDT 1090  Basic Magnetic Particle Inspection .................... 2
NDT 1100  Manufacturing Processes .................................. 2
NDT 1140  Basic Blueprint Reading ................................... 1
NDT 1501  Introduction to NDT ........................................ 1
NDT 1510  Fundamentals of Metallurgy .............................. 3
NDT 1820  NDT Geometry and Trigonometry ...................... 3
NDT 2030  Advanced Liquid Penetrant Inspection ................. 3
NDT 2040  Isotope & Radiation Safety .............................. 2
NDT 2049  Advanced Radiography I .................................. 2
NDT 2051  Advanced Radiography II .................................. 2
NDT 2060  Advanced Ultrasonic Inspection III .................... 2
NDT 2061  Advanced Ultrasonic Inspection II ..................... 2
NDT 2080  Advanced Eddy Current Inspection I ................... 2
NDT 2081  Advanced Eddy Current Inspection II ................. 2
NDT 2090  Advanced Magnetic Particle Inspection ............... 2
NDT 2160  Applied Physics ............................................. 3
NDT 2170  Advanced Visual Inspection .............................. 2
WELD 1910  Fundamentals of Welding ............................... 2

Total Diploma Credits: ............................................. 56

Elective Courses .......................................................... Credits
BUS/CSCI 1400  Introduction to Computers ......................... 3
DRFT 1502  CAD I ...................................................... 3
ENG 1240  Fundamentals of Robotics ................................ 3
GSWS 1451  First Aid/Safety ......................................... 1
MSM 2102  Professional Sales ........................................ 3
MSM 2105  Computer Applications ................................ 3
NDT 1501  Introduction to NDT ...................................... 3
NDT 2240  Nondestructive Testing Internship ..................... 1-11
NDT 2250  Composites I .............................................. 1
NDT 2510  Leak Testing ............................................... 1
NDT 2527  AWS Weld Evaluation .................................... 2
NDT 2605  Introduction to Nuclear Reactors ...................... 1
NDT 2950  Special Projects/Topics .................................. 1-3
ONCR 1000  OnCourse ................................................. 3

General Education courses must be selected from at least 3 of the 10 goal areas of the Minnesota Transfer curriculum. Elective courses can be taken from any of the 10 goal areas.

Total Elective Credits: .................................................. 59

Total Credits: ..................................................... 115

NDT AAS Degree

Required Courses .......................................................... Credits
NDT 1030  Basic Liquid Penetrant Inspection ...................... 2
NDT 1040  Intro to Radiographic Inspection ....................... 3
NDT 1050  Basic Radiographic Inspection I ......................... 2
NDT 1051  Basic Radiographic Inspection II ....................... 2

Total AAS Degree Credits: ........................................... 72
Advanced Ultrasonic Testing Technology Diploma

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<tr>
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<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 1090</td>
<td>Elements of Algebra &amp; Trigonometry</td>
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<td>Basic Liquid Penetrant Inspection</td>
<td>2</td>
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<tr>
<td>NDT 1060</td>
<td>Intro to Ultrasonic Inspection</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1070</td>
<td>Basic Ultrasonic Inspection I</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1071</td>
<td>Basic Ultrasonic Inspection II</td>
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<tr>
<td>NDT 1090</td>
<td>Basic Magnetic Particle Inspection</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1100</td>
<td>Manufacturing Processes</td>
<td>2</td>
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<td>NDT 1501</td>
<td>Introduction to NDT</td>
<td>1</td>
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<tr>
<td>NDT 1517</td>
<td>Intro to Report Forms/Writing</td>
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<td>NDT 2030</td>
<td>Advanced Liquid Penetrant Inspection</td>
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<td>NDT 2060</td>
<td>Advanced Ultrasonic Inspection I</td>
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<td>NDT 2064</td>
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<td>PDI-UT-I A</td>
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<td>PDI-UT-2A</td>
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<td>NDT 2069</td>
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<td>NDT 2070</td>
<td>PDI-UT-3</td>
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<td>PDI-UT-8</td>
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<td>NDT 2072</td>
<td>PDI-UT-10</td>
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<td>NDT 2073</td>
<td>Phased Array PDI</td>
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<td>NDT 2090</td>
<td>Advanced Magnetic Particle Inspection</td>
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<td>NDT 2160</td>
<td>Applied NDT Physics</td>
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<td>NDT 2605</td>
<td>Introduction to Nuclear Reactors</td>
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<td>NDT 2610</td>
<td>IGSCC Detection</td>
<td>1</td>
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<tr>
<td>NDT 2615</td>
<td>Planar Flaw Sizing</td>
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<td>NDT 2620</td>
<td>Weld Overlay Flaw Sizing</td>
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<td>NDT 2625</td>
<td>IGSCC, Mechanisms, Inspections</td>
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<tr>
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Electives - 0 credits required

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<tr>
<td>NDT 2550</td>
<td>Special Projects/Topics</td>
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Practical Nursing Diploma

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<th>Course Name</th>
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<tbody>
<tr>
<td>PRNU 1000</td>
<td>Foundations of Practical Nursing</td>
<td>6</td>
</tr>
<tr>
<td>PRNU 1200</td>
<td>Nursing Care of Older Adults</td>
<td>3</td>
</tr>
<tr>
<td>PRNU 1300</td>
<td>Pharmacology for the Role of the PN</td>
<td>1</td>
</tr>
<tr>
<td>PRNU 1400</td>
<td>Clinical I</td>
<td>4</td>
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<tr>
<td>PRNU 1617</td>
<td>Medical Terminology</td>
<td>1</td>
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<tr>
<td>PRNU 2100</td>
<td>Nursing of Adults</td>
<td>3</td>
</tr>
<tr>
<td>PRNU 2200</td>
<td>Nursing Care of Women/Newborn/Children</td>
<td>3</td>
</tr>
<tr>
<td>PRNU 2300</td>
<td>Transition to Practice</td>
<td>1</td>
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<tr>
<td>PRNU 2400</td>
<td>Psychosocial Nursing Care</td>
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<tr>
<td>PRNU 2500</td>
<td>Clinical II</td>
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Required General Education Courses

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<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 2100</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1110</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1310</td>
<td>Introduction to Psychology</td>
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<tr>
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<tr>
<td>Total Program Credits</td>
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</table>

Approval/Accreditation

The Ridgewater College Practical Nursing Program is accredited by the Accreditation Commission for Education in Nursing, Inc. (ACEN). For information on the accreditation process, contact ACEN at 404-975-5000 or at www.acenursing.org.

PN is approved by the Minnesota Board of Nursing.

Associate Degree Nursing and Bachelor of Science in Nursing

Nursing AS Degree

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>NURS 2700</td>
<td>Health Promotion and the Role of the Professional Nurse</td>
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<tr>
<td>NURS 2750</td>
<td>Nutrition &amp; the Role of the Professional Nurse</td>
<td>2</td>
</tr>
<tr>
<td>NURS 2800</td>
<td>Chronic and Palliative Care</td>
<td>4</td>
</tr>
<tr>
<td>NURS 2820</td>
<td>Pharmacology &amp; Role of Professional Nurse</td>
<td>3</td>
</tr>
<tr>
<td>NURS 2850</td>
<td>Applied Pathophysiology for Nursing I</td>
<td>2</td>
</tr>
<tr>
<td>NURS 2900</td>
<td>Acute and Complex Care</td>
<td>7</td>
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<tr>
<td>NURS 2920</td>
<td>Applied Pathophysiology for Nursing II</td>
<td>2</td>
</tr>
<tr>
<td>NURS 2950</td>
<td>Nursing Leadership I</td>
<td>3</td>
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<tr>
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Required General Education Courses:

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<th>Course Name</th>
<th>Credits</th>
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<tr>
<td>BIOL 2100</td>
<td>Human Anatomy</td>
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<tr>
<td>BIOL 2110</td>
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<td>BIOL 2150</td>
<td>Microbiology</td>
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<tr>
<td>CHEM 1010</td>
<td>Survey of Chemistry</td>
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<td>CMST 1010</td>
<td>Any Goal 1 CMST course</td>
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<td>English Composition I</td>
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<td>ENGL 1210</td>
<td>English Composition II</td>
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<tr>
<td>PHIL 1020</td>
<td>Introduction to Ethics</td>
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<tr>
<td>PSYC 1310</td>
<td>Introduction to Psychology</td>
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<tr>
<td>PSYC 2630</td>
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</table>
### Elective General Education Courses:
Select one Anthropology/Sociology course ........................................ 3

### Credits: 3

### Total Credits: 3

### Nursing AS Degree (for LPNs)

#### Advanced Standing Credit for LPN Coursework .................................. 5

### Required Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>Transition to the Role of the Professional Nurse</td>
<td>4</td>
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<tr>
<td>NURS 2750</td>
<td>Nutrition &amp; Role of the Professional Nurse</td>
<td>2</td>
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<tr>
<td>NURS 2800</td>
<td>Chronic and Palliative Care</td>
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<tr>
<td>NURS 2820</td>
<td>Pharmacology &amp; the Role of Professional Nurse</td>
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</tr>
<tr>
<td>NURS 2850</td>
<td>Applied Pathophysiology for Nursing I</td>
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<tr>
<td>NURS 2900</td>
<td>Acute and Complex Care</td>
<td>7</td>
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<tr>
<td>NURS 2920</td>
<td>Applied Pathophysiology for Nursing II</td>
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<td>Nursing Leadership I</td>
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### Required General Education Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 2100</td>
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<td>4</td>
</tr>
<tr>
<td>BIOL 2110</td>
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<tr>
<td>BIOL 2150</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1010</td>
<td>Survey of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CMST</td>
<td>Any Goal 1 CMST course</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1210</td>
<td>English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1220</td>
<td>English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 1020</td>
<td>Introduction to Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1310</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 2630</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

### Total Credits: 35

### Elective General Education Courses:
Select one Anthropology/Sociology course ........................................ 3

### Credits: 3

### Total Credits: 35

### NOTE: This Associate of Science Degree plan is part of the Minnesota Alliance for Nursing Education (MANE) Bachelor’s of Science in Registered Nursing program.

### Approval/Accreditation
The Ridgewater College Associate Degree Nursing Program is accredited by the Accreditation Commission for Education in Nursing, Inc. (ACEN). For information on the accreditation process, contact ACEN at 404-975-5000 or at www.acenursing.org.

AD programs are approved by the Minnesota Board of Nursing.

### Interim Director of Nursing PN and AD programs
Dr. Faith Johnson, Ed. D., RN

---

### OCCUPATIONAL SKILLS

#### Willmar Campus

**Diploma — 32 Credits**

This program offers students with disabilities post-secondary training in a variety of career options. Community-based training is paired with classes in personal management and job seeking/keeping skills. This is a program that offers high support as well as a high degree of flexibility. Course offerings are determined by the OSP faculty.

#### Diploma

**Technical Courses Credits: .................................................. 23**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP 1000</td>
<td>Job Keeping Skills</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1100</td>
<td>Job Seeking Skills</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1200</td>
<td>Career Assessment and Planning</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1700</td>
<td>SOT Related Seminar</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1750</td>
<td>Supervised Occupational Training</td>
<td>1-8</td>
</tr>
<tr>
<td>OSP 1850</td>
<td>Internship I</td>
<td>1-8</td>
</tr>
<tr>
<td>OSP 1900</td>
<td>Applied Job Search</td>
<td>4-8</td>
</tr>
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### Required Credits: 23

**Technical Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>GSCI 1301</td>
<td>Introduction to Computers</td>
<td>1</td>
</tr>
<tr>
<td>GSCI 1302</td>
<td>Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>GSCI 1312</td>
<td>Industry Computer Applications</td>
<td>1</td>
</tr>
<tr>
<td>GSCM 1122</td>
<td>Oral/Written Communications</td>
<td>2-5</td>
</tr>
<tr>
<td>GSWS 1462</td>
<td>Industry Skills</td>
<td>2</td>
</tr>
<tr>
<td>NA 1612</td>
<td>Nursing Assistant</td>
<td>3</td>
</tr>
<tr>
<td>OSP 1300</td>
<td>Consumer Skills</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1320</td>
<td>Communications</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1340</td>
<td>Personal Development</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1360</td>
<td>Relationships</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1390</td>
<td>Community and Leisure Resources</td>
<td>1</td>
</tr>
<tr>
<td>OSP 1400</td>
<td>Transition to Independent Living</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1600</td>
<td>Topics in Occupational Skills</td>
<td>1</td>
</tr>
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</table>

### General Studies Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>GSWS 1452</td>
<td>First Aid/Safety</td>
<td>2</td>
</tr>
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</table>

### Total Required Credits: 32

### Certificate

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>OSP 1000</td>
<td>Job Keeping Skills</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1100</td>
<td>Job Seeking Skills</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1700</td>
<td>SOT Related Seminar</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1750</td>
<td>Supervised Occupational Training</td>
<td>1-8</td>
</tr>
<tr>
<td>OSP 1850</td>
<td>Internship I</td>
<td>1-8</td>
</tr>
<tr>
<td>OSP 1900</td>
<td>Applied Job Search</td>
<td>4-8</td>
</tr>
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</table>

### Total Required Credits: 19

**Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>OSP 1200</td>
<td>Career Assessment and Planning</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1300</td>
<td>Consumer Skills</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1320</td>
<td>Communications</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1340</td>
<td>Personal Development</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1360</td>
<td>Relationships</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1390</td>
<td>Community and Leisure Resources</td>
<td>1</td>
</tr>
<tr>
<td>OSP 1400</td>
<td>Transition to Independent Living</td>
<td>2</td>
</tr>
<tr>
<td>OSP 1600</td>
<td>Topics in Occupational Skills</td>
<td>1</td>
</tr>
</tbody>
</table>
Prior to beginning any EMSP courses, students must have current CPR for transport them to hospital. When a 911 call alerts the authorities of an emergency, paramedics are often the first at the scene. Whether it is an automobile accident, a medical emergency, a fire, or some other disaster, the paramedic is responsible to assess a patient’s condition, give appropriate emergency medical treatment, and transport them to hospital.

Prior to beginning any EMSP courses, students must have current CPR for healthcare providers certification. Prior to participating in any clinical activities, students must have:

- Successful completion of MDH background study
- Submission of medical clearance for field and clinical activities (physical, immunizations)

NOTE: Program participants are subject to background checks according to Minnesota state law. See page 9 of the catalog for more specific information.

Diploma
Admission requirements include current EMT certification and at least 100 hours of EMT experience.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1096  BLS Internship</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1120  Emergency Medical Technician</td>
<td>.7</td>
</tr>
<tr>
<td>EMSP 1096  BLS Internship</td>
<td>2</td>
</tr>
<tr>
<td>GMCM 1122  Applied Oral &amp; Written Communications</td>
<td>2</td>
</tr>
<tr>
<td>GMCM 1132  Applied Technical Communications</td>
<td>2</td>
</tr>
<tr>
<td>GSIS 1502  Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>Any MNTC Goal Area 1, 3, 4, 5, or 7 course</td>
<td>3-4</td>
</tr>
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</table>

Total Diploma Credits: ................................................. 42

Elective Courses (select 3 credits from the courses below)

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>EMSP 1116 and EMS 1118 may be substituted for EMS 1120.</td>
<td></td>
</tr>
</tbody>
</table>

AAS Degree
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EMSP 1096  BLS Internship</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1096  BLS Internship</td>
<td>2</td>
</tr>
<tr>
<td>EMSP 1502  Introduction to Emergency Care</td>
<td>.7</td>
</tr>
<tr>
<td>EMSP 1504  Anatomy and Physiology for the Paramedic</td>
<td>2</td>
</tr>
<tr>
<td>EMSP 1506  Pharmacology for the Paramedic</td>
<td>2</td>
</tr>
<tr>
<td>EMSP 1510  Ambulance Operations I</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1512  Ambulance Operations II</td>
<td>2</td>
</tr>
<tr>
<td>EMSP 1510  Ambulance Operations I</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1530  Patient Assessment</td>
<td>.7</td>
</tr>
<tr>
<td>EMSP 1540  Shock and Trauma Care</td>
<td>3</td>
</tr>
<tr>
<td>EMSP 1552  Airway and Pulmonology</td>
<td>2</td>
</tr>
<tr>
<td>EMSP 1554  Cardiology</td>
<td>4</td>
</tr>
<tr>
<td>EMSP 1560  Medical Emergencies</td>
<td>4</td>
</tr>
<tr>
<td>EMSP 1570  Special Populations</td>
<td>.7</td>
</tr>
<tr>
<td>EMSP 1580  Clinical I</td>
<td>.7</td>
</tr>
<tr>
<td>EMSP 1580  Clinical II</td>
<td>.7</td>
</tr>
<tr>
<td>EMSP 1590 Field Clinical I-BLS</td>
<td>1</td>
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<tr>
<td>EMSP 1593 Field Clinical II - ALS A.</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1594 Field Clinical II - ALS B.</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1596 Field Clinical III and Paramedic Capstone</td>
<td>3</td>
</tr>
<tr>
<td>EMSP 1597 Paramedic Psychomotor Examination Preparation Exam</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1600 ACLS Provider</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1602 PALS Provider</td>
<td>1</td>
</tr>
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</table>

Total Credits: ......................................................... 39

Elective Courses (select 6 credits from the courses below)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACCT 1800  Business Law</td>
<td>2</td>
</tr>
<tr>
<td>ACCT 1812  Payroll Preparation</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1026  Database Microsoft Access</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1027  Business Environment</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1040  Office Accounting Concepts</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1045  Computerized Accounting</td>
<td>1</td>
</tr>
<tr>
<td>ADS 2010  Desktop Publishing</td>
<td>2</td>
</tr>
<tr>
<td>ADS 2015  Introduction to Project Management</td>
<td>2</td>
</tr>
<tr>
<td>ADS 2045  Advanced Word Processing</td>
<td>3</td>
</tr>
<tr>
<td>ADS 2050  Administrative Support Internship</td>
<td>2-6</td>
</tr>
<tr>
<td>MMDT 1021 HTML and the Web</td>
<td></td>
</tr>
</tbody>
</table>

Total Diploma Credits: ................................................. 32

OFFICE ASSISTANT
Willmar and Hutchinson Campuses

Diploma – 32 Credits

The Office Assistant program provides training to prepare individuals to perform limited clerical duties in the office. Students will learn computer, communication, and telephone skills, as well as gain knowledge in general office procedural skills. This program participates in Articulated College Credit partnerships. Refer to page 6.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ADS 1007  Keyboarding I</td>
<td>.7</td>
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<tr>
<td>ADS 1012  Business Presentations</td>
<td>.7</td>
</tr>
<tr>
<td>ADS 1014  Written Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1020  Administrative Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1042  PowerPoint</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1053  Excel</td>
<td>.7</td>
</tr>
<tr>
<td>ADS 2030  Word</td>
<td>3</td>
</tr>
<tr>
<td>GSCI 1401 Computer Technology</td>
<td>1</td>
</tr>
<tr>
<td>GSIS 1403 Professional Developmental Skills</td>
<td>.7</td>
</tr>
<tr>
<td>GWS 1401  Employment Preparation</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits: ......................................................... 26

Elective Courses (select 6 credits from the courses below)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1800  Business Law</td>
<td>2</td>
</tr>
<tr>
<td>ACCT 1812  Payroll Preparation</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1026  Database Microsoft Access</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1027  Business Environment</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1040  Office Accounting Concepts</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1045  Computerized Accounting</td>
<td>1</td>
</tr>
<tr>
<td>ADS 2010  Desktop Publishing</td>
<td>2</td>
</tr>
<tr>
<td>ADS 2015  Introduction to Project Management</td>
<td>2</td>
</tr>
<tr>
<td>ADS 2045  Advanced Word Processing</td>
<td>3</td>
</tr>
<tr>
<td>ADS 2050  Administrative Support Internship</td>
<td>2-6</td>
</tr>
<tr>
<td>MMDT 1021 HTML and the Web</td>
<td></td>
</tr>
</tbody>
</table>

Total Diploma Credits: ................................................. 39

PARAMEDIC

Willmar and Hutchinson Campuses

Diploma/AAS Degree – 42/64 Credits

When a 911 call alerts the authorities of an emergency, paramedics are often the first at the scene. Whether it is an automobile accident, a medical emergency, a fire, or some other disaster, the paramedic is responsible to assess a patient’s condition, give appropriate emergency medical treatment, and transport them to hospital.

Prior to beginning any EMSP courses, students must have current CPR for healthcare providers certification. Prior to participating in any clinical activities, students must have:
PHYSICAL EDUCATION TEACHING AND COACHING CERTIFICATE

Willmar Campus

The certificate upon completion, will meet/exceed the requirements set forth by the Minnesota State High School League (MSHSL) and Minnesota Rule 35A.3100 for a person to be a head varsity coach of an interscholastic sport in a senior high school.

**Required Courses** (10 credits required) ................................. Credits
PE 2050  Prevention and Care of Athletic Injuries  .......................... 2
PE 2150  Coach Practicum ......................................................... 2
PE 2200  CPR/First aid ................................................................. 2
PE 2300  Sport Psychology ......................................................... 2

**Choose one of the following 2-credit courses:**
PE 2100  Football Skills and Officiating ...................................... 2
PE 2110  Volleyball Skills and Officiating .................................... 2
PE 2120  Wrestling Skills and Officiating ..................................... 2
PE 2130  Basketball Skills and Officiating ................................... 2
PE 2140  Softball/Baseball Skills and Officiating ........................... 2

**Total Certificate Credits:** ...................................................... 10

PROFESSIONAL PHOTOGRAPHY TECHNOLOGY

Willmar Campus

**Diploma/AAS Degree — 64/60 Credits**

Professional photographers are employed in either portrait photography or commercial photography. Portrait photography creates a likeness and delineation of character in people. Commercial photography concentrates on the photographing of objects in the studio or on location. Digital photography is now being used in both commercial and portrait photography.

The demand for professional photographers has remained high for the last several years. Digital photography in portrait and commercial photography has created new career opportunities for photographers. Many graduates are finding employment as digital imaging specialists.

Graduates usually begin their careers as staff assistants in either a commercial or portrait studio. Commercial photographers must be willing to relocate to a metropolitan area. Portrait photography provides more mobility for employment opportunities since portrait studios are found in almost any size city. Many past graduates own their own studios.

**Diploma**

Required Courses ................................................................. Credits
PHOT 1015  Lightroom ............................................................ 3
PHOT 1016  Classic Portraiture ................................................. 3
PHOT 1019  Digital Cameras & Photography Concepts I ...................... 3
PHOT 1024  Photoshop I ............................................................. 4
PHOT 1027  Advanced Portrait Techniques ................................... 4
PHOT 1028  Commercial Photography I ...................................... 3
PHOT 2030  Commercial Photography II .................................... 4
PHOT 2032  On-Location Portraiture ........................................... 3
PHOT 2034  Photoshop II ............................................................ 4
PHOT 2035  Off-Camera Flash Photography ................................... 2
PHOT 2040  Video Production I ................................................... 2
PHOT 2042 Photographic Presentations ........................................ 2
PHOT 2048 Photography Business Development .......................... 3
PHOT 2057 Internship and Client Simulation .............................. 3
Total Credits: ........................................................................... 39

Electives (19 credits minimum)
PHOT 1020 Digital Cameras & Photography Concepts II ............ 3
PHOT 2030 Commercial Photography II .................................... 4
PHOT 2033 Wedding Photography ............................................. 3
PHOT 2041 Basic Photo Business Applications .......................... 3
PHOT 2043 Video Editing and Motion Graphics ....................... 3
PHOT 2044 Video Production II ............................................... 3
PHOT 2046 Portrait Portfolio .................................................. 4
PHOT 2050 Real Estate Photography .......................................... 3
PHOT 2051 High-Volume Photography ...................................... 3

Technical Elective Courses (if needed to meet the 64 credits)
ADS 1014 Written Business Communications .......................... 3
ACCT 1800 Business Law ....................................................... 2
ACCT 1810 Introduction to Accounting .................................... 3
MMDT 1010 Typographic and Color Theory ............................ 3
MMDT 1041 Information Illustration (Adobe Illustrator) ............ 3
MMDT 1057 Electronic Publishing (Adobe Illustrator) ............... 3
MSM 1101 Principles of Marketing .......................................... 3
MSM 2125 Electronic Commerce and Social Media .................. 3
MSM 2823 Introduction to Entrepreneurship ................................ 3
MSM 2850 Introduction to Small Business Development ............ 2

Total Technical Core Credits ................................................. 39
Total Photography Electives .................................................. 19
Total Additional Electives ..................................................... 6
Total Diploma Credits: ......................................................... 64

AAS Degree

Required Courses ...................................................................... Credits
PHOT 1015 Lightroom ........................................................... 3
PHOT 1016 Classic Portraiture ................................................. 3
PHOT 1019 Digital Cameras & Photography Concepts I ............ 3
PHOT 1024 Photoshop ........................................................... 4
PHOT 1027 Advanced Portrait Techniques .................................. 4
PHOT 1028 Commercial Photography I ................................... 3
PHOT 2032 On-Location Portraiture ......................................... 3
PHOT 2034 Photoshop II ......................................................... 4
PHOT 2035 Off-Camera Flash Photography .............................. 2
PHOT 2040 Video Production .................................................. 2
PHOT 2042 Photographic Presentations .................................... 2
PHOT 2048 Photography Business Development ...................... 3

Total Credits: ........................................................................... 36

Photography Elective Courses ................................................. 9 Credits Minimum
PHOT 1020 Digital Cameras & Photography Concepts II ........... 3
PHOT 2030 Commercial Photography II .................................. 4
PHOT 2033 Wedding Photography ......................................... 3
PHOT 2041 Basic Photo Business Applications ...................... 3
PHOT 2043 Video Editing and Motion Graphics ...................... 3
PHOT 2044 Video Production II ............................................. 3
PHOT 2046 Portrait Portfolio ................................................. 4
PHOT 2050 Real Estate Photography ....................................... 3
PHOT 2051 Volume Photography ............................................. 3

General Education Electives
Take two classes from Goal Area 1 (one ENGL and one CMST class)
Total Credits: ........................................................................... 6

Recommended General Education Electives ......................... 15 credits required
GOAL 1: CMST, 3 credits
CMST 1210 Introduction to Communication .......................... 3
CMST 2200 Public Speaking .................................................... 3
CMST 2250 Small Group Communication ............................... 3
GOAL 1: ENGL, 3 credits
ENGL 1210 College Composition I: Critical Reading & Writing .. 3

GOAL AREA 6 (3-6 credits)
ART 1040 Survey in Art ........................................................... 3
ART 1060 History of Modern Art ............................................. 3
ART 1070 Women in Art .......................................................... 3
ART 1200 Introduction to Art Studio ......................................... 3
ART 1300 Printmaking ............................................................ 3
ART 1400 Drawing ................................................................. 3
ART 1440 Watercolor ............................................................. 3
ART 2260 Elementary Art Education ......................................... 3
ART 2300 Three-Dimensional Design and Color ..................... 3
ART 2600 Ceramics ................................................................. 3
ART 2610 Painting ................................................................. 3

GOAL AREA 7, 8, 9 (3-6 credits)
ECON 1900 Personal Finance ............................................... 3
ECON 1950 Introduction to Economics .................................... 3
SPAN 1070 Beginning Spanish I .............................................. 4
SOC 1070 Marriage and Family Living .................................... 3

General Education Electives
Take any classes from at least two additional goal areas to complete the 15-credit requirement. Students must take classes from at least three of the ten goal areas to meet Minnesota Transfer Curriculum standards.

Total Technical Core Credits ................................................. 45
Total General Education Credits - Goal Area 1 ....................... 6
Total Additional General Education Credits ....................... 9
Total AAS Degree Credits: ...................................................... 60

PSYCHOLOGY TRANSFER PATHWAY
Willmar and Hutchinson Campuses
AA Degree - 60 credits

Required Psychology Courses ................................................. Credits
PSYC 1310 Intro to Psychology ................................................ 4
PSYC 2080 Statistics for Social and Behavioral Sciences ........... 4
PSYC 2630 Developmental Psychology ..................................... 3
or
PSYC 2750 Abnormal Psychology ........................................... 3

Any additional Psychology course listed below (1-3 credits; this may also be from the last two options listed above)
PSYC 1650 Psychology of Women ........................................... 3
PSYC 2120 Psychology of Aging ............................................. 3
PSYC 2800 Psychology of Adjustment ..................................... 3
PSYC 1320 Laboratory in Introductory Psychology .................. 1
PSYC 1680 Behavior Modification ......................................... 2
**RECEPTIONIST CERTIFICATE**

**Willmar and Hutchinson Campuses**

**Certificate - 24 credits**

**Required Courses**  ....................................................... Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS 1007</td>
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<tr>
<td>ADS 1008</td>
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<td>ADS 1010</td>
<td></td>
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<tr>
<td>ADS 1012</td>
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<td>ADS 1014</td>
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<td>GSWS 1403</td>
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<tr>
<td>GSCM 0012</td>
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</tr>
</tbody>
</table>

**Total Certificate Credits**  ........................................ 24

*This course is remedial. The student will have the opportunity to test out of this course. If test results are unsatisfactory, it will be recommended that the student take this course. This course is in addition to program requirements and do not count toward the certificate.*

**SALES & MANAGEMENT ASSOCIATE**

**Willmar and Hutchinson Campuses**

**Diploma — 34 Credits**

Ridgewater College offers these programs to help students prepare for a sales career. Graduates will learn about product knowledge, customer service, territory and time management, and administrative duties. In the retail merchandising program, individuals will apply classroom knowledge to actual work experience through internships and field trips. These programs emphasize new concepts in effective selling techniques and strategies. Students who graduate are placed into sales positions within various businesses. Programs will prepare graduates for an exciting career in sales. This program participates in Articulated College Credit partnerships. Refer to page 6. See page 77 for related program.

**Diploma**

**Required Courses**  ....................................................... Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM or ADS 1012 Business Presentations</td>
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<td>MSM 101</td>
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<td>MSM 103</td>
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<td>MSM 1818</td>
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<tr>
<td>MSM 2125</td>
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</tbody>
</table>

**Total Credits:**  .................................................... 34

**Elective Courses** (these courses are not required but are recommended)

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1800 Business Law</td>
<td></td>
</tr>
<tr>
<td>ACCT 1810 Introduction to Accounting</td>
<td></td>
</tr>
<tr>
<td>GSWS 1401 Employment Preparation</td>
<td></td>
</tr>
<tr>
<td>GSIS 1403 Professional Development</td>
<td></td>
</tr>
<tr>
<td>MSM 1000 Student Success</td>
<td></td>
</tr>
<tr>
<td>MSM 1819 Internship II</td>
<td></td>
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<tr>
<td>MSM 2102 Professional Sales</td>
<td></td>
</tr>
<tr>
<td>MSM 2105 Computer Applications</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits:**  .................................................... 34
VETERINARY TECHNOLOGY
Willmar Campus

AAS Degree — 75 Credits
Accredited by the American Veterinary Medical Association, the Veterinary Technology program covers two years of college-level study taught by experienced veterinarians and technicians. This program will prepare graduates to assist veterinarians, biomedical researchers and professional animal scientists. After completing general studies and coursework, students gain occupational experience through a twelve-week internship program at a veterinary clinic or hospital, laboratory, research facility, or zoo.

A high school diploma or equivalent is necessary for acceptance into the Veterinary Technology major. In addition, students are required to successfully complete one year or equivalent of high school biology, chemistry, and algebra. Grades of C (2.0 GPA) or higher must be earned in each of these prerequisite courses. Prospective applicants without these required courses are encouraged to talk to a counselor.

The Veterinary Technology program is academically rigorous, and it takes highly motivated individuals with better than average ability to master a sizeable course load of scientific and medical material in a relatively short time. Experience with animals and an understanding of the field of veterinary medicine is ideally beneficial to applicants. Applicants are strongly encouraged to spend at least one week observing or working in a veterinary clinic with a veterinary technician.

In order to progress in the Veterinary Technology program, a student must achieve at least a “C” grade in each Veterinary Technology course and required science courses including: chemistry, biology, and microbiology. An overall “C” in all classes is essential for graduation with an Associate in Applied Science degree.

In order to progress in the Veterinary Technology program, a student must achieve at least a “C” grade in each Veterinary Technology course and required science courses including: chemistry, biology, and microbiology. An overall “C” in all classes is essential for graduation with an Associate in Applied Science degree.

This program participates in Articulated College Credit partnerships. Refer to page 6.

AAS Degree
Required Courses ........................................... Credits
VNTE 1000 Intro to Veterinary Science ......................... 1
VNTE 1016 Veterinary Nursing Procedures I ................. 3
VNTE 1037 Anatomy and Physiology I ....................... 3
VNTE 1056 Laboratory Techniques I ......................... 3
VNTE 1117 Veterinary Nursing Procedures II ............ 4
VNTE 1137 Anatomy and Physiology II ..................... 3
VNTE 1147 Pharmacology .................................. 5
VNTE 1157 Laboratory Techniques II ....................... 3
VNTE 2210 Vet Clinical Skills I ............................ 3
VNTE 2218 Veterinary Large Animal Husbandry .......... 1
VNTE 2219 Vet Nursing Procedures of Large Animals .... 2
VNTE 2230 Radiographic and Imaging Techniques ........ 3
VNTE 2246 Disease Processes ................................ 3

Total Elective Credits: ........................................ 10
Total Diploma Credits: .......................................... 34

Technical Elective Courses
VNTE 2310 Vet Clinical Skills II .............................. 3
VNTE 2325 Veterinary Surgical Nursing and Anesthesia .. 4
VNTE 2331 Veterinary Hospital Procedures ................ 3
VNTE 2340 Clinical Proficiency ................................ 1
VNTE 2350 Avian, Exotic and Lab Animal Care ............ 3
VNTE 2715 Internship ........................................... 8

Total Credits: ..................................................... 57

Required General Education Courses
BIOL 2150 Microbiology ..................................... 4
CHEM 1010 Survey of Chemistry .......................... 4

Choose one of two options:
BIOL 1000 Introduction to Biology ......................... 4
BIOL 2000 General Biology .................................. 5

Communications (1 course required) Goal 1 .............. 3
Humanities or Social Science (1 course required) Goal 5 or Goal 6 ........................................ 3
Total Technical Credits ....................................... 57
Total General Education Credits: ....................... 18
Total AAS Degree Credits: ................................. 75

Requirements for Continuance and Graduation
In order to progress in the Veterinary Technology program, a student must achieve at least a “C” grade in each Veterinary Technology course and required science courses including: chemistry, biology, and microbiology. An overall “C” in all classes is essential for graduation with an Associate in Applied Science degree.

WEB DEVELOPER
Hutchinson Campus
Diploma - 50 credits/AAS Degree— 60 Credits
Webmasters are people who manage online content and the servers from which it is distributed. Students have the opportunity to learn how to design interactive web sites and to manage the content and servers that support the web site. Concentrations are provided for electronic Interactive Authoring and designing web graphics. This program participates in Articulated College Credit partnerships. See page 6.

Diploma
Required Courses ............................................ Credits
CST 1794 Introduction to Programming .................... 3
MMDT 1021 HTML and the Web (or CST 1021) .......... 3
MMDT 1022 HTML II and Javascript (or CST 1022) .. 3
MMDT 1124 Web Publishing ................................ 3
MMDT 1126 Advanced Web Development ................ 3
MMDT 1142 Interface Design ................................ 3
MMDT 1144 Multimedia and the Web (or CST 1144) .. 3
MMDT 1146 PHP Programming ............................ 3

Total Credits: ...................................................... 21
Elective Courses (29 credits required) Choose from any MMDT, CST, General Studies, MnTC Goal 1 or MnTC Goal 4 courses as approved by your advisor.

Recommended technical electives for Design Path
MMDT 1002 Graphic Visualization ........................................ 3
MMDT 1008 Introduction to Computer Graphics .......................... 3
MMDT 1010 Typography & Color Theory .................................. 3
MMDT 1051 Image Editing ..................................................... 3

Recommended technical electives for Programming Path
CST 1640 Introduction to Java .............................................. 3
CST 2641 Introduction to Mobile Applications .......................... 3
MMDT 2146 Data Driven Data (or CST 2146) ............................ 3

Total Technical Required Courses .......................................... 21
Total Technical Electives ....................................................... 29
Total Diploma Credits ......................................................... 50

AAS Degree
Required Core Courses ......................................................... Credits

Elective Courses (24 elective credits required)
Choose 24 credits from any MMDT, CST, or GSWS courses as approved by your advisor.
Total Credits: ................................................................. 21

Recommended technical electives for Design Path
MMDT 1002 Graphic Visualization ............................................. 3
MMDT 1008 Introduction to Computer Graphics .......................... 3
MMDT 1010 Typography & Color Theory .................................. 3
MMDT 1051 Image Editing ..................................................... 3

Recommended technical electives for Programming Path
CST 1640 Introduction to Java .............................................. 3
CST 2641 Introduction to Mobile Applications .......................... 3
MMDT 2146 Data Driven Web (or CST 2146) ............................ 3

Required General Education Courses
GOAL 1:
ENGL - Choose any Goal 1 ENGL course ................................ 3
CMST - Choose any Goal 1 CMST course ................................. 3

GOAL 4
MATH - any Goal 4 MATH course ........................................... 3

Elective General Education Courses
At least one MnTC course must be from a goal area other than Goal 1 or 4 as recommended by advisor .............................................. 6

Required Technical Core Credits ........................................... 21
Required Technical Elective Credits ........................................ 24
Total General Education Credits ........................................... 15
Total AAS Degree Credits: .................................................. 60

WELDING
Willmar and Hutchinson Campuses
Diploma/AAS Degree — 32/64/72 Credits
Welding is the process of joining metals through heat. The industrial welding program is different from other programs because it offers either a one-year completion or a two-year advanced technical welding education. Shop equipment is the type found in industry, and classroom instruction is related directly to shop work. The Hutchinson campus has the only welding program in the state with in-house X-ray. Using this quality control inspection method, students always have feedback on the quality of their welds. Both programs give students broad and continuous exposure to welding methods and equipment. This program participates in Articulated College Credit partnerships. See Tech Prep under Admissions, page 6.

One-Year Diploma
Required Courses ............................................................... Credits
WELD 1201 Applied Math ..................................................... 2
WELD 1311 Prints, Symbols & Joint Designs 1 .......................... 2
WELD 1312 Welding Processes ............................................. 4
WELD 1314 Gas Welding, Brazing & Cutting Shop 1 ................. 1
WELD 1316 Shielded Metal Arc Welding Shop 1 ..................... 2
WELD 1319 Gas Tungsten Arc Welding Shop 1 ........................ 1
WELD 1320 Computer-Aided Manufacturing ........................... 2
WELD 1321 Prints, Symbols & Joint Designs 2 ......................... 2
WELD 1322 Welding Processes, Metals & Fabrication ............... 4
WELD 1324 Gas Welding, Brazing & Cutting Shop 2 ............... 2
WELD 1326 Shielded Metal Arc Welding Shop 2 ..................... 3
WELD 1327 Gas Metal Arc Welding Shop 1 ............................ 2
WELD 1328 Gas Metal Arc Welding Shop 2 ............................ 3
WELD 1329 Gas Tungsten Arc Welding Shop 2 ........................ 2
Total Credits: ................................................................. 32

Elective Courses (6 credits required)
GSWS 1401 Employment Preparation and Retention .................. 1
WELD 1201 Applied Math ..................................................... 1
WELD 2900 Welding Internship ............................................. 1-6
Total Diploma Credits: ....................................................... 32

Industrial Welding Two-Year Diploma
Required Courses ............................................................... Credits
WELD 1201 Applied Math ..................................................... 2
WELD 1311 Prints, Symbols & Joint Designs 1 .......................... 2
WELD 1312 Welding Processes ............................................. 4
WELD 1314 Gas Welding, Brazing & Cutting Shop 1 ................. 1
WELD 1316 Shielded Metal Arc Welding Shop 1 ..................... 2
WELD 1319 Gas Tungsten Arc Welding Shop 1 ........................ 1
WELD 1320 Computer-Aided Manufacturing ........................... 2
WELD 1321 Prints, Symbols & Joint Designs 2 ......................... 2
WELD 1322 Welding Processes, Metals & Fabrication ............... 4
WELD 1324 Gas Welding, Brazing & Cutting Shop 2 ............... 2
WELD 1326 Shielded Metal Arc Welding Shop 2 ..................... 3
WELD 1327 Gas Metal Arc Welding Shop 1 ............................ 2
WELD 1328 Gas Metal Arc Welding Shop 2 ............................ 3
WELD 1329 Gas Tungsten Arc Welding Shop 2 ........................ 2
WELD 2101 Layout and Fabrication 1 .................................... 4
WELD 2103 Advanced Tungsten Arc Welding Shop ................. 2-4
WELD 2105 Advanced GMAW/FCAW Shop .......................... 1-4
WELD 2106 Metal Finishing Shop ........................................ 4
WELD 2111 Layout and Fabrication 2 .................................... 2
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<tr>
<th>Program</th>
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<td>Industrial Welding AAS Degree</td>
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<table>
<thead>
<tr>
<th>Elective Courses</th>
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<tr>
<td>CMAE 1528 Career Success Skills</td>
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<tr>
<td>DRTF 1002 Fundamentals of Parametric Design</td>
<td>2</td>
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<tr>
<td>GSIS 1602 Personal Financial Management</td>
<td>2</td>
</tr>
<tr>
<td>GSMS 1251 Applied Physics</td>
<td>1</td>
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<tr>
<td>GSWS 1401 Employment Preparation and Retention</td>
<td>1</td>
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<tr>
<td>GSWS 1451 First Aid/Safety</td>
<td>1</td>
</tr>
<tr>
<td>MACT 1900 Principles of Machining Operations</td>
<td>1</td>
</tr>
<tr>
<td>NDT 1502 Fundamentals of Nondestructive Testing</td>
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<table>
<thead>
<tr>
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<tr>
<td>WELD 2201 Pipe Layout and Fabrication</td>
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<tr>
<td>WELD 2203 Pipe Welding Shop</td>
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<tr>
<td>WELD 2204 Welding Qualification Shop</td>
<td>1-4</td>
</tr>
<tr>
<td>WELD 2206 Welding Fabrication Shop</td>
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<tr>
<td>WELD 2207 Welding Metallurgy and Qualifications</td>
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<td>Total Credits</td>
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| Total AAS Degree Credits        | 72      |

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<th>Certificate - Entry Level Welder</th>
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<td>Elective Courses</td>
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<tr>
<td>Required Courses</td>
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<tr>
<td>CST 1026 TCP/IP Routing</td>
<td>1</td>
</tr>
<tr>
<td>CST 1072 Windows Workstation Support</td>
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<tr>
<td>CST 1802 Helpdesk Diagnostics</td>
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</tr>
<tr>
<td>CST 1861 Command Line and Registry</td>
<td>3</td>
</tr>
<tr>
<td>CST 2274 Windows Server Install and Configure</td>
<td>3</td>
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<tr>
<td>CST 2276 Windows Server Advanced Services</td>
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<tr>
<td>CST 2284 Network Security</td>
<td>3</td>
</tr>
<tr>
<td>CST 2823 Network Intrusion</td>
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<th>Technical Elective</th>
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<tr>
<td>CMAE 1528 Career Success Skills</td>
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<tr>
<td>DRTF 1002 Fundamentals of Parametric Design</td>
<td>2</td>
</tr>
<tr>
<td>GSIS 1602 Personal Financial Management</td>
<td>2</td>
</tr>
<tr>
<td>GSMS 1251 Applied Physics</td>
<td>1</td>
</tr>
<tr>
<td>GSWS 1401 Employment Preparation and Retention</td>
<td>1</td>
</tr>
<tr>
<td>GSWS 1451 First Aid/Safety</td>
<td>1</td>
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<tr>
<td>MACT 1900 Principles of Machining Operations</td>
<td>2</td>
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<tr>
<td>NDT 1502 Fundamentals of Nondestructive Testing</td>
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<tr>
<td>WELD 1190 Fundamentals of Welding</td>
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**Programs of Study**

**Windows Administrator**

**Certificate - 20 Credits**

**Required Courses**

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<tr>
<th>Course</th>
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<tr>
<td>CST 1092 Windows Server Advanced Services</td>
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</tr>
<tr>
<td>CST 2274 Windows Server Install and Configure</td>
<td>3</td>
</tr>
<tr>
<td>CST 2284 Network Security</td>
<td>3</td>
</tr>
<tr>
<td>CST 2823 Network Intrusion</td>
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<td>Total Certificate Credits</td>
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</table>
# Accountant (ACCT)

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ACCT 1001</td>
<td>Basic Accounting Concepts I</td>
<td>1</td>
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<tr>
<td>ACCT 1002</td>
<td>Basic Accounting Concepts II</td>
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<tr>
<td>ACCT 1800</td>
<td>Business Law</td>
<td>2</td>
</tr>
<tr>
<td>ACCT 1810</td>
<td>Introduction to Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1812</td>
<td>Payroll Preparation</td>
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</tr>
<tr>
<td>ACCT 1814</td>
<td>Payroll Accounting</td>
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<tr>
<td>ACCT 1815</td>
<td>Principles of Accounting I</td>
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<tr>
<td>ACCT 1816</td>
<td>Principles of Accounting II</td>
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<td>ACCT 2814</td>
<td>Cost Accounting I</td>
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<tr>
<td>ACCT 2821</td>
<td>Intermediate Accounting I</td>
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<tr>
<td>ACCT 2823</td>
<td>Intermediate Accounting II</td>
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<tr>
<td>ACCT 2831</td>
<td>Accounting Math and Calculators</td>
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<tr>
<td>ACCT 2834</td>
<td>Computer Accounting Applications</td>
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<td>ACCT 2837</td>
<td>Spreadsheet Concepts &amp; Applications</td>
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<tr>
<td>ACCT 2842</td>
<td>Income Tax</td>
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</tr>
<tr>
<td>ACCT 2845</td>
<td>Auditing</td>
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</table>

ACCT 1001 Basic Accounting Concepts I
This course is an introduction to the fundamental accounting concepts and principles, which are used in a business environment to analyze, and record transactions through a complete accounting cycle using the accrual method of accounting. The course focuses on fundamental concepts of accounting for business or nonbusiness students.

ACCT 1800 Business Law
This is an introductory course in the principles of law as they apply to citizens and businesses.

ACCT 1810 Introduction to Accounting
This course is an introduction to Generally Accepted Accounting Principles (GAAP). Students are introduced to the accounting equation and the accounting cycle. This course includes a discussion of the following: a review of the accounting cycle, the conceptual framework of accounting, and the basic financial statements including the income statement and balance sheet.

ACCT 1812 Payroll Preparation
This course includes the study of the various state and federal laws pertaining to payment of salaries and wages, including preparation of employment records, payroll registers, employee earnings records, time cards, and state and federal reporting requirements.

ACCT 1814 Payroll Accounting
This course is a study of the various state and federal laws pertaining to payment of salaries and wages, including preparation of employment records, payroll registers, employee earnings records, time cards, and state and federal reporting requirements. This course includes incorporating payroll liabilities and expenses into the general ledger and the subsequent reporting in financial statements and reports.

ACCT 1815 Principles of Accounting I
This course is an introduction to the fundamental accounting concepts and principles which are used in a business environment to analyze and record transactions through a complete accounting cycle using the accrual method of accounting.

ACCT 1816 Principles of Accounting II
This course covers an analysis and the recording of transactions relating to partnerships, inventory methods, receivables, temporary investments, current and contingent liabilities, plant assets, intangible assets, the budget process, management reports, and corporate organizations. Prerequisite: ACCT 1815 or BUS 2240.

ACCT 1831 Accounting Math and Calculators
In this course students will apply math functions to the solution of business problems using a calculator.

ACCT 1834 Computer Accounting Applications I
This course is an introduction to the use of the computer for general ledger accounting functions for a typical business organization. The course deals with training software in a structure mode and the use of general ledger production software and simulated source documents. Prerequisite: ACCT 1815 or BUS 2240 or consent of instructor.

ACCT 1837 Spreadsheet Concepts & Applications
This course covers the basic concepts of spreadsheet construction and use, using Lotus 1-2-3 and EXCEL. Included is cell contents, the use of spreadsheet commands, creation of reports, and printing of graphs to convey general business information.

ACCT 1842 Income Tax
This course will cover an explanation and an interpretation the Internal Revenue Code for preparation of individual federal tax return.

ACCT 2821 Intermediate Accounting I
This course provides an overview of financial accounting. Students will review the accounting process and the basic financial statements: income statement, balance sheet and statement of cash flows. It also begins the study of specific assets/cash and temporary investments and receivables and temporary investments, receivables, and inventories. Prerequisites: ACCT 1815 or BUS 224 and ACCT 1816.

ACCT 2823 Intermediate Accounting II
A continuation in the comprehensive study of financial accounting theory and concepts/plant and intangible assets, long-term investments, current and long-term liabilities, leases, pensions, owners' equity, and accounting for income taxes. Prerequisite: ACCT 2821.

ACCT 2831 Accounting Math and Calculators
In this course students will apply math functions to the solution of business problems using a calculator.

ACCT 2833 Database Concepts & Applications
This course covers the utilization of a professional database system to emphasize the components, structure, and application of database concepts in accounting and business applications. Prerequisite: ADS 1030.

ACCT 2845 Auditing
This course is a study of the methods and procedures used in financial audits to attest to the completeness and reliability of financial statements of a business or other economic entity. Students will examine the issues of internal control procedures, audit sampling techniques and legal liability. Prerequisite: ACCT 2821.
ACCT 2847  3 Credits
Fund/Non-Profit
This class is a study of the application of generally accepted accounting principles for governmental and not-for-profit entities.

**Activity Director (ADR)**

**Activity Director (ADR)**
ADR 1005  1-3 Credits
**Professional Enrichment for the Activity Director/Assistant**
This class will provide the student with hands-on professional and educational experiences in the activity profession. Students not working in an activity program will have the opportunity to visit and explore various aging facilities, organizations, and events. They will work with activity professionals in a real activity department and program to learn how activities are designed, planned, and implemented. The student who is working in an activity program will participate in professional experiential learning events linked to curriculum-based learning that supports national certification requirements. All students will complete meaningful service learning projects in their community. This course may be taken in 1-credit increments.

ADR 1010  2 Credits
**Cultures in the Workplace**
This course covers an anti-bias, multi-cultural approach to attitudes, knowledge and skills necessary for working in a complex, diverse world. In addition, the importance of communication and relationships within the workplace will also be addressed.

ADR 1015  3 Credits
**Activity Ideas**
The ability to create and apply activity ideas and resources is an essential skill for activity professionals. In this course, students will create a resource file of activity ideas and resources, experience working as a team in designing and implementing a special event, and identify how to establish an activity department.

ADR 1045  2 Credits
**Computer/Machine Technology**
This course covers computer technology and allows the student hands-on practice using software designed for the Macintosh and the PC which can be used in a variety of situations appropriate for activity staff. Also covered are skills needed to operate various pieces of audio and video equipment used on the job.

ADR 1155  1 Credit
**Crisis Intervention**
This course will train students how to safely manage disruptive and assaultive behavior. Along with proven methods for defusing explosive behavior, students will learn how to handle most any type of threatening or challenging situation with minimal anxiety and increased confidence.

ADR 1180  1 Credit
**Employment Readiness**
The work environment undergoes constant change. To be prepared to meet those changes, students, as prospective employees, must be able to evaluate their strengths, skills, and abilities. They need to be able to match those to a career, and they need to be able to investigate, locate, and obtain employment in that career area. This course is designed specifically for persons desiring work in the human service occupation area. Students will create resumes, cover letters, follow-up letters, and employment portfolios. They will have an opportunity to complete a practice interview in their career field.

ADR 1405  2 Credits
**Activity Program Development**
This course introduces students to how leisure styles are developed and the implication they have on developing activity programs. In addition, the course covers activity assessments and leisure surveys as foundations to developing programs and the importance of activity analysis.

ADR 1410  2 Credits
**Community Agencies and Organizations for Older Adults**
This course explores agencies, organizations and services available for the aging population. Topics covered include funding and regulatory issues, Professional organizations and other aging service issues are also covered.

ADR 1420  3 Credits
**Activity Interventions**
This course covers various intervention techniques that activity professionals use in working with the elderly. Included in this course are the discussion and demonstration of sensory stimulation, reality orientation, validation therapy, and communication skills for working with the elderly. This course includes an introduction to music therapy, pet therapy, art therapy, horticulture therapy, and other therapeutic interventions.

ADR 1500  4 Credits
**MEPAP Part 1: Basic Activity Program**
This course is approved by the National Certification Council for Activity Professionals (NCCAP #25126-18-Mz-NT) and meets the modular education program required for certification. The four main units will provide the student with the basics of planning and delivering activities across the continuum of care, understanding on health and social issues in aging, care planning for quality of life and the evolution of the activity professional and healthcare organizations.

ADR 1501  2 Credits
**Introduction to Activities and Aging Services**
This course introduces students to how leisure styles are developed and the roles they have in different elderly settings and services. The student will also be introduced to agencies and organizations within the continuum of care, regulatory compliance in these settings and professional organizations.

ADR 1502  2 Credits
**Health and Social Issues in Aging**
This course explores human development in the later adult years. Areas covered are universal needs and changes in the elderly regarding psychosocial, physical and cognitive need, common disorders, and how intervention technique can be used when working with the elderly in different settings.

ADR 1503  2 Credits
**Activity Care Planning and Documentation**
This course covers the care planning and documentation requirements for the activity department with an in-depth review of federal and state requirements for long-term care and other elderly settings. Students will learn the procedure of completing assessments, how to identify resident’s needs and interests, and how to write goals and progress notes. Other types and forms of activity documents such as attendance records, policy and procedures, and department records will also be covered.
ADR 1504 2 Credits
Activity Calendar Planning and Program Delivery
This course covers the basics of calendar and program planning and design by identifying basic activity programming areas, preparation of activity groups, developing resources, thematic programming, and the delivery of programs in different elderly settings. Also covered in this course are methods and ways to promote and motivate activity participation. The student will understand the philosophy and process for developing an activity program, and build a resource file for planning activity programs.

ADR 1520 4 Credits
MEPAP Part 2: Activity Management Course
This course is approved by the National Certification Council for Activity Professionals (NCCAP #25126-18-M2-NT) and meets the modular education program required for certification. The four main units will provide the student with the basics in managing the activity department, evaluation of the activity program and services, leadership, communication and volunteer management.

ADR 1521 2 Credits
Intro to Activity Management
This course will introduce the student to the role of an activity director. Topics such as professionalism, responsibility, accountability, ethical issues, and leadership style will be covered to provide students with a foundation and an understanding of their position and the changes that occur in the profession.

ADR 1522 2 Credits
Activity Department Management Skills
This course covers the skills of administrative management and leadership skills that are important for activity directors and managers to have. Topics include personal management, quality assurance, budgeting, policy and procedures, working with staff, and organization of time.

ADR 1523 2 Credits
Communication Skills for Activity Managers
This course covers communication skills that are essential for activity directors and managers. Topics covered include: communication process model, listening skills, verbal/nonverbal communication, feedback, written communication, leading meetings, problem solving, and planning staff in-services and training.

ADR 1524 2 Credits
Volunteer Management
This course will cover the basics of establishing and running an effective volunteer program. Topics include identifying and recruiting volunteers, developing a training and orientation program, managing volunteers on the job, and recognizing and evaluation of volunteers. Students will have the opportunity to practice learned volunteer management skills through hands-on-projects.

ADR 1605 3 Credits
Introduction to the Health Support Specialist
This course will provide students with an orientation to the role of Health Support Specialist (HSS). Topics will include; history of aging services, Culture Change, implementing person directed living in the health care setting and participation in a mentorship and apprenticeship model of training. Effective communication skills needed to work with families, residents, and other health-care workers will be explored. Prerequisites: Nursing Assistant; Acceptance into the HSS program within 3 months of starting class with approved contract with chosen facility for apprenticeship.

ADR 1610 1 Credit
Role of HSS in Activities
This course provides direct caregivers with the fundamental knowledge, skills and resources for engaging residents in activities designed to meet their needs and interests that enhance meaningful quality of life in a healthcare setting. This course will also focus on providing opportunities for planning and leading activities in small and large group programs and through one-to-one encounters in daily life in the neighborhood. Prerequisites: Nursing Assistant certificate and acceptance into the HSS program within 3 months of starting classes with approved contract with chosen facility for HSS.

ADR 1615 1 Credit
Role of Health Support Specialist in Memory Care
This course will explore the aging process as it relates to the resident who has memory loss and/or Dementia related diagnosis. Topics will include changes affecting communication skills and daily routines, recognizing common behaviors associated with memory loss, and implementing behavior interventions. The course will also introduce the student to methods for involving the family in decisions that provide purposeful living for the resident. Prerequisite: Nursing Assistant certificate and acceptance into the HSS program within 3 months of starting classes with approved contract with chosen facility for HSS.

ADR 1620 1 Credit
Role of Health Support Specialist in Culinary Care
This course will provide the student with basic culinary information that will help them plan for and meet individuals’ nutritional needs in a person-directed environment. Basic nutritional concepts, food safety, and leadership skills will be covered. Prerequisite: Nursing Assistant certificate and acceptance into the HSS program within 3 months of starting classes with approved contract with chosen facility for HSS.

ADR 1625 1 Credit
Role of Health Support Specialist in Physiological Care
This course introduces the student of the basic body systems and changes that occur as the body ages. Body systems are explored for the influences and implication of aging, prevalent disorders and diseases, and common alterations in function. Recognizing the impact that physiological changes have on an individual is highlighted to address person-directed living. Strategies and rationale for managing physiological alterations and promoting prevention and healthy aging within the scope of the Health Support Specialist will be addressed. Prerequisite: Nursing Assistant certificate and acceptance into the HSS program within 3 months of starting classes with approved contract with chosen facility for HSS.

ADR 1630 1 Credit
Role of Health Support Specialist in Psychosocial Care
In this course, students will explore the psychosocial dimensions of aging to promote quality of life and person-directed living. Loss and transition, end-of-life care, and advanced care planning will be addressed. Student will examine the emotional, social, and spiritual dimensions of holistic psychosocial care including strategies to recognize and support the individual and family needs and wishes. Prerequisite: Nursing Assistant certificate and acceptance into the HSS program within 3 months of starting classes with approved contract with chosen facility for HSS.

ADR 1635 1 Credit
Role of Health Support Specialist in Environmental Services
This course will cover the basics in providing a clean and safe environment in a care facility. Topics include basic housekeeping practices, laundering procedures, and simple maintenance tasks required within the guidelines of facility policies and procedures and comply with OSHA, state, and federal regulations. Prerequisites: Nursing Assistant certificate and acceptance into the HSS program within 3 months of starting classes with approved contract with chosen facility for HSS.
Course Descriptions

ADR 1700 3 Credits
Standards of Practice in Activities
This class will address standards of practice essential for the activity professional. Topics include regulatory compliance, professional organization standards, competencies for the activity professional, ethical decision making, professionalism, and credentialing.

ADR 1760 1 Credit
Introduction to Alzheimer's Disease
This course is specifically designed for individuals working with people who have Alzheimer's disease and related disorders. An explanation of Alzheimer's disease will be covered as well as behaviors, problem solving, ADL assistance, communication and intervention skills, and promoting quality of life.

ADR 1800 3 Credits
Project Management for the Activity Professional
The course introduces the student to project management principles and practices, key roles and responsibilities of the project manager, and the steps in planning, implementing and evaluating projects. Student will have a hands-on opportunity to build a project plan for their activity department.

ADR 2800 1-5 Credits
Professional Development
This course provides the student with a personally designed learning opportunity that is occupationally focused and aligned with the professional development plans of the student. Variable credits will allow flexibility in the various learning experiences as outlined and agreed upon between the student, instructor, and other entities as needed.

ADR 2900 1-10 Credits
Internship
This course is a cooperative internship between the Ridgewater College Activity Director/Activity Assistant program and an eldercare facility. This opportunity allows the student a hands-on experience to apply the knowledge and skills learned throughout the program courses.

ADR 2910 1-4 Credits
Internship
This course is a cooperative work study program between the Ridgewater College Activity Director department and an elder care facility. This opportunity allows the student an employment-like work experience. This internship is specifically for students completing the AAS degree.

ADR 2950 1-6 Credits
Special Topics/Projects
This course allows the student to complete a course of study on a special topic or project with the approval of the instructor. Under direction of the instructor, the student will complete assigned projects.

ADMINISTRATIVE SUPPORT CAREERS (ADS)

ADS 1016 2 Credits
Fundamentals of Keyboarding
Using the computer, the student will learn the alphabetic and numeric keys on the keyboard using the touch technique.

ADS 1004 1 Credit
Statistical Typing
This course covers the typing and tabulating of numbers. Both the numbers above the keyboard and the numeric keypad will be used. Prerequisite: ADS 1007

ADS 1006 2 Credits
Keyboarding for Non-Business Majors
This course introduces the development of basic keyboarding techniques. Emphasis is on building speed and accuracy. Basic skills in the formatting of business letters and proofreading of documents will be practiced through the use of a word processing program.

ADS 1007 2 Credits
Keyboarding
This course introduces the development of keyboarding techniques using the touch method. Emphasis is on building speed and accuracy using proper keyboarding techniques. Basic formatting concepts and proofreading skills are introduced through the use of a word processing program.

ADS 1008 2 Credits
Keyboarding II
This course covers the typing and tabulating of numbers. Both the numbers above the keyboard and the numeric keypad will be used. Prerequisite: ADS 1007

ADS 1009 3 Credits
Business Communications
This course develops foundation business-writing skills that competent employees need to be competitive in the workplace. It is an extensive, comprehensive study of English grammar, punctuation, spelling and vocabulary. The emphasis is on a review of basic grammar usage and punctuation for writing and editing in a business environment.

ADS 1012 3 Credits
Written Business Communications
This course will expose students to the necessary written communication requirements for various business settings. Emphasis is on purpose, planning, content, and writing business correspondence using a variety of styles. Strategies will also include writing in the digital age such as workplace instant messaging and texting, making Podcasts and Wikis work for business, blogging for business and Social Media.

ADS 1016 1 Credit
Excel I
This course utilizes Microsoft Excel spreadsheet software for business applications. Procedures used include: document creation, storage and retrieval, major editing, printing, merging of documents, segments and variables.
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADS 1017</td>
<td>1</td>
<td>Excel II</td>
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<td>This course introduces the student to managing work books, creating charts and maps, managing data, macros, and analyzing worksheet data. It is recommended that students have a basic knowledge of spreadsheets equivalent to the learning outcomes in ADS 1016 - Excel I or have taken ADS 1016.</td>
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<td>ADS 1020</td>
<td>4</td>
<td>Administrative Office Procedures</td>
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<td>This course covers the integration of office tasks with office equipment. Topics covered include knowledge of office equipment, telephone/voice mail procedures, e-mail procedures, electronic calendaring, filing, computer file management, meeting arrangements, ethics, daily mail routine, and business document preparation. Virtual office environments and work environments will also be covered. It is recommended that students have a basic keyboarding skill equivalent to ADS 1016 and ADS 1007 or be concurrently enrolled in this course and ADS 1007.</td>
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<tr>
<td>ADS 1022</td>
<td>2</td>
<td>Business Law</td>
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<td>This course covers the principles of law as they apply to citizens and businesses. Topics include the court system, legal system, contracts, negotiable instruments, agency, and employer/employee relationships.</td>
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<td>ADS 1026</td>
<td>3</td>
<td>Access</td>
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<td>Microsoft Access is a powerful database management system that functions in the Windows environment. Students will learn how to use this software to create a database; add, change, and delete data in the database; sort and retrieve the data; and create forms and reports using the data.</td>
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<tr>
<td>ADS 1027</td>
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<td>Business Environment</td>
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<td>This course includes topics that orient office professionals to the current business environment. Included is foundational knowledge in the area of business ethics, accounting concepts, the global marketplace, cultural diversity, workplace safety, and other topics relevant to the business office environment.</td>
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<tr>
<td>ADS 1028</td>
<td>1</td>
<td>Excel III</td>
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<td>This is the third course in a sequence of one-credit Microsoft Excel courses designed primarily for students wishing to learn Microsoft Excel spreadsheet software in one-credit increments. Students will work with external data sources, consolidate data and link workbooks, create PivotTables and PivotCharts, and work with templates. It is recommended that students have a moderate knowledge of spreadsheets equivalent to the learning outcomes in ADS 1016 Excel I and ADS 1017 Excel II or have taken ADS 1016 Excel I and ADS 1017 Excel II.</td>
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<tr>
<td>ADS 1039</td>
<td>2</td>
<td>Introduction to the Internet</td>
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<td>Use the Internet to access information, conduct searches, and display Web pages. Course covers browsers, search engines, e-mail, FTP, copyright laws on the Internet, etc. It is recommended that students have a basic knowledge of computers or have taken CSCI 1302 or its equivalent.</td>
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<tr>
<td>ADS 1040</td>
<td>2</td>
<td>Office Accounting Concepts</td>
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<td>Introduction to the basic accounting procedures including analyzing business transactions; recording transactions in general journals; preparing financial statements, petty cash applications, purchase orders, invoices; and completing of the accounting cycle. This course provides a strong foundation for a student entering a business environment.</td>
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<tr>
<td>ADS 1045</td>
<td>1</td>
<td>Computerized Accounting Basics</td>
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<td>Introduction to the basic computerized accounting procedures including working with customer and vendor transactions and managing banking functions. The student will use a basic accounting software such as QuickBooks. It is recommended that students have completed ADS 1040 or have an understanding of accounting principles, including debits and credits and basic accounting statements such as balance sheets and income statements.</td>
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<tr>
<td>ADS 1053</td>
<td>3</td>
<td>Excel</td>
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<td>This course is designed to teach fundamental spreadsheet skills to beginning and intermediate level students. The course will focus on learning how to input data, perform calculations, control text, numeric and graphic elements; as well as creating charts, graphics, and macros.</td>
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<tr>
<td>ADS 1110</td>
<td>3</td>
<td>Anatomy and Physiology</td>
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<td>This is a one-semester introductory level Human Anatomy and Physiology course designed to assist the student in developing a basic understanding of the normal structure and function of the anatomy and physiology of the major body systems as well as a basic structure of the human body from the cellular level to the tissue level. Such knowledge is basic to understanding common disease processes.</td>
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<tr>
<td>ADS 1120</td>
<td>3</td>
<td>Medical Terminology</td>
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<td>This course shows students how to recognize and build medical terms after learning the meaning of the word parts, prefixes, and suffixes. The course is based on a body systems approach with a focus on spelling, definitions and pronunciation of commonly used medical terms. Students will also learn how to interpret and use common medical abbreviations and symbols.</td>
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<tr>
<td>ADS 1140</td>
<td>3</td>
<td>Pharmacology</td>
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<td>This course introduces the coding student to basic pharmacology concepts and drug categories as related to current coding guidelines. A review of basic math, drug information sources, drug standards and legislations, pharmaceutical preparations and prescriptions will also be covered. Students will also learn the study of drugs according to classification and/or body systems. Emphasis is placed on commonly used drugs and their effects on body systems. Drug reference utilization is included. Prerequisite: HIMC 1110 or ADS 1110</td>
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<tr>
<td>ADS 1201</td>
<td>4</td>
<td>Civil Litigation and Criminal Law</td>
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<td>This course covers the legal terminology, procedures, and documents used in the practice of civil litigation and criminal law.</td>
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**Course Descriptions**

**ADS 1202**
**Corporate and Real Estate Law**
3 Credits
This course covers the legal procedures, documents, and terminology relating to real estate and corporate law. Real estate law includes ownership methods, legal descriptions, transfer and financing documents. Corporate law includes major business ownership structures and the documents and formalities followed in each.

**ADS 1203**
**Family Law and Estate Planning/Probate**
4 Credits
This course covers the legal terminology, procedures, and documents used in the practice of family law and estate planning and probate administration.

**ADS 1204**
**Legal Documentation**
3 Credits
This course covers the drafting and editing of mailable legal documents and transcription of dictated material using word processing software. Emphasis will be on utilizing legal forms and materials, legal terminology, building accuracy in document keying, editing, and proofreading. Prerequisite: ADS 1007 or passing keyboarding testing score. Co-requisites: ADS 1201, ADS 1202, ADS 1203.

**ADS 1205**
**Legal Office Management**
3 Credits
This course is an integration of legal office tasks into the electronic office setting. Emphasis will be placed on computer software applications used in legal office scheduling, docket control, time and expense records, and billing. It is recommended that students have a basic knowledge of office procedure or have taken ADS 1200 or ADS 1020.

**ADS 1303**
**Pharmacology in the Medical Office**
3 Credits
This is an advanced course in medical terminology with emphasis placed on definitions of medical/pharmaceutical words as well as accurate spelling of medical/pharmaceutical terminology. Laboratory, X-ray, and pharmacology terminology will be explored in detail. Students will also have the opportunity to practice the pronunciations of medical and pharmacology terminology in a lab setting. Prerequisites: ADS 1300 and ADS 1301 or equivalent or ADS 1300 and BIOL 2100 or equivalent.

**ADS 1304**
**Medical Transcription, Quality Management and Production**
3 Credits
This introductory course to medical transcription provides students an understanding of the various medical reports used, transcribing and formatting them into usable medical documents. Emphasis is directed toward accuracy, building speed, proofreading, correcting errors and quality and production management techniques. Prerequisites: ADS 1300 and ADS 1301 or instructor approval.

**ADS 1305**
**Medical Transcription II**
3 Credits
This course covers the transcription of advanced dictated medical material using word processing equipment into a variety of usable medical documents. Emphasis will be on building accuracy and speed, advanced editing, proofreading, and correcting errors. Prerequisite: ADS 1310 or instructor approval.

**ADS 1306**
**Medical Office Management**
3 Credits
This course is an integration of medical office tasks into the electronic office setting. Topics covered include medical office management career opportunities and advancement, professionalism, confidentiality, medical law and ethics, telephone techniques, appointment scheduling, professional office activities/responsibilities.

**ADS 1312**
**Medical Transcription III**
3 Credits
This course covers the transcription of advanced dictated medical material using word processing equipment into a variety of usable medical documents. Emphasis will be on building accuracy and speed, advanced editing, proofreading, and correcting errors. Prerequisite: ADS 1310 or instructor approval.

**ADS 1323**
**Electronic Health Record Technology**
4 Credits
This course presents both manual and electronic records management application and principles in the administrative, financial, reimbursement, and clinical patient environments including generally-accepted business practices. Emphasis is placed on legal, regulatory, and accrediting guidelines for security, control, ownership, and access to records including HIPAA and HITECH standards for hospitals, clinics, and alternative healthcare delivery systems utilizing an electronic health record. Role of the health information professional and how AHIMA’s role is integral to the healthcare delivery system is discussed. Students will be required to collect, maintain, manage, and utilize EHR functions for patient care, reimbursement, financial and administrative purposes. Students will be required to apply and practice HIPAA, ROI, and legal requirements in a simulation patient care setting utilizing an EHR. Co-requisite: GSCI 1401.

**ADS 1670**
**HTML**
2 Credits
This course covers the concepts of HTML. Hypertext Markup Language is the standard language in which all pages on the Web are written. Students will learn the basic concepts of creating and publishing Web pages.

**ADS 2010**
**Desktop Publishing**
2 Credits
This course covers the theory and application of design principles. The student will use Microsoft Publisher to enhance the readability of documents such as letterheads, business cards, flyers, brochures, newsletters and promotional materials. Prerequisite: ADS 2030.

**ADS 2015**
**Introduction to Project Management**
2 Credits
This course covers concepts of project management. A project plan will be created which provides the road map to develop, implement, control and close your project. The importance of establishing timelines and budgets will be covered, as well as the methods used to monitor and control schedules. The need for time management and team building will be covered as they relate to project management.

**ADS 2030**
**Word**
3 Credits
This course introduces the students to word processing features and techniques. Students will learn to create, edit, format, save, print, and retrieve documents. Students will create common business documents that include the creation of tables, columns, use of templates, as well as produce mail merged documents. Inserting and formatting of graphics and charts are introduced. It is recommended that students have a basic business keyboarding skill equivalent to ADS 1016 and ADS 1007 or be concurrently enrolled in this course and ADS 10077.

**ADS 2045**
**Advanced Word Processing**
3 Credits
This course introduces the student to desktop publishing using advanced word processing features and design concepts. Designed for students already familiar with word processing, students will learn how to create professional-looking documents. Students will plan, design, and evaluate their own documents and integrate decision-making and problem-solving skills throughout the course. Prerequisite: ADS 2030.
ADS 2090  2-6 Credits
Administrative Support Internship
This course is designed to provide the student with a purposeful occupational experience in the administrative support field. Each internship is an individualized experience related to the skills and knowledge acquired in the program. Prerequisite: Consent of instructor

ADS 2201  3 Credits
Legal Research
This course covers the resources available in a legal office. Resources for legal research stressed include texts, computerized research, and Internet access to legal information. The course also covers the procedures followed on appeal and citation usage. It is recommended that students have a basic knowledge of civil litigation equivalent to the learning outcomes in ADS 1201 or have taken ADS 1201.

ADS 2202  2 Credits
Advanced Legal Practices
This course covers advanced legal procedures; use of terminology; and document preparation relating to civil actions, worker’s compensation, alternative dispute resolution and bankruptcy proceedings in Minnesota. It is recommended that students have a basic knowledge of civil litigation procedures equivalent to the learning outcomes pertaining to civil litigation in ADS 1201.

ADS 2290  2-6 Credits
Legal Assistant Internship
This course is designed to provide the student with a purposeful occupational experience in the legal administrative assistant field. Each internship is an individualized experience related to the skills and knowledge acquired in the program. Prerequisite: Instructor approval

ADS 2313  3 Credits
Medical Machine Transcription III
This course covers the transcription of advanced dictated medical material into a variety of usable medical documents using word processing equipment. Emphasis will be on building speed and accuracy, advanced editing, proofreading, and correcting errors. Prerequisite: ADS 1312 or instructor approval

ADS 2322  3 Credits
Medical Insurance and Reimbursement
This course covers the insurance/financial aspect of management of the medical office. Topics covered include preparation, processing, and auditing of insurance claims via electronic methods; medical insurance terminology; understanding of different insurance programs and payment systems; coding for reimbursement systems; accounts payable; accounts receivable; credit and collections; and miscellaneous banking activities.

ADS 2390  Healthcare Administrative Assistant Internship
This course is designed to provide the student with a purposeful occupational experience in the medical secretary field. Each internship is an individualized experience related to the skills and knowledge acquired in the program. Prerequisite: Instructor approval

ADS 2950  1-3 Credits
Special Projects/Topics
This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be able to enroll in this course.

Agriculture (AGRI)

AGRI 1110  3 Credits
Introductory Soil Science
This course covers the concepts of soil formation, soil types, soil conservation, soil and water relationships, soil fertility, and basic soil chemistry. Soil test information provided by the student will be used to develop fertility plans which utilize various sources of fertility such as crop rotations, manure, and chemical fertilizers.

AGRI 1120  3 Credits
Introduction to Agronomy
This course is an introduction to basic agronomy and covers the plant growth and development of monocot and dicot plants. Students will learn the basic plant anatomy and growth stages, methods of plant reproduction and seed production, plant response to weather and other environmental factors.

AGRI 1130  3 Credits
Agroecology
This course covers a whole systems approach to agriculture and food systems development based on traditional knowledge, alternative agriculture and local food system experiences. This course will focus on a whole systems approach to food, feed, and fiber production that balances environmental soundness, and economic viability. Topics covered in this course will include the conservation of soil, soil fertility, water and energy as well as the management of ecological relationships as they relate to agriculture.

AGRI 1250  3 Credits
Farm Records and Business Analysis
This course covers general principles involved in the organization, operation, and decision making of the farm business. Basic accounting principles will be applied by entering financial and production data on computer farm record keeping systems using calculation procedures used in partial and enterprise budgets in farm business.

AGRI 126  3 Credits
Introductory Animal Science
An overview of the livestock industry with emphasis on the production of meat and dairy products including breeding, feeding, nutrition, management, marketing, housing and animal health.

AGRI 127  3 Credits
Sustainable Livestock Management
This course covers the integration of livestock as part of a sustainable farming system with emphasis on small-scale production for niche markets and pasture. Topics included are appropriate breed selection, sources of nutrition and living requirements for livestock such as dairy cattle, beef cattle, goats, hogs, sheep and poultry. Upon completion, students should recognize appropriate breeds for their farm needs and demonstrate an understanding of the role of livestock in a sustainable production system.

AGRI 1280  3 Credits
Animal Nutrition
This course provides basic information about the fundamentals of nutrition and the essential nutritional requirements of livestock, classifications and nutritional characteristics of feedstuffs, methods of evaluating feedstuffs, and comparative study of digestive system of farm animals.
AGRI 1001  
**Ag Orientation**  
This course teaches those skills that contribute to the success of an Ag department student and future employee in the field of agriculture. The student will better define career objectives using goal setting and decision-making strategies.

AGRI 1201  
**Applied Mathematics for Agricultural Careers**  
This course is designed for students preparing for agricultural careers. Topics covered include numbers, decimals, fractions, percentages, ratios and proportions, area, volume, English and Metric measurements, and basic algebra, geometry, and trigonometry in the practical application for mathematics to farm and/or agri-business situations, including the areas of agronomy, animal science, agribusiness, and farm buildings.

AGRI 1210  
**Dairy Cattle Breeding and Reproduction**  
This course provides an overview of the dairy industry. Topics include dairy cattle anatomy, physiology, genetics, corrective mating, linear evaluation, reproduction and records. Emphasis is placed on production, costs, marketing and management, DHIA records, and production records.

AGRI 1211  
**Artificial Insemination for Cattle**  
This course covers artificial insemination of dairy and beef cattle and is presented by an artificial insemination company representative.

AGRI 1212  
**Dairy Evaluation**  
This course covers on-site evaluation of dairy management including business, housing, feeding, equipment, cattle, and milking management. This is a repeatable course for up to 2 credits.

AGRI 1220  
**Dairy Facilities and Equipment**  
This course covers dairy cattle housing and related equipment such as building requirements, ventilation, layout, stall sizes and types, cow comfort and feed handling/storage. Also covered is milking equipment and related dairy facilities. The National Mastitis Council milking equipment evaluation will be taught.

AGRI 1221  
**Milker Training**  
Practical training on the production of quality milk. Hands-on opportunity to evaluate milking routine, milking protocol, milking equipment, and how to use milk quality monitors.

AGRI 1230  
**Raising Dairy Replacements**  
This class covers all aspects of dairy heifer raising and management from pre-birth and the calving process to calving at 24 months.

AGRI 1240  
**Dairy Cattle Anatomy, Physiology & Health**  
The anatomy and physiology of dairy cattle as it relates to health. All major dairy cattle diseases will be covered: description, symptoms, prevention, and treatment.

AGRI 1241  
**Cattle Health Lab**  
This course covers health management techniques for dairy and beef cattle. Students will be involved in on farm exercises such as physicals, hoof care and trimming, ketosis diagnosis, monitoring rumen function, DA diagnosis, urine pH, identifying and diagnosing sick cattle injections, drawing blood, administering IVs, dehorning, castrating, administering drugs, and other activities associated with the health of animals. Students will perform data entry, and generate and analyze reports using Dairy Comp 305 and PC Dart. Students will be able to apply what they learn using data from their own farms. Co-requisite: AGRI 1240

AGRI 1242  
**Palpation and Ultra-sounding of Dairy Cattle Lab**  
Principles of palpation and ultra-sounding dairy cattle for pregnancy diagnosis will be covered.

AGRI 1243  
**Embryo Transfer**  
Principles of embryo transfer will be covered, including hormone therapy. Students will learn how to transfer both frozen and fresh embryos to recipient cattle. Equipment lease service fee. Prerequisite: AGRI 1211

AGRI 1244  
**Hoof Trimming**  
Upon successful completion of this course, the student will understand the anatomy of the lower leg and hoof, understand the major cause of lameness, develop skills on functional hoof trimming, blocking, and treatment protocols. Students will work on cadaver hooves and live animals.

AGRI 1251  
**Dairy Capstone**  
Designed for individuals who want to become dairy herd managers. This class covers managerial topics on feed technician, reproduction technician, health technician, milker technician, financial manager, assistant manager, and lead herdsman.

AGRI 1260  
**Dairy Seminar I**  
Dairy professionals will present information on the latest technologies in the dairy industry.

AGRI 1261  
**Dairy Seminar II**  
Dairy professionals will present information on the latest technologies in the dairy industry.

AGRI 1270  
**Dairy Nutrition**  
Students will learn the proper feeding and management of replacement heifers, dry cows, transition cows, fresh cows and lactating cows. They will also learn how to balance rations.

AGRI 1283  
**Dairy Herd Management III**  
Students are expected to work on the campus partnership farm for a selected number of hours/days. Students will be expected to learn approved practices and protocols in all phases of dairy herd management.

AGRI 1520  
**Computers in Agriculture**  
This course will cover Excel operations and applications as they relate to agribusiness and farm use. Topics include: use of math, logical and statistical functions, exploration of templates, editing and creation of spreadsheets.
AGRI 1521  
Computers/Spreadsheets  
3 Credits  
Students will learn how to use spreadsheets as a tool. The class will begin with basic spreadsheet functions and operations and move to more complex database management. Microsoft Excel will be used to teach students the many agricultural applications for which spreadsheets can be used. Students should have a good understanding of the Windows operating system and basic computer skills before enrolling in the class.

AGRI 1540  
Personnel Management for Agricultural Producers  
1 Credit  
Personnel management techniques for farm managers are presented in this course. These include recruiting, hiring, evaluation, documentation, promotion and termination of farm workers. Employee motivation, delegation and conflict resolution are also discussed.

AGRI 1550  
Introduction to Ag Business  
2 Credits  
This course provides an introduction to the business of agriculture, an overview of the food and fiber industry on both the U.S. and global levels. Students will be introduced to basic management concepts and the types of agribusinesses with an emphasis on cooperatives.

AGRI 1551  
Ag Business Procedures and Records  
3 Credits  
This course covers the following business procedures common to agri-business: preparation of sales tickets, discount policies, computer coding, accounts receivable records, product pricing, inventory records, sales tax, and purchase orders. An ag-business procedure simulation is included using Agvance software.

AGRI 1552  
Ag Business Credit and Finance  
2 Credits  
This course will cover financial statements as they relate to agribusinesses. Students will learn how agribusinesses use financial statements to analyze the financial health of a business. This course will give students a basic understanding of how to manage working capital and obtain financing. This is a basic accounting class for non-financial managers.

AGRI 1553  
Agri-Business Management & Marketing  
3 Credits  
This course provides the foundation of business knowledge that can enable students to utilize their talents. It introduces the tools used in organizing, planning, and managing a business - including preparing a business plan.

AGRI 1580  
Ag Sales & Service  
3 Credits  
This course will cover the basic principles and techniques for selling agricultural products and services and providing customer service. Selling skills will emphasize the problem-solving approach.

AGRI 1621  
Farm Management I  
3 Credits  
This course will cover the general principles involved in the organization, operation, and decision making of a farm business. Basic accounting principles will be applied by entering financial and production data on computer farm record keeping systems. Calculation procedures used in partial and enterprise budgets in a farm business will be covered.

AGRI 1622  
Farm Management II  
3 Credits  
The procedures used in whole farm budgeting, checking on farm efficiencies, along with expansion alternatives of a farm business will be implemented. The projected whole farm cash flow budgets will be evaluated. The structure, organization and requirements for different sources of agriculture credit available for a farm business will be covered.

AGRI 1623  
Farm Management III  
3 Credits  
This class is an introduction to basic estate planning options, life insurance, probate process, wills and the economic impact of selected estate plans within a farm business. Students will use goals to analyze partnerships, corporations, operating agreements and land ownership. Also covered is the handling of farm employees in a farm business.

AGRI 1624  
Farm Management IV  
3 Credits  
This course will cover the use of farm records for income tax management and year-end analysis. Estimates of tax liability and procedures in filing income tax will be developed. Students will learn how to open and keep records with a computerized record keeping system. Financial records will be studied for measures of earnings and success factors related to farm earnings. The Annual Report of the Farm Business Management Program will be reviewed.

AGRI 1625  
Farm Management V  
3 Credits  
This course includes three diverse topics important to farm managers today: personnel management (recruiting, hiring, evaluation); supervision techniques (motivating, delegating, and conflict resolution); basic organizational and financial structure of agricultural cooperatives and the value-added impact on farmers today; and business planning needs of today’s farms.

AGRI 1628  
Applied Farm Records  
1 Credit  
Students will work independently keeping records on a home farm. They will develop an opening inventory, beginning balance sheet and depreciate schedule. Students will record the first, second, third and fourth quarter financial and production entries and will calculate an ending inventory and ending balance sheet. Students will submit their records for analysis and a one-on-one review of their year-end report.

AGRI 1640  
Ag Commodity Marketing  
3 Credits  
The basic agricultural commodity marketing concepts, terminology, applications and the mechanics of futures and options on the Chicago Mercantile Exchange are covered. Market outlets, forward pricing, hedging and other market alternatives are evaluated.

AGRI 1650  
Soils and Fertility Management  
3 Credits  
This course covers the concepts of soil formation, soil types, soil conservation, soil and water relationships, soil fertility, and basic soil chemistry. Soil test information provided by the student will be used to develop fertility plans which utilize various sources of fertility such as crop rotations, manure, and chemical fertilizers.

AGRI 1660  
Introduction to Agronomy  
3 Credits  
This course is an introduction to basic agronomy and covers the plant growth and development of monocot and dicot plants. Students will learn the basic plant anatomy and growth stages, methods of plant reproduction and seed production, plant response to weather and other environmental factors.

AGRI 1665  
Agroecology  
3 Credits  
This course covers a whole systems approach to agriculture and food systems development based on traditional knowledge, alternative agriculture and local...
food system experiences. This course will focus on a whole systems approach to food, feed, and fiber production that balances environmental soundness, and economic viability. Topics covered in this course will include the conservation of soil, soil fertility, water and energy as well as the management of ecological relationships as they relate to agriculture.

AGRI 1670  
Integrated Pest Management  
This course covers various methods of pest control and their alternatives. Safe and responsible handling of crop protection products is stressed. Growth habits and identification of common weeds, insects, and diseases will be reviewed as well as the calibration of broadcast and band applicators. The content of this course is designed to prepare students to take their commercial or private applicator test.

AGRI 1680  
Crop Scouting Techniques  
This course covers an identification of grass and broadleaf seedlings and the prominent insect pests of corn, soybeans, and alfalfa. It will also cover herbicide injury symptoms, a review of nutrient deficiency symptoms and weather related crop injuries. Field scouting techniques will also be discussed. 
Co-requisite: AGRI 1660

AGRI 1681  
Crop Scouting Techniques Lab  
This course consists of crop scouting activities done in the field at various locations throughout the summer to give the student practical field experience. Prerequisite: AGRI 1680

AGRI 1700  
Crop Protection Products  
In this course students will use crop protection guides and pesticide labels to develop recommendations for the cost effective control of weeds, insects, and diseases in corn, soybeans, and other crops. Students will practice determining the best product application rate, application timing and application method. Product modes of action, additives and resistant weeds will also be discussed.

AGRI 1720  
Corn & Soybean Production  
This course covers management practices in corn and soybean production - including plant development stages, varietal selection, seedbed preparation, planting and replanting decisions, fertilization options, weed control programs, and harvesting options. Prerequisites: AGRI 1120, AGRI 1550, AGRI 1660, AGRI 1670, AGRI 1680

AGRI 1721  
Fall Agriculture Field Experience Lab  
An on-farm implementation of farming practices as it relates to fields crops including but not limited to corn, soybeans, small grains, and alfalfa. The course will be organized to model as closely as possible real world production decisions and implementation. The students (with instructor oversight and guidance) will plan fall harvest, fall tillage methods, input amounts and timing. Students will also be required to (when applicable) complete the actual task i.e. planting, tillage, spraying, cultivating, plot layout. Students may repeat this course, earning up to three credits.

AGRI 1722  
Spring Agriculture Field Experience Lab  
An on-farm implementation of farming practices as it relates to fields crops including but not limited to corn, soybeans, small grains, and alfalfa. The course will be organized to model as closely as possible real world production decisions and implementation. The students (with instructor oversight and guidance) will plan crop rotation, spring tillage methods, input amounts and timing. Students will also be required to (when applicable) complete the actual task i.e. planting, tillage, spraying, cultivating, plot layout. Students may repeat this course, earning up to three credits.

AGRI 1730  
Forage Production  
This course covers forage management of legumes and grasses with emphasis on alfalfa and corn silage production and management topics of establishment, winter survival, fertilization, cutting management, varieties and harvesting equipment.

AGRI 1740  
Specialty Crops  
This course covers the management practices for the production of sugarbeets and edible beans. Planting, fertilization, pest control and harvest are covered.

AGRI 1761  
Agricultural Water Management  
Water management will be taught as it relates to irrigation, drainage, and wetland conservation. Information presented will cover government regulations, water-scheduling, economics, and water, soil, plant interactions. AGRI 1110 or AGRI 1650 (dualnumbered courses)

AGRI 1770  
GIS Applications  
In this course students are trained on the uses of "SST" GIS software. Students will create field boundary maps, yield maps and recommended maps. Prerequisite: AGRI 1771

AGRI 1771  
Introduction to Precision Agriculture  
This course introduces the framework for understanding global positioning systems and related components. Topics include precision farming, positioning systems, yield monitoring, GIS systems, and variable rate technologies. This course should be taken prior to other courses related to GPS/GIS technology.

AGRI 1772  
Remote Sensing/Image Analysis  
This course will introduce the use of Ariel and satellite imagery in a GIS program. Special attention will be paid to resolution, projection, and bringing imagery into a GIS system correctly.

AGRI 1773  
GIS Problem Solving  
Students will be assigned real world problems from a partnering business (i.e. local farms, retail) to work on. Students will be required to identify the problems and develop recommendations using a GIS system. For instance, students may develop yield correlation maps based on soil nutrient levels, using a variety of interpolation methods.

AGRI 1774  
Electronics Components and Troubleshooting  
This course will cover precision agriculture equipment identification, installation, calibration, and troubleshooting. Students will be introduced to several different brands of precision equipment.

AGRI 1776  
GIS for Agricultural Producers  
GIS software is used along with GPS receivers to collect data as soil sample information and then converted into data layers or maps. Recommendations are applied to application rate maps. Students will use the GIS to help plan current year’s crop. Prerequisite: AGRI 1771
AGRI 1780
Grain Handling and Storage
The principles of grain handling, drying and storage are covered in this course. Methods of achieving high grain quality are stressed. Commercial grain grading practices, discounts and quality factors are used.

AGRI 1810
Introductory Animal Science
This course provides an overview of the livestock industry with emphasis on the production and management of meat and dairy producing animals. Other topics covered include reproduction, nutrition, and market classification and grading of livestock.

AGRI 1811
Sustainable Livestock Management
This course covers the integration of livestock as part of a sustainable farming system with emphasis on small-scale production for niche markets and pasture. Topics included are appropriate breed selection, sources of nutrition and living requirements for livestock such as dairy cattle, beef cattle, goats, hogs, sheep and poultry. Upon completion of this course, students should recognize appropriate breeds for their farm needs and demonstrate an understanding of the role of livestock in a sustainable production system.

AGRI 1815
Meat Animal Reproduction
Students in this course are provided with the basic principles of reproductive physiology of livestock species. Students will learn about the female and male reproductive systems, hormones, and applied concepts of livestock reproduction.

AGRI 1820
Animal Nutrition
This course provides basic information about the fundamentals of nutrition and the essential nutritional requirements of livestock, classifications and nutritional characteristics of feedstuffs, and methods of evaluating feedstuffs, and comparative study of digestive system of farm animals.

AGRI 1830
Beef Cow Calf
This course focuses on the cow/calf segment of the beef industry. Students will become familiar with the structure and organization of the beef industry, gain an understanding of cow/calf management practices related to calf management, selection of cattle, herd replacement, genetics, health, nutrition and facilities.

AGRI 1840
Beef Feedlot
This course focuses on the feedlot segment of the beef industry. Students will become familiar with the structure and organization of the beef industry and gain an understanding of feedlot management practices related to daily lot management, facilities, health and nutrition.

AGRI 1850
Beef Profit Profile
Students discuss the items that affect beef profitability. During the classroom phase, the student is introduced on how to evaluate the present profitability of a herd or lot. This will be used to answer the questions: Where are we now? Where do we want to go? How do we want to get there? The last portion of the class is an on-farm visit by the instructor to discuss the student's evaluation.

AGRI 1870
Swine Breeding and Farrowing
This course includes an overview of the pork industry with an emphasis on the breeding and farrowing segment. Students will learn about specific characteristics of the major swine breeds in the United States as it relates to breeding programs and how to best manage the breeding and farrowing herd through gilt selection, reproduction management, nutrition, health, behavior and environment. Students will also learn proper piglet management.

AGRI 1871
Swine Nursery and Finishing
This course includes an overview of the pork industry with an emphasis on the nursery through finishing segment. Students will learn how to best manage the nursery through finishing herd by learning about current production and management practices, nutrition, health, and behavior of swine as it relates to their environment.

AGRI 1890
Swine Profit Profile
Students discuss the items that affect swine profitability. During the classroom phase, the student is introduced on how to evaluate the present profitability of a herd. This will be used to answer the question: Where are we now? Where do we want to go? How do we want to get there? The last portion of the class is an on-farm visit by the instructor to discuss the student's evaluation.

AGRI 1900
Sheep Management
This course provides an overview of basic sheep management principles through the study of the year-round management and production cycle of a sheep enterprise. Students will learn how each production stage influences profitability as well as its relationship to the business goals of the enterprise.

AGRI 2100
Farm Shop Repair Skills
In this course students will learn to interpret specifications and use various hand and power tools following basic safety practices. They will repair different types of farm machinery (excluding tractors).

AGRI 2123
Agricultural Communications and Leadership
Students will develop speaking and writing skills needed in farm management and agribusiness occupations, while improving their understanding of agricultural, environmental and related issues.

AGRI 2130
Small Engine Repair
In this course students will learn the principles of the operation of small gasoline and diesel engines including tune-up and reconditioning of two and four-cycle small engines and their agricultural applications.

AGRI 2135
Ag Electricity
Electricity fundamentals including safety and adequacy of farm and home electric power distribution are covered in this course. Selection and maintenance procedures of electric motors and practical wiring exercises consisting of switches, outlets, and starting switches, using approved wire and fusing for 120 and 240 volt service are included.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 2140</td>
<td>3</td>
<td>Ag Power Maintenance and Repair</td>
<td>Students will learn about gasoline and diesel tractors including engine construction, injection pumps, operation of turbochargers, lubrication systems, cooling systems, electrical systems, and transmissions. Additionally students will learn preventive maintenance, and about precision farming equipment and how to operate testing equipment.</td>
</tr>
<tr>
<td>AGRI 2141</td>
<td>4</td>
<td>Agriculture Power Maintenance and Repair Lab</td>
<td>This course covers the preventative maintenance of modern gasoline and diesel engines including diagnosis and adjustment. Proper use of testing equipment, cleaning, troubleshooting, and tune-up of tractors and engines will be included. Students can use own tractor.</td>
</tr>
<tr>
<td>AGRI 2142</td>
<td>3</td>
<td>Hydraulics for Ag Power Systems</td>
<td>Study in this course will allow student to develop greater knowledge of pressure and flow compensated hydraulics systems as related to agricultural power system needs. Operation and troubleshooting of pressure and flow-compensated hydraulics systems will also be covered. Prerequisites: AGRI 2100, AGRI 2140</td>
</tr>
<tr>
<td>AGRI 2143</td>
<td>3</td>
<td>Fuel Systems and Emissions for Ag Power Systems</td>
<td>This course will cover the service, trouble shooting and repair of fuel systems in ag equipment and heavy trucks, including injection pumps, turbochargers, and EGR systems. Prerequisites: AGRI 2100, AGRI 2140</td>
</tr>
<tr>
<td>AGRI 2144</td>
<td>3</td>
<td>Electrical Systems for Ag Power</td>
<td>This course will cover service, trouble shooting and repair of electrical systems in agriculture equipment and heavy trucks. Prerequisites: AGRI 2100, AGRI 2140</td>
</tr>
<tr>
<td>AGRI 2145</td>
<td>3</td>
<td>Powertrains for Ag Power Systems</td>
<td>Study in this course will allow students to develop greater knowledge of the operation and power flow of mechanical, power shift, hydrostatic, and IVT/ CVT transmissions. Repair, adjustments, and maintenance of these transmissions will be covered. Prerequisites: AGRI 2100, AGRI 2140</td>
</tr>
<tr>
<td>AGRI 2146</td>
<td>3</td>
<td>Engines for Ag Power Systems</td>
<td>Study in this course will allow student to develop greater knowledge of engine design, construction and operation. Engine diagnostics and repair will also be covered. Emphasis will be on diesel engines. Prerequisites: AGRI 2100, AGRI 2140</td>
</tr>
<tr>
<td>AGRI 2147</td>
<td>2</td>
<td>HVAC for Ag Power Systems</td>
<td>This course will cover service, trouble shooting and repair of heating, ventilation and air conditioning systems in agricultural equipment and heavy trucks. Students will be prepared to earn the EPA certification for the use and handling of freon. Prerequisites: AGRI 2100, AGRI 2140</td>
</tr>
<tr>
<td>AGRI 2148</td>
<td>1</td>
<td>Ag Shop Procedures</td>
<td>Study in this course will allow students to practice estimating, ordering, scheduling, customer communication, and computer applications. OSHA and EPA compliance requirements will be practiced. Co-requisite: AGRI 2141. Prerequisites: AGRI 2100, AGRI 2140</td>
</tr>
<tr>
<td>AGRI 2150</td>
<td>2</td>
<td>Harvesting and Fall Tillage Equipment</td>
<td>Student will learn the proper operation, maintenance, repair and adjustments for fall field machinery with an emphasis on combines and fall tillage equipment.</td>
</tr>
<tr>
<td>AGRI 2151</td>
<td>2</td>
<td>Forage Harvesting/Fall Tillage</td>
<td>This course covers the operation, maintenance, adjustment and repair of forage equipment with emphasis on hay and silage equipment and fall tillage equipment. Student will learn how to identify crop loss in the field and determine the adjustment needed. They will also learn how fall tillage equipment and operation affects residue cover as well as determine residue remaining after tillage.</td>
</tr>
<tr>
<td>AGRI 2160</td>
<td>3</td>
<td>Planters &amp; Spring Tillage</td>
<td>This class will cover different types of tillage and planting systems and meters. Topics include the impact of field compaction, weight transfer of tractors, proper balance of farm tractors, and proper tire selection on plant health will be discussed. Students will learn the operation, adjustment and maintenance of planting equipment; the calibration of sprayers; and calibration, repairs, and troubleshooting of planters.</td>
</tr>
<tr>
<td>AGRI 2180</td>
<td>2</td>
<td>Agricultural Machinery Management</td>
<td>The purpose of this class is to determine of machinery capability including theoretical and effective field capacities of farm machinery. Students will also develop a machinery purchase and trading schedule based on age, hours, and farming practice.</td>
</tr>
<tr>
<td>AGRI 2191</td>
<td>2</td>
<td>CDL - Preparation for Written Test</td>
<td>This course is designed to give students information needed to complete the written tests required to obtain a learner permit for the basic CDL license. Co-requisite: AGRI 2192</td>
</tr>
<tr>
<td>AGRI 2192</td>
<td>1</td>
<td>CDL - Preparation for Road Test</td>
<td>Students will learn the knowledge and skills necessary to complete a pre-trip inspection, vehicle handling, and on-road driving tests needed to obtain the basic CDL license and employment as a truck driver in the agriculture industry. Co-requisite: AGRI 2191</td>
</tr>
<tr>
<td>AGRI 2200</td>
<td>2</td>
<td>Farm Building and Structures</td>
<td>A study of popular types of farm buildings including common construction materials, procedures and building floor plans. Farmstead zoning principles. Lab work in framing, roofing and enclosing a farm building.</td>
</tr>
<tr>
<td>AGRI 2210</td>
<td>3</td>
<td>Ag Industry Machinery Maintenance</td>
<td>This course covers the principles of servicing and maintaining agricultural industry equipment with emphasis on power units, fertilizer and chemical equipment, pickups and trucks, including hydraulic, diesel systems, engine repair and electrical systems.</td>
</tr>
<tr>
<td>AGRI 2221</td>
<td>3</td>
<td>Medium and Heavy Duty Truck Repair</td>
<td>This course will cover the basic service, troubleshooting, maintenance, and repair of medium and heavy duty trucks/semis used in the agriculture industry. Students would be prepared to test for the DOT medium- and heavy-duty truck certification.</td>
</tr>
</tbody>
</table>
AGRI 2230  2 Credits
Ag Industry Machinery Operation
Principles of calibration, adjustment and maintenance of gas, liquid and granular plant food and crop protection equipment. It will also cover operation of forklifts, skid loaders and oscillating loaders.

AGRI 2240  3 Credits
Pesticide & Fertilizer Equipment
This course covers the principles of calibration, adjustment and maintenance of gas, liquid and granular plant food and crop protection equipment. It will also cover protective equipment and personal safety.

AGRI 2250  2 Credits
Basic Custom Application
This course covers the calibration, operation, and basic maintenance of Ag Chem Terra Gator, air spreader and rogator equipment. It also includes an introduction to the set-up and operation of on-board controller and the monitoring of systems.

AGRI 2251  2 Credits
Advanced Custom Application
This course includes the calibration, operation and advanced maintenance of the Ag Chem Terra Gator, air spreader and rogator equipment. It also includes in-depth set up and operation of an on-board control system.

AGRI 2260  3 Credits
Ag Energy/Alternative Fuels
This course covers the development and purposes of modern fuels and lubricants from the refinery to the market, including propane, ethanol, and biodiesel.

AGRI 2402  2 Credits
Employment Preparation for Ag Professionals
This course covers topics essential to gain and maintain successful employment in the agricultural industry. Students will examine and prepare job application documents such as a resume, cover letter, application form, and career portfolio. Topics covered include interviewing and job-keeping skills related to self-assessment, presenting a professional image, work attitudes, diversity in the workplace, stress management, conflict resolution, team building, and dealing with criticism and work performance appraisals.

AGRI 2700  1 Credit
Computer Applications for Veterinary Technicians
Veterinary clinic management software (Cornerstone) is used to help students manage patient, client, inventory, and accounting procedures.

AGRI 2800  3 Credits
Agriculture Internship
This course is a 4-week internship experience at an agribusiness or agriculture production-related facility or farm. Students will perform tasks as directed by their employers. Students will complete training plans and 4 weekly reports. Evaluations will be conducted by the employer and supervising faculty member. Prerequisite: Enrolled in a Ridgewater College Agriculture program major.

AGRI 2950  1-6 Credits
Special Projects/Topics
This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be able to enroll in this course.

ANTHROPOLOGY (ANTH)

ANTH 1010  3 Credits
Introduction to Cultural Anthropology
MnTC Goals 5, 8
An introduction to the study of human beings and their culture. After an introduction to the broad discipline of anthropology, the course focuses on cultural anthropology. Major components of cultural systems are examined. The impact of rapid global culture change is considered at length.

ART (ART)

ART 1040  3 Credits
Survey in Art
MnTC Goals 6, 7
Survey in Art is a general survey of the visual arts. The techniques of painting, sculpture, architecture and printmaking are examined as well as various philosophies of art, elements of form, design, creativity and the artistic process. A survey of many of the important periods of art history are examined as well as numerous artists who have influenced the development of art in western, non-western and minority cultures. *This is not a studio course although some hands-on studio activities will enhance discussions.

ART 1060  3 Credits
History of Modern Art
MnTC Goals 6, 7
History of Modern Art is the study of the artists and major movements in contemporary painting and sculpture from the 19th Century to the present. A major theme of the course is how Modernism has shaped the world of art, the influence of culture on art, the influence of art on culture and how Post-Modernism has changed our outlook on art.

ART 1070  2 Credits
Women in Art
MnTC Goals 6, 7
Women in Art is an introductory course that examines the various roles and contributions of women in the visual arts. The course includes such topics as woman as symbol and metaphor, the changing image of women in art, the woman's movement as it relates to art and the contemporary woman artist.

ART 1200  3 Credits
Art Structure
MnTC Goal 6
Art Structure is an introductory studio course for all students. It is designed to acquaint the student with the materials and techniques of the visual artist, principles of design, creativity and the artistic process. Students will explore and produce works in various traditional and contemporary media in the visual arts such as drawing, painting, collage, printmaking and sculpture.

ART 1250  3 Credits
Art of Digital Photography
MnTC Goal 6
An introduction to the art and principles of digital photography. Students will explore various genres in digital photography including nature, portraiture and abstraction. This course focuses on photography from an art perspective including non-traditional photography and the elements of design: line, shape, color, texture, value.
ART 1300
Printmaking I
MnTC Goal 6
An introductory course focusing on three primary printmaking methods: relief printing, monoprinting and water-based etching. Students will learn the basic techniques in each area and will produce a series of prints based on their own individual ideas.

ART 1440
Watercolor
This course is an introduction to the basic skills and techniques of watercolor painting. The special characteristics of watercolor application will be explored to create both traditional and abstract results.

ART 1400
Drawing I
MnTC Goal 6
This is an introductory course in the elements of the art of drawing. The student will examine and experiment with traditional and contemporary media and techniques. Elements of two-dimensional composition, intense observation, creative problem solving and development of a personal approach to drawing will be emphasized.

ART 2260
Elementary Art Education
MnTC Goal 6
Elementary Art Education is a course for all liberal arts students. It is also a course for those students interested in teaching, parenting, care-giving and those who have an interest in the artistic development of children. Students will explore the artistic development of children, experiment with art mediums suitable for young children, develop lesson plans/activities, and learn how to enhance the creative experience.

ART 2300
Visual Design I
MnTC Goal 6
Visual Design I is a studio course in the elements of black and white and two-dimensional form. Students will discuss and explore line, shape, value and texture as they pertain to significant form and meaning. Students will be introduced to design as a creative process and as a means for creative problem solving.

ART 2310
Three Dimensional Design and Color
MnTC Goal 6
3D Design and Color is a studio course in color theory and design in three dimensions. Significant form and meaning will be explored in this context. Students will explore creativity and the design process in problem solving situations resulting in the production of sculptures in three dimensions. Students will examine, explore, and discuss the various aspects of color theory.

ART 2600
Ceramics
MnTC Goal 6
Ceramics is a course in which students will explore the many phases of ceramic art. This will include design, wheel throwing and hand building methods of construction, studio procedures, glazing and firing. Students will participate in discussions and critiques of contemporary and traditional ceramics.

ART 2610
Painting
MnTC Goal 6
Painting is an introductory studio course in the elements of traditional and contemporary oil painting. Students will explore and discuss the various techniques and methods basic to the creation of paintings. Students will participate in the discussions and critiques of traditional and contemporary paintings and explore the creative process via the medium of oil paint.

ART 2970
Independent Study
To be determined by student and art instructor based on specific art medium or area of study. *One example of an independent study was a student who created a series of woodblock prints based on the Japanese tradition.

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**Course Descriptions**

**Audio Video Systems Technology (AVT)**

**AVT 1420**
Audio Transducers
This course covers the theory and testing of audio transducers, microphones, loudspeakers, and a closely associated component, crossovers.

**AVT 1501**
Introduction to DVD Technology
This course introduces the basic concept useful in understanding the set up, use, and adjustment of DVD disc systems. The course addresses the capabilities of DVD systems, and provides the student with the opportunity to explore several issues relating to the DVD distribution format.

**AVT 1507**
Introduction to Systems Installation
This course explains the professional and ethical conduct expected of the systems installation technician as well as the codes, and standards they are required to comply with. Students will study the common tools, materials, and methods used in common construction for residential and commercial buildings.

**AVT 1509**
Mechanical Skills for System Installation
(EST Modules 33103, 33104, 33105, 33107) In order for technicians to install audio and other power limited audio visual equipment it is necessary for them to have a basic understanding of the various pathways, boxes, conduit, and related hardware which are used to route and secure systems in place. This course explains the theory and practical applications of materials and hardware used for the safe installation of audio and other power limited audio visual equipment and practical skills required for their installation. Students in the course will study the hardware, pathways, and spaces used in the installation of common power limited systems for residential and commercial buildings, and develop necessary skills in their safe installation.

**AVT 1531**
Video Systems
Technicians need to have a basic understanding of the signal characteristics, cabling, and distribution requirements involved with various video systems installations. This course introduces the types of equipment used in various video systems and describes basic installation and operation of the various types of video systems. Students in the course will gain hands-on experience in the connection, adjustment and troubleshooting of video systems.
AVT 1601  Introduction to Audio 3 Credits
This course covers the basic theory and practices of the audio technology profession. It introduces audio terminology, parts and functions of basic equipment, ear training, and introductory information about copyright and common practices in the recording, pro sound, and music business in general. No previous background in audio is needed. The student learns the theory and gets hands-on experience using and maintaining basic sound equipment for simple audio projects.

AVT 1602  Soldering and Cable Assembly 1 Credit
In order for technicians to install audio visual equipment, it is necessary for them to perform proper termination of the various types of conductors and cables used in the systems. This course explains the proper termination methods for various types of conductors and cables used in systems. Students will study the tools, materials, and procedures for cable preparation, soldering, and crimping common cables and develop the necessary skills for basic circuit board soldering.

AVT 1605  System Documentation 2 Credits
In order for technicians to install audio and related equipment, it is necessary for them to communicate effectively. Basic technical communication skills require oral and written abilities and the capability to interpret and produce the various forms of documents and communication tools used in the profession. This course introduces electrical prints, drawings, and symbols used in audio visual and related systems. Students will learn to interpret and produce the typical information found on schematics, one-line drawings, and wiring diagrams using both common industry tools and trade specific software to enhance their communication effectiveness.

AVT 1607  Audio Recording Lab 1 Credit
This course covers the basic theory and practices of audio recording. It introduces parts and functions of basic equipment, signal flow in the recording equipment, and common practices for recording from basic tracking to the final mix down of a completed project. No previous background in audio is needed. The student learns the theory and gets hands-on experience using basic sound recording and mixing equipment for recording and editing simple projects.

AVT 1804  Computer Applications in Audio 3 Credits
This course covers basic computer operation as applied to the professional audio workplace. The course presents an overview of a variety of operating systems and applications programs used in audio recording, electronics, and sound reinforcement. Students will use computers to design speakers, edit and mix audio, and predict acoustic response of rooms.

AVT 2110  Audio Signal Processing 3 Credits
This course covers the theory and operation of audio signal processing equipment. This equipment is used to add effects to sound in recording and live performance. Reverbs, EC, delays, compression and more are covered in both the analog and the computer plug-in realms.

AVT 2211  Digital Logic I 2 Credits
This course introduces the basic concepts of digital logic, including numbering systems, logic gates, Boolean Algebra, DeMorgan’s Theorem, Kavannah mapping, comparators, multiplexing, de-multiplexing and flip-flops.

AVT 2280  Systems Installation 3 Credits
This course covers the standard acceptable methods of installing, connecting, and assuring the proper operation of common gear found in an audio recording/sound stage studio or commercial sound system.

AVT 2360  Audio Technology Internship 1-6 Credits
These courses are a cooperative work experience program between the student, the Audio Technology department and a professional audio business. An individual training plan is written which allows the student to achieve specific learning and employability work experience. Prerequisite: Varies depending on nature of internship.

AVT 2375  Computer Recording Techniques 3 Credits
This course covers the basic theory behind the operation of MIDI and computer equipment used in current recording applications in Audio and Video. Students gain experience completing various hands-on projects using a variety of devices and techniques, such as creating and using loops, virtual instruments and drum machines, and programming samplers.

AVT 2390  Audio Recording Systems 3 Credits
This course covers the mechanical and electronic operation, testing, and calibration of analog and digital audio tape recorders.

AVT 2460  Independent Study Project 1-6 Credits
This course allows the designing of a program of study for the individual student’s needs and special interest. The student specializes in developing skills and competencies in selected areas. The student and the instructor design the training plan.

AVT 2570  Studio Design 3 Credits
This course surveys the procedures necessary to plan a studio. The course includes the identification of the type of work to be done in the studio, financial plan, equipment specification and justification, physical plant design (including acoustics) and equipment interconnect plan. Prerequisite: previous experience in studio recording or instructor approval.

AVT 2590  Introduction to Amplifiers 3 Credits
This course covers amplifier circuit construction, analysis and techniques. In the lab, the student applies the theory by constructing and troubleshooting amplifiers. Prerequisite: MOST 1817

AVT 2591  Amplifier Testing/Troubleshooting 3 Credits
This course covers troubleshooting bipolar transistor amplifiers. In the lab the student applies theory by learning to use electronic testing equipment while troubleshooting printed circuit board amplifier modules.

AVT 2611  Electro-Acoustical Simulation 3 Credits
The proper design of audio systems requires the accurate prediction of the system performance in the acoustical environment in which it is to operate. Audio systems integrators need to be able to use computerized simulation tools to predict the electro-acoustical response of the sound system in the client’s venue. This course provides basic competencies in the operation, use, and interpretation of Electro-Acoustical Simulation software. Students in the course will
gain hands-on experience in the use of the software for room and loudspeaker system modeling and the prediction of numerous acoustical room-system measures. Prerequisite: AVT 1201

AVT 2612
Acoustical Testing
AV systems integrators need to be able to use acoustical testing equipment and programs to test and adjust the electro-acoustical response of the sound system in the client’s venue. This course provides competencies in the operation, use, and interpretation of acoustical testing equipment and software such as Smaart © and Easera Systune ©. Students in the course will gain hands-on experience in the use of the equipment and software for acoustic testing of rooms and audio systems and the interpretation of numerous acoustical measurements. Prerequisite/Co-requisite: AVT 1201

AVT 2620
Integrated System Control
Audio video systems integrators need to have a basic understanding of the operating principles and equipment used in the control of integrated audio video presentation systems. This includes both wired and wireless types of radio frequency (RF) and infrared (IR) control systems. This course describes systems which include wired and wireless RS232, RF and IR-control systems, power line carrier (PLC), and other system control technology. Students in the course will gain hands-on experience in the equipment used for installing, programming, testing, and troubleshooting systems control devices.

AVT 2630
Audio Networking
The most important audio tech these days is one that also has a networking background as well. With Audio, video, data, even power being sent over Ethernet cables, this is definitely an area to be versed in. Audio & Video systems integrators need to be able to use networking hardware and programs to distribute and adjust the media being routed around the client’s venue. This course provides competencies in the operation and use of audio distribution networking equipment using such protocols as Cobranet ©, Ethersound ©, Dante ©, and other network-based sound solutions. Students in the course will also gain hands-on experience in the use of the equipment and software used in professional audio / video network distribution and control.

AVT 2950
Special Projects/Topics
This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be able to enroll in this course.

**Course Descriptions**

**ABOD 1112**
Welding Processes & Corrosion Repair Procedures
This course covers set-up and operations of MIG welding equipment as applied to the auto body industry. Students will practice welding automotive sheet metal in flat, vertical, horizontal, and overhead positions. Students will also be given instructions in welding automotive plastics. In addition, students will practice corrosion repairing methods. Related safety practices and topics will be emphasized.

**ABOD 1113**
Vehicle Preparation
This course covers the use of automotive reconditioning equipment to meet industry standards. Instruction will also cover products necessary to prepare a vehicle’s surface for a final topcoat.

**ABOD 1124**
Body and Glass Service
This course covers the application of various types of automotive trim and hardware. Students will learn safe removal and installation of glass on both domestic and imported cars. Students will make repairs to vehicles that have problems such as wind noise, dust leaks, water leaks, and other body service problems.

**ABOD 1125**
Automotive Refinishing
In this course, students will be instructed on the proper preparation and application of primers, sealers and top coats. Students will also learn how to examine automobile surface conditions to determine the proper refinishing procedures. The course will allow students the chance to practice painting using modern technology.

**ABOD 1126**
Refinishing Lab
In this course, students will apply concepts learned in previous courses by working on vehicles and vehicle components in the auto body shop. This course will also give students the opportunity to practice and perfect skills used in the collision repair industry. Students are instructed in identification and calculations of refinishing and collision damage using manuals and computerized estimating systems. Students will analyze damage that will determine the cost to repair vehicles to their pre-accident condition.

**ABOD 2131**
Color Matching and Blending
This course provides instruction in industry recommended procedures for correction of color mismatching and general spot repairs. Students will have hands-on practice painting base coat, clear coat, and tri-coat finishes using current color tinting procedures. Students will also be given instruction on how color is affected by various light sources. Prerequisite: Successful completion of all Semester 1 and 2 courses, or authorization from Auto Body department instructor(s)

**ABOD 2132**
Collision Refinishing and Estimating
In this course, students are instructed in identification and calculations of refinishing and collision damage, using manuals and computerized estimating systems. Students will analyze damage that will determine the cost to repair vehicles to their pre-accident condition. Prerequisite: Successful completion of all Semester 1 and 2 courses, or authorization from Auto Body department instructor(s)
ABOD 2133  
Collision Damage Replacement  
In this course, students learn to replace automotive sheet metal and structural components using current industry recommended procedures. In addition, topics related to safe removal and replacement of mechanical components as they relate to the collision repair industry will be covered. Prerequisite: Successful completion of all Semester 1 and 2 courses, or authorization from Auto Body department instructor(s)

ABOD 2135  
Wheel Alignment and Mechanical Systems  
In this course, students will learn about the theory, design and construction of Unibody, suspension and associated mechanical/structural systems and how to properly repair damage to the system. In the classroom, major topics will include four wheel alignment, structural alignment and their relationship to collision damage. In the lab, students apply skills and concepts covered in this and previous classes related to the proper and safe removal and replacement of mechanical components as they relate to the collision repair industry. Prerequisite: Successful completion of all Semester 1 and 2 courses; or authorization from Auto Body department instructor(s)

ABOD 2145  
Major Collision Repair Lab  
This course covers repairs to unitized and frame type vehicles. Students will practice measuring the structural components of vehicle using mechanical and computerized measuring systems. This course will also cover methods used to anchor and pull vehicles to their pre-accident condition. Prerequisite: Successful completion of all Semester 1 and 2 courses; or authorization from Auto Body department instructor(s)

ABOD 2146  
Skillbuilding Lab  
Students will work in a lab setting performing skills and objectives learned in related courses. Prerequisite: Successful completion of all Semester 1 and 2 courses; or authorization from Auto Body department instructor(s)

ABOD 2155  
Collision Repair Business Operations  
This course provides an introduction to the study of small business operations. Topics covered include electronic record keeping for small businesses, marketing, managing, business organizational structure, laws and regulations, employee and employer rights and responsibilities, and components of developing a business plan. At the end of this course students will develop their own cover letter, resume, and follow up letter. We will also cover job applications and interviewing.

ABOD 2900  
Auto Body Internship  
This course provides an educational internship focused on collision repair, painting, and/or related work within the auto body industry. Concepts and skills learned in previous course work will be applied in a work setting. Specific tasks to be completed by the student will be identified in an individual training program. Prerequisite: ABOD 1126

ABOD 2901  
Shop Operations I  
This course covers key elements of auto body shop operations. Topics covered include estimating, scheduling, customer communication, management and personnel issues, computer applications and insurance claim reporting.

ABOD 2902  
Auto Body Specialty I  
This course provides an opportunity for students to develop and complete projects that integrate concepts and skills in a specialized segment of the auto body industry. Specific projects will vary depending upon the needs of specific students as recognized by the instructor.

ABOD 2904  
Auto Body Specialty II  
This course builds upon the skills developed in the two-year Auto Body program and integrates additional concepts and skills in a specialized segment of the auto body industry. Specific projects will vary depending upon the needs of specific students as recognized by the instructor.

ABOD 2906  
Shop Operations II  
This course builds upon topics covered in Shop Operations I and focuses primarily on industry-standard practices. Students will prepare thorough and accurate computerized estimates using complex collision-damaged unibody and conventional frame vehicles. Upon completion of estimates, students will be able to explain estimates to vehicle owner and insurance adjustor.

ABOD 2907  
Auto Body Specialty III  
This course builds on the skills developed in ABOD 2902 and 2904 and integrates additional concepts and advanced skills in specialized segments of the auto body industry. Specific projects will vary depending on the needs of specific students as recognized by the instructor.

ABOD 2908  
Auto Body Specialty IV  
This course builds upon the skills developed in ABOD 2902 and 2904 and integrates additional concepts and advanced skills in a specialized focus of the auto body industry. This is a capstone course in which students will demonstrate a final project that meets industry standards. Specific projects will vary depending upon the needs of specific students as recognized by the instructor.

ABOD 2910  
Auto Body Specialty Internship  
This course provides an educational internship focused on collision repair, custom painting, and/or a specialty service of the auto body industry. Concepts and skills learned in previous course work will be applied in a work setting. Specific tasks to be completed by the student will be identified in an individual training program. Prerequisite: ABOD 2904

ABOD 2903  
Mechanical Systems  
This course covers mechanical systems including gears, pulleys, cams, bearings, clutches, conveyors, and other items associated with manufactured products and manufacturing machines.

Automation & Robotic Systems Technology (ENGT)

ENGT 1103  
Automation & Robotic Systems Technology (ENGT)
Course Descriptions

ENGT 1203 3 Credits
Control Systems I
This course covers machine control systems, their operation, and application. Topics covered include PLC control, PC control, MMI’s, I/O systems, transducers, and system trouble shooting.

ENGT 1205 3 Credits
Electro Mechanical Devices I
This course covers electro-mechanical devices. Topics include: safety, basic electricity, electrical print reading, control wiring, and components such as sensors, solenoids, electrical actuators, timers, counters, indicators, motors and controllers, and transducers.

ENGT 1211 3 Credits
Industrial Electricity
This course covers topics in electricity and electronics that are used on industrial machines. The topics include: solid state devices, digital theory, electrical machinery, and AC/DC devices.

ENGT 1221 2 Credits
Process Controls I
This course covers the fundamentals of process controls for the following variables: pressure, temperature, flow, level, and analytical. Within each of these areas, the properties, control and instrumentation of a system is covered.

ENGT 1230 3 Credits
Fundamentals of Machine Vision
This course provides students with practical hands-on experience as a companion to learning the fundamentals of machine vision. The course includes machine vision simulation as well as applications with industrial automated vision systems. Topics covered include system components, imaging acquisition and processing, machine image software, and measurement and testing applications.

ENGT 1240 3 Credits
Fundamentals of Robotics
This course allows students to program, setup and operate robots and robotic equipment. The use of a simulator program as well as actual robots helps the student to learn concepts quickly. Integration of robots with machine tools, conveyors and other applications will also be explored.

ENGT 1301 2 Credits
Fluid Power
This course covers fundamental principles of hydraulic and pneumatic systems, their operation, and design.

ENGT 1505 2 Credits
Predictive Maintenance
This course covers various methods used in predictive maintenance. This includes vibration analysis, thermography, oil analysis, ultrasonic detection and measurement, along with other methods. Preventive maintenance aspects will also be included.

ENGT 2105 3 Credits
Motion Controls I
This course introduces students to motion control software and hardware with simulated, analog, and digital control systems. Students will learn how to setup and configure systems and gain an understanding of setup parameters and limitations, applications of motion control systems in industry, and troubleshooting methodology. Prerequisites: ENGT 1203, ENGT 1221

ENGT 2203 3 Credits
Control Systems II
This course covers machine control systems, their operation, and application. This course builds on the knowledge learned in ENGT 1203 - Control Systems I. Students use this knowledge to program, run and troubleshoot machine problems. Topics covered include PC components, PC control, PLC control, MMI’s, I/O systems, transducers, and system trouble shooting.

ENGT 2900 1-5 Credits
Internship
This course is designed to provide the student with a purposeful occupational experience in the automation engineering technology field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program.

ENGT 2950 1-6 Credits
Special Projects/Topics
This course provides the opportunity for students to pursue topics and/or projects concentrating on concepts of current interest to Automation and Robotic Systems studies. The course will include research and project work in a mentored setting. The topics studied, and the projects chosen by the instructor and the students, will develop concepts that integrate and further develop skills and concepts essential to the Automation and Robotic Systems program.

Automotive Service Technology (AUTO)

AUTO 1102 2 Credits
Automotive Trades Skills
In this course students will learn basic skills necessary to be successful in a career in either Auto Body or Auto Mechanics. These skills will include safety, automotive tools and usage, electrical skills, and repair order completion.

AUTO 1104 4 Credits
Vehicle Maintenance
The emphasis of this course is to develop skills in preventative maintenance and vehicle service procedures. Along with oil changes, lubrication and minor service, students will be taught to recognize various potential failures which might lead to unsafe conditions and costly repairs.

AUTO 1114 4 Credits
Engine Repair and Diagnosis
This course covers engine theory, parts identification, disassembly, wear measurements, wear locations, and rebuilding of cylinder block, crankshaft, and cylinder heads. Students will gain experience using specialized tools while performing numerous engine repairs. This course will also include diagnosis of mechanical engine problems.

AUTO 1134 4 Credits
Drivetrain and Axles
A basic overview of standard automotive and light truck clutches including design, adjustment, overhaul, diagnosis and repair. Also includes drive shaft phasing, alignment and balance as well as drive axle and CV joint service.
This course teaches suspension systems using leaf springs, coil springs, McPherson struts and torsion bars, along with the various procedures required to check and adjust wheel alignment angles such as caster, camber and toe.

This course includes basic principles of brakes, hydraulic system basics, 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.

This course teaches basic fundamentals of electricity and electronics, sources of electricity, circuits, magnetism, resistance, coils, capacitance, instruments, diodes and solid-state devices. Safety, construction, operation, charging, servicing, and testing of lead acid batteries will also be covered. Students will also study the general application of automotive computers used in the industry today.

The theory and diagnosis of ignition systems will be covered. An introduction to scan tools, computer sensors and actuators, and OBD II will also be presented.

This course covers mechanical diagnosis of engines, including noises, leaks, wear, and parts failures. In-shop experiences will include compression testing, cylinder balance testing, cylinder leakage testing and vacuum testing.

This course covers both front wheel drive and rear wheel drive vehicles. Identification, diagnosis and overhaul of 3, 4, 5 speed transmissions/transaxles/transfer cases will be covered. Gear ratios, designs, lubricants, shifters, and removal will also be addressed.

This course covers the construction, operation, and testing of starting and charging systems. Diagnosis and troubleshooting of other basic vehicle electrical systems will also be performed.

This course involves actual shop work involving customer vehicles upon which students work on an individual flat rate basis. Students will be evaluated on professionalism, speed and accuracy. Consideration in assignments will be given to a specialty area they wish to pursue.

This course includes basic theory of torque converters, planetary gears, clutches, bands, hydraulics and power flow. Basic overhaul techniques and special tool and gauge usage are taught.

This is a continuation of Brakes I. Various braking systems will be discussed and repaired. ABS and other new systems will be discussed.

This course covers the operation, troubleshooting and repair of air bag/passive restraints, cruise control, power windows/seats, vehicle communications, and other advanced body electronic systems.

This course covers the operation, troubleshooting and repair of air bag/passive restraints, cruise control, power windows/seats, vehicle communications, and other advanced body electronic systems.

This course provides the opportunity to cover topics and/or projects of interest to Automotive Service industry. The topics studied and the projects chosen by the instructor and the students will develop concepts that integrate and further
Biology (BIOL)

**BIOL 1000**  
Introduction to Biology  
MnTC Goals 3A, 10  
This course is an introduction to the concepts which provide the basis for modern biological science. Includes basic biochemistry, cell structure and function, and the six kingdoms of life. A general education course for the liberal arts major. Lecture - 3 hours/week. Lab - 2 hours/week.

**BIOL 1040**  
Introduction to Human Genetics  
MnTC Goal 3A  
Students will observe principles and applications of genetics, genetic variation, family genomes, as well as medical illnesses. The course will look at the role that genes play in diseases, physical characteristics, and behavior. We will explore DNA sequencing, genetic testing, and emerging treatments for genetic disorders. This course is designed to encourage critical and ethical evaluation of genetic information.

**BIOL 1080**  
Human Biology  
MnTC Goal 3A  
This course is an introduction to the structure and function of the human body. Topics will be covered utilizing a systems approach (i.e. nervous system, cardiovascular system, etc.). The course begins with the topics of basic biochemistry, cell structure and function, and tissues of the human body. This course is designed as a general education course for the liberal arts major. Lecture - 3 hours/week. Lab - 2 hours/week.

**BIOL 1410**  
Environmental Science  
MnTC Goals 3A, 10  
An examination of the scientific and technical problems of renewable and non-renewable natural resources. Stresses the problems and impact of energy, air, water, chemicals, solid waste, noise, radioactivity and population on the environment. The laboratory will emphasize observation, data collection, quantitative measurement and drawing conclusions. Lecture - 3 hours/week. Lab - 2 hours/week.

**BIOL 1510**  
People, Sustainability, and the Environment  
MnTC Goals 3A, 10  
Discussion and evaluation of current environmental biology topics, including the wise use of renewable resources with an emphasis on human impacts and sustainable living. This course is designed to encourage critical evaluation of biological information, providing students with the knowledge to make sustainable decisions affecting their own lives and the well being of society. Lecture - 3 hours/week. Lab - 2 hours/week.

**BIOL 1950**  
Biotechnology Regulations  
This course introduces students to regulations and policies regarding the biotechnology industry, including agricultural, pharmaceutical, and biomedical research and manufacturing. Topics will include US agency regulations (FDA, USDA, EPA, and others) as well as state and international regulations, current good manufacturing and good laboratory practices (cGMP/cGLP), quality assurance and quality control (QA/QC), standard operating procedures (SOPs), and safety issues as they relate to the biotechnology industry. Prerequisite: BIOL 185

**BIOL 2000**  
General Biology I  
MnTC Goal 3A  
This course is the first in a two-semester general biology course. This course will include biochemistry, genetics, cytology, evolution, and kingdom surveys of Archaebacteria, Eubacteria, Protista, and Fungi. Lecture - 4 hours/week; Laboratory - 3 hours/week.

**BIOL 2010**  
General Biology II  
MnTC Goals 3A, 10  
This course is the second in a two-semester general biology course. This course will include botany (plant anatomy and physiology, life cycles, and classification), zoology (animal anatomy and physiology, life cycles and classification), behavior and ecology. Lecture - 4 hours/week. Laboratory - 3 hours/week. Prerequisite: BIOL 2000 or consent of instructor

**BIOL 2100**  
Human Anatomy  
MnTC Goal 3A  
This course is a comprehensive study of the structure of the human body from the cellular to organ system level, and includes the integumentary, digestive, muscular, skeletal, nervous, endocrine, cardiovascular, respiratory, urinary and reproductive systems. Labs include slides, models, computer/lab activities, and dissections.

**BIOL 2110**  
Human Physiology  
MnTC Goal 3A  
This course is a comprehensive study of the function of the human body from the molecular to organ system level, and includes the integumentary, digestive, muscular, skeletal, nervous, endocrine, cardiovascular, respiratory, renal and reproductive systems. Labs consist of hands-on exercises, including membrane transport, EEG, ECG, respiratory volumes and capacities, and sensation; as well as interactive computer-based simulations. Prerequisites: BIOL 2100, CHEM 1101 (or higher)

**BIOL 2120**  
Human Anatomy and Physiology I  
MnTC Goal 3A  
A study of the structure and function of the following body systems: integumentary, skeletal, articular, muscular, nervous and endocrine. Labs supplement the lecture by using histology slides, skeletal materials and cat dissection. Prerequisites: Prefer high school biology and/or chemistry, a college chemistry, or consent of instructor.

**BIOL 2130**  
Human Anatomy and Physiology II  
MnTC Goal 3A  
A continuation of Biology 212 which covers the remaining systems: circulatory, respiratory, digestive, urinary and reproductive. Body systems once analyzed individually are integrated into the body as a whole. Dissections are continued as well as the usual physiology-related labs. Several computer interface labs are included. Prerequisite: BIOL 2120
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 1010</td>
<td>Business and the American Economy</td>
<td>3</td>
<td>A course designed to acquaint the student with the American economy by surveying the organization, internal structure, operational functions, and regulations governing the several types of business organizations. Overview of management, marketing, economics, entrepreneurship, information systems, law, finance, international affairs and other topics as they relate to business.</td>
</tr>
<tr>
<td>BUS 1120</td>
<td>Business Communications</td>
<td>3</td>
<td>Emphasis is placed on the study of writing business reports and proposals. Also included is instruction in composing different types of effective business memorandums and letters including bad news messages, good news messages, persuasive messages, collection letters, goodwill messages, resumes, and application letters. Other business communications skills developed are oral presentations and job-hunting skills.</td>
</tr>
<tr>
<td>BUS 1200</td>
<td>Business Computers</td>
<td>3</td>
<td>This is an introductory course in computers, including basic hardware and software, information systems, computers in the business world, security issues, and their societal impact. An introduction to computer applications is also studied using word processing, spreadsheets, data base programs, and the Internet. Dual numbered with CSCI 1400.</td>
</tr>
<tr>
<td>BUS 1400</td>
<td>Business Leadership</td>
<td>3</td>
<td>This course is designed to provide knowledge about the skills an individual needs to be a successful leader of others and themselves in the business world. The student will be introduced to theories proposed by business leaders in areas such as: strategies to promote positive business relationships, self-management, change management and professionalism.</td>
</tr>
<tr>
<td>BUS 1600</td>
<td>Introduction to Economics</td>
<td>3</td>
<td>This course is designed for the non-business, non-economics major who wishes to further his/her knowledge of the economic problems facing the United States and world. A non-mathematical survey of macro- and microeconomic topics including demand, supply, modern and historic economic systems, pollution, government regulation, taxes, unemployment and inflation. The impact of economic policy and market choice from social, personal, and ethical perspectives will be examined. This is a terminal course and should not be taken after ECON 2060 and/or ECON 2070.</td>
</tr>
<tr>
<td>BUS 1950</td>
<td>Principles of Management</td>
<td>3</td>
<td>This course will provide the student with an overview of basic management principles and practices. Topics include operation management, decision-making, ethics and corporate responsibility, planning resource management, labor relations, workgroups, leadership, organizational design and development, and strategic management.</td>
</tr>
<tr>
<td>BUS 2000</td>
<td>Legal Environment of Business</td>
<td>3</td>
<td>A study of the legal environment in which a business must operate including topics such as the legal system, constitutional considerations in business dealings, federal regulatory agencies, torts, contracts, agency, antitrust laws, labor and international issues, as well as ethical and environmental issues affecting a business.</td>
</tr>
<tr>
<td>BUS 2070</td>
<td>Statistics and Its Applications</td>
<td>4</td>
<td>This course is designed to give students a conceptual introduction to the field of statistics and its variety of applications. The class is applications-oriented and is presented with the needs of the nonmathematician in mind. Topics covered may include: data collection, summarizing and describing data, estimation and hypotheses testing, statistical inference, goodness of fit, analysis of variance, regression analysis, time series, forecasting, and quality control. Prerequisite: MATH 0980 or two years of high school algebra with a score on the math placement exam to qualify for college level math.</td>
</tr>
</tbody>
</table>

**BUSINESS (BUS)**

**BUS 1010**

Business and the American Economy
A course designed to acquaint the student with the American economy by surveying the organization, internal structure, operational functions, and regulations governing the several types of business organizations. Overview of management, marketing, economics, entrepreneurship, information systems, law, finance, international affairs and other topics as they relate to business.

**BUS 1120**

Business Communications
Emphasis is placed on the study of writing business reports and proposals. Also included is instruction in composing different types of effective business memorandums and letters including bad news messages, good news messages, persuasive messages, collection letters, goodwill messages, resumes, and application letters. Other business communications skills developed are oral presentations and job-hunting skills.

**BUS 1200**

Business Computers
This is an introductory course in computers, including basic hardware and software, information systems, computers in the business world, security issues, and their societal impact. An introduction to computer applications is also studied using word processing, spreadsheets, data base programs, and the Internet. Dual numbered with CSCI 1400.

**BUS 1400**

Business Leadership
This course is designed to provide knowledge about the skills an individual needs to be a successful leader of others and themselves in the business world. The student will be introduced to theories proposed by business leaders in areas such as: strategies to promote positive business relationships, self-management, change management and professionalism.

**BUS 1600**

Introduction to Economics
This course is designed for the non-business, non-economics major who wishes to further his/her knowledge of the economic problems facing the United States and world. A non-mathematical survey of macro- and microeconomic topics including demand, supply, modern and historic economic systems, pollution, government regulation, taxes, unemployment and inflation. The impact of economic policy and market choice from social, personal, and ethical perspectives will be examined. This is a terminal course and should not be taken after ECON 2060 and/or ECON 2070.

**BUS 1950**

Principles of Management
This course will provide the student with an overview of basic management principles and practices. Topics include operation management, decision-making, ethics and corporate responsibility, planning resource management, labor relations, workgroups, leadership, organizational design and development, and strategic management.

**BUS 2000**

Legal Environment of Business
A study of the legal environment in which a business must operate including topics such as the legal system, constitutional considerations in business dealings, federal regulatory agencies, torts, contracts, agency, antitrust laws, labor and international issues, as well as ethical and environmental issues affecting a business.

**BUS 2070**

Statistics and Its Applications
This course is designed to give students a conceptual introduction to the field of statistics and its variety of applications. The class is applications-oriented and is presented with the needs of the nonmathematician in mind. Topics covered may include: data collection, summarizing and describing data, estimation and hypotheses testing, statistical inference, goodness of fit, analysis of variance, regression analysis, time series, forecasting, and quality control. Prerequisite: MATH 0980 or two years of high school algebra with a score on the math placement exam to qualify for college level math.
### Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 2080</td>
<td>Intro to International Business/Economics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2100</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2240</td>
<td>Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS 2250</td>
<td>Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS 2950</td>
<td>Special Topics in Business</td>
<td>1-4</td>
</tr>
</tbody>
</table>

- **MSET 1803**: Metrology Overview
  - This course provides an overview of the history and the need for the methods of metrology, which is the art and science of precision measurement.

- **MSET 1804**: Introduction to Physical Metrology
  - This course covers the basics of physical measurements found in the industrial world. Topics covered include temperature, pressure, force, fluid flow, volume, mass, viscosity, humidity, torque, pH and conductivity. Prerequisite: MSET 1803 or at the instructor's discretion.

- **MSET 1805**: Introduction to Dimensional Metrology
  - This course provides an introduction to basic dimensional metrology including the history and general principles of dimensional measurement, theory and use of various instruments and general calibration techniques for dimensional instruments.

- **MSET 1806**: Basic Electrical Metrology
  - This course provides an introduction to electrical metrology including general principles and hands-on lab on use of calibrations.

- **MSET 1817**: Transistor Fundamentals
  - This course covers semiconductor theory, the principals of P-N junctions, diodes, bi-polar transistors, biasing circuits, operation and use of semi-conductor devices in a hands-on lab setting. Prerequisites: MSET 1814

- **MSET 1819**: Advanced Transistor Circuits
  - This course covers the principles of solid state and transistors. Items covered include safety, bipolar, FETS, MOSFETS and solid state theory.

- **MSET 1820**: Amplifier Analysis
  - This course covers types and measurements of amplifiers, the generation of signals and the types of measuring instruments, principles of amps are covered, including types of amps, construction of capacitors, and applications of amp. Charge/discharge using constant current and constant voltage will be addressed. The student will construct generators and other lab projects to demonstrate amplified waveforms and use of amps. Prerequisite: MSET 1816

- **MSET 1823**: Advanced Filter/Transducer Circuit Analysis
  - This course covers AC impedance and phase and analyzing AC networks and filters. The student studies the sine wave, behavior of RC networks, capacitor and inductor impedance, “S” notations, complex AC networks, network theorems, measuring frequency, measuring phase, purpose of filters, passive filters and active filters. Prerequisites: MSET 1814, MSET 1822

- **MSET 2714**: Introduction to Photonics
  - This course covers basic optical terms and concepts as related to photonics. Topics include the electromagnetic spectrum, light wave propagation, the actions of simple lenses and prisms on wave fronts, interference and diffraction, the photoelectric effect, mirrors, optical glass, special glass, reflectors, telescopes, simple microscopes, compound microscopes, rangefinders, radiometers and detector optics, fiber optics, optical specifications and tolerances, optical mounting techniques, and optical laboratory practice. The course also covers the characteristics of laser light, the calculation of various parameters of laser light, the essential components of lasers, the function of these components, the applications of lasers, and the safety hazards associated with their use.

- **MSET 2717**: Hardness Testing/Surface Finish
  - This course provides a concise overview of measurement as it is applied in industry today. Key areas include microscope operation, hardness, and tensile testing.

- **MSET 2718**: CMM Optical Comparators
  - This course covers the organization of CMM testing and optical comparators, the use of a techniques measuring artifacts, and applications with these devices.

- **MSET 2724**: Flow/Viscosity
  - This course covers the fundamental principles of flow, laminar, and turbulence of components in fluid measurements and covers viscosity and specific gravity instruments, their use and calibration. The student learns the mathematical principles of operation and application of viscosity and specific gravity instruments.
MSET 2730
Intermediate Electronics
This course covers basic direct current electronics. Specific areas covered include Ohm's Law, power, series circuits, parallel circuits, Magnetism, AC power generation and frequency and the use of the Oscilloscope.

MSET 2763
Micrometers/Gage Blocks
This course covers micrometers of various types as well as the use of the micrometers. Topics covered are the identification, advantages, readability, discrimination, and care of micrometers. This course also covers the use and care of gage blocks for precision measurements. Items covered include gage blocks, wear blocks, wringing, combining, gage block holders, end standards, set-up, assembly, pre-calibration, and lay-out.

MSET 2781
Force/Pressure Systems
This course covers force and pressure systems including their use and calibration. The student will learn the mathematical principles of operation and application of force and pressure systems.

MSET 2783
Temperature/Humidity/Gas Measurement
This course covers temperature and humidity systems, including their use and calibration. The student will learn the mathematical principles of operation and application of temperature and humidity measurements.

MSET 2785
Torque/Rotation
This course covers the theory and calibration of relational torque measuring instruments. It also includes the principles of torque and rotation measuring instruments, their use and calibration.

MSET 2811
Introduction to Quality Control
This course covers the concepts and requirements of quality assurance programs. Quality control principles, implementation of programs, inspection operations, quality records and total quality management are covered. This course focuses on the use of quality control principles to implement a total quality assurance program.

MSET 2815
Introduction to Fiber Optics
This course provides an introduction to the theory of fiber optic component systems. A small transmitter and receiver will be assembled and demonstrated. Prerequisite: Basic Electronics course

MSET 2823
Mass/Volume
This course covers the organization of mass/volume, and the use of a data. Students will measure and compute mean, x bar, standard deviation, S(x) and normal distribution, for given test data, and conduct experiments with mass/volume techniques.

MSET 2830
Intermediate Function Generators
This course covers the theory of functions generators, their use, calibration, and repair. The course focuses on the actual use of function generators in the laboratory. Prerequisites: Basic Electronics course, Transistors

MSET 2843
Advanced Noise and Recording Instruments
This course is designed for the person entering a measurement science or metrology technology occupation. It covers techniques of noise measurements and strip chart recorders, their use and calibration.

MSET 2845
Advanced Transducers
This course is designed for the person entering a metrology technology occupation. It covers metrology transducers, their use and calibration. The student learns the principles of transducer measurements and the mathematical principles of operating and applying of transducer measurements. Prerequisite: MSET 2844

MSET 2868
Optical Flats and Laser Interferometer
This course covers the use of light for various types of measurements. Topics covered include light wave standards, fringe bands, optical measuring tools, optical flats, surface inspection, and laser interferometers.

MSET 2870
Internship
This course is designed to provide the student with a purposeful occupational experience in the metrology technology field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program. Prerequisite: Instructor approval

MSET 2950
Special Projects/Topics
This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be able to enroll in this course.

Career Orientation (CAOR)

CAOR 1010
Career Exploration and Planning
This course introduces students to a process of career exploration and decision making that begins with an individual assessment of interests, strengths, skills and values and culminates in the establishment of a specific educational/career search plan. Students utilize occupational information, resources, and trends to explore their work and education options.

Career Success Skills (CMAE)

CMAE 1514
Safety Awareness
This course is designed to align with the National Skill Standard assessment and certification system for Safety Awareness. The course curriculum is based on federally-endorsed national standards for production workers. This course will introduce OSHA standards relating to personal protective equipment, Hazard Communication, tool safety, confined spaces, electrical safety, emergency responses, lockout/tagout, and others.
Course Descriptions

CMAE 1518  
**Manufacturing Processes and Production**  
2 Credits  
This course is designed to align with the National Skill Standard assessment and certification system for Manufacturing Processes. The course curriculum is based on federally-endorsed national standards for production workers. The course emphasizes Just-In-Time manufacturing principles, basic supply chain management, communication skills, and customer service.

CMAE 1522  
**Quality Practices**  
2 Credits  
This course is designed to align with the National Skills Standard assessment and certification system for Quality Practices. The course curriculum is based upon federally endorsed national standards for production workers. Emphasis is placed on continuous improvement concepts and how they relate to a quality management system. Students will be introduced to a quality management system and its components. These include corrective actions, preventative actions, control of documents, control of quality records, internal auditing of processes, and control of non-conforming product.

CMAE 1526  
**Maintenance Awareness**  
2 Credits  
This course is designed to align with the National Skills Standard assessment and certification system for Maintenance Awareness. The course curriculum is based upon federally-endorsed national standards for production workers. The Maintenance Awareness course introduces the concepts of Total Productive Maintenance and preventative maintenance. Students will be introduced to lubrication, electricity, hydraulics, pneumatics, and power transmission systems.

CMAE 1528  
**Career Success Skills**  
1 Credit  
This is an introductory career success skills course. The primary goal of this course is to help individuals acquire a solid foundation in the basic skills for a successful career. This course will identify the skills important to businesses and help the students assess his/her level of skill. The course will provide suggestions for how the student can improve his/her level of skill.

**Carpentry (CF)**

CF 1103  
**Principles of Carpentry I**  
2 Credits  
This course covers the fundamental principles, terminology, materials and techniques used in basic residential construction. The primary focus of the course will be on the initial phases of construction including foundation systems, floor, wall, and roof framing. This course is also designed to help students become aware of safety issues and requirements related to the carpentry trade. Topics covered include OSHA standards for construction job site hazards, fall protection, personal safety equipment, and the proper use of hand, portable and stationary power tools. Each student will perform exercises to bring them to a level of competency acceptable to the carpentry trade.

CF 1106  
**Construction Drawings**  
2 Credits  
In this course the student will learn how to read residential blueprints and visualize each view. The student will learn how to estimate the materials needed to build the structure using a set of blueprints.

CF 1109  
**Foundations and Concrete Lab I**  
1 Credit  
This course is designed to give students the basic knowledge to work with concrete footing forms and concrete foundation wall forms of various types. Students will predominantly be involved in concrete forming and pouring concrete.

CF 1112  
**Construction Lab I**  
4 Credits  
In this course, students will learn to frame floors, walls, and roofs. Students will build various wall structures with window and door opening. In addition, students will learn to calculate rafter lengths for a gable, gambrel, hip, intersecting and mansard roof, and will lay out hip, valley, jack and common rafters. Extensive use of the steel and speed square will be stressed in this course. Students will also learn to frame a residential structure. Projects will include constructing floors using web truss or an “I” joist, building wall structures, and installing a roof truss system.

CF 1118  
**Exterior Finish Lab 1**  
5 Credits  
This course covers the materials put on the exterior of residential structures. Included will be windows and exterior doors, exterior sidings, and roofing materials. Students install log, steel, vinyl, T-111, and a lap siding along with a steel roof, 3 tab shingles, cedar shingles, and an architectural shingle. Soffit and fascia installation is also covered in this course. This course also covers the materials put on the exterior finish of residential construction. Students will install house wrap, sill pans, windows, doors and all roofing material to make the structure weather resistant.

CF 1202  
**Applied Mathematics for Carpentry Careers**  
2 Credits  
This course is designed for students preparing for carpentry and related construction careers. Topics covered include numbers, decimals, fractions, percentages, ratios and proportions, area, volume, English and Metric measurements, and basic algebra, geometry, and trigonometry. These topics are covered through contextualized applications to construction related scenarios including surface area and volume, angles and dimensions, fraction to decimal conversions and estimating for material and labor costs.

CF 1203  
**Principles of Carpentry/Tool Safety 2**  
2 Credits  
This course covers the principles, terminology, materials and techniques used in residential construction. The primary focus is on interior finishing with topics including stair framing, insulation and ventilation, drywall, interior pre-hung and bi-fold doors, interior trim, stair finishing, cabinet construction and countertops. The course also covers exterior finishes including: house wrap, window installation and roof covering, exterior finishes, and roofing materials.

CF 1217  
**Construction Lab 2**  
3 Credits  
In this course, students will learn how to calculate and lay-out and build a straight stair, half turn stair and a winder stair. Students will also install siding, exterior trim, and work on deck construction on the current house project.

CF 1223  
**Introduction to Green Construction Methods**  
1 Credit  
Building “green” is becoming a large factor within the construction industry. Everything from site preparation to solar panels is being incorporated into residential and commercial construction. This course is designed to give students a comprehensive look at green systems and the techniques used to implement those systems along with their environmental impacts.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF 1129</td>
<td>3</td>
<td>Remodeling/Renovation Lab 1</td>
<td>This course covers key elements in safe and proper design, demolition and reconstruction encountered during remodeling or renovation projects.</td>
</tr>
<tr>
<td>CF 1132</td>
<td>3</td>
<td>Custom Cabinet Construction Lab</td>
<td>This course covers designing and building cabinets used primarily in residential locations. The students will make face framed cabinets including doors, drawers and shelves, and install all necessary hardware.</td>
</tr>
<tr>
<td>CF 1135</td>
<td>4</td>
<td>Interior/Exterior Finish Lab 1</td>
<td>This course covers common aspects of residential interior finish. Construction activities include installing vapor barrier, insulation, drywall, interior doors, window and door casings, baseboard, base shoe, doors, countertops, door hardware, and closet shelving.</td>
</tr>
<tr>
<td>CF 1699</td>
<td>2</td>
<td>Stair Building</td>
<td>The students will learn how to figure the layout of a staircase from three basic formulas used to achieve good design. They will layout and build a straight and half turn stairways. Prerequisite: CF 1691.</td>
</tr>
<tr>
<td>CF 1700</td>
<td>3</td>
<td>Roof Framing</td>
<td>In this course the student will learn how to figure run, rise, and pitch on a gable, hip and mansard roof. They will learn how to lay out hip, valley, jack and common rafters. Extensive use of the steel and speed square will be stressed in this course. Prerequisite: CF 1691.</td>
</tr>
<tr>
<td>CF 2302</td>
<td>3</td>
<td>Construction Planning and Management 1</td>
<td>This course is designed to give students the knowledge needed for estimating labor, materials and cost of residential, light commercial and remodeling construction. Students will also set up a job site schedule. Students will be involved in daily and weekly material management, job site leadership skills and blueprint reading. This course involves the study of major financial decisions facing contractors. Topics include the cost of borrowing money, renting vs. home ownership, cost of protection and types of protection afforded by work compensation, financial record keeping, consumer credit, and investment development opportunities. Prerequisite: CF 1203.</td>
</tr>
<tr>
<td>CF 2306</td>
<td>2</td>
<td>Architectural CAD</td>
<td>This course starts with a basic introduction to the AutoCAD software and then begins a house floor plan. Using step-by-step tutorial lessons, the residential project is followed through to create elevations, sections, details, etc. Throughout the project, new AutoCAD commands are covered at the appropriate time. Focus is placed on the most essential parts of a command rather than an exhaustive review of every subfeature of a particular command.</td>
</tr>
<tr>
<td>CF 2309</td>
<td>2-3</td>
<td>Foundations and Concrete Lab 2</td>
<td>This course covers advanced methods and skills associated with foundations and concrete applications in construction. This course is designed to have students lay out a building site and prepare the ground for footing forms, floors, and concrete foundation systems of varying types. Student will also practice erosion and sediment control following the requirements of the National Pollutant Discharge Elimination System/State Disposal system permit for construction activities. Prerequisite: CF 1109.</td>
</tr>
<tr>
<td>CF 2315</td>
<td>5</td>
<td>Construction Lab 3</td>
<td>This course covers advanced methods and skills associated with construction projects. In this course students will frame a residential structure. Students will have on site demo/lectures. Students will take knowledge gained from previous coursework and apply to foreman-type duties including material use and wall layout. Students will apply leadership and time management skills. Prerequisite: CF 1217.</td>
</tr>
<tr>
<td>CF 2321</td>
<td>2</td>
<td>Exterior Finish Lab 3</td>
<td>After completing this course, the student should be able to identify terms associated with roofs and overhangs, finish the cornice overhang, and shingle an intersecting roof. Prerequisite: CF 1121.</td>
</tr>
<tr>
<td>CF 2402</td>
<td>3</td>
<td>Construction Planning and Management 2</td>
<td>This course provides students the knowledge of plan reviews, building permit process, and monitoring materials cost of the project. Students will continue job scheduling from fall to spring semester. Students will be involved in daily and weekly material management, blue print reading and develop job site leadership skills. This course is also designed for career and technical students, and is intended to develop language skills necessary for effective writing and speaking required by employers and home owners. Writing skills include design elements for documents as well as grammar, word usage, spelling, and editing skills. Students will develop oral communication skills through presentations in class which may include impromptu, demonstration, and persuasive speeches. Prerequisite: CF 1203.</td>
</tr>
<tr>
<td>CF 2417</td>
<td>1-5</td>
<td>Construction Lab 5</td>
<td>This course gives students the opportunity to enhance their knowledge and skills gained in the previous coursework by participating in advanced construction and/or special advanced projects. Prerequisite: CF 1217.</td>
</tr>
<tr>
<td>CF 2422</td>
<td>2</td>
<td>Building Energy Codes</td>
<td>The purpose of this course is to acquaint the student with the Minnesota Building Code and Energy Code as it relates to residential buildings.</td>
</tr>
<tr>
<td>CF 2429</td>
<td>1-3</td>
<td>Remodeling/Renovation Lab 2</td>
<td>This course covers advanced methods and skills associated with remodeling and renovation. This course involves a project in which students will learn various aspects and techniques of remodeling and the estimating of materials involved. Prerequisite: CF 1229.</td>
</tr>
<tr>
<td>CF 2435</td>
<td>1-3</td>
<td>Interior/Exterior Finish Lab 2</td>
<td>This course covers advanced methods and skills associated with interior and exterior finishing. Prerequisite: CF 1235.</td>
</tr>
<tr>
<td>CF 2900</td>
<td>1-8</td>
<td>Carpenter Internship</td>
<td>This course is designed to give students hands-on working experience in the construction trade. Participation is dependent upon instructor approval of the host company and learning outcomes related to construction industry. Prerequisite: CF 1235.</td>
</tr>
</tbody>
</table>
### CHEMISTRY (CHEM)

**CHEM 1000**  
Introduction to Chemistry  
MnTC Goals 3B, 10  
This introductory course emphasizes elementary principles and applications in chemistry and is intended for non-science majors and as preparation for the Principles of Chemistry sequence. Topics include matter, measurement, atomic theory, bonding theory, nomenclature, stoichiometry and the mole concept, reactions, liquids and solids, solutions, and acid-base chemistry.

**CHEM 1010**  
Survey of Chemistry  
MnTC Goals 3B, 10  
An introductory one-semester course designed for liberal arts and pre-health science students. Topics covered are atomic structure, energy, phase changes, solutions, acid-base concepts and the use of pH, gas laws, nuclear chemistry, carbon compound families and typical reactions and macromolecules of biological importance, such as carbohydrates, lipids and proteins and their metabolism. Prerequisite: MATH 0970 or MATH 0990 or math placement exam score for MATH 0980 or above.

**CHEM 1020**  
General Chemistry I  
MnTC Goals 3B, 10  
The first semester of a two-semester sequential course designed for liberal arts and pre-health science students. The course covers the fundamental principles and concepts of chemistry including structure, bonding, acid-base chemistry, oxidation-reduction, elementary thermodynamics and kinetics and equilibrium chemistry. Prerequisites: High school chemistry, algebra and/or CHEM 1000.

**CHEM 1030**  
General Chemistry II  
MnTC Goal 3B  
The second semester introduces the families and reactions of carbon (organic) chemistry. The major emphasis is on nomenclature and structure of organic compounds, the macromolecular structures of biochemistry including carbohydrates, lipids and proteins. Prerequisite: CHEM 1020 or consent of instructor.

**CHEM 1510**  
Principles of Chemistry I  
MnTC Goal 3B, 10  
The first course in a two-semester sequence, is a study of the basic concepts of chemistry. Topics include: measurement, nomenclature, reactions, stoichiometry, atomic theory, periodicity, thermodynamics, chemical bonding, molecular structure, gases, and intermolecular forces. The laboratory emphasizes basic laboratory skills including observation, organization, and data analysis. Prerequisite: Algebra and high school chemistry or CHEM 1000.

**CHEM 1520**  
Principles of Chemistry II  
MnTC Goal 3B  
CHEM 1520 is a continuation of the first semester basic chemistry emphasizing chemical kinetics, equilibrium, precipitation reactions, acids and bases, entropy and free energy, complex ions, oxidation/reduction, electrochemistry, nuclear, and organic chemistry. Laboratory experiments will provide opportunity to use instruments needed for quantitative experimentation and include equilibrium systems of aqueous solutions, spectroscopy, titrations, and the separation and identification of metal ions. Prerequisite: CHEM 1510.

**CHEM 2610**  
Introduction to Organic Chemistry I  
5 Credits  
An initial course in organic chemistry with the emphasis on the classification, structure, isomerism, and the fundamental reactions and preparations of the families of carbon compounds. Topics include covalent bonding, alkanes, stereoreactivity, free radical mechanisms, alkyl halides and spectroscopy. Laboratory introduces students to basic laboratory procedures of organic chemistry relative to properties, preparations, analysis and synthesis. Prerequisite: CHEM 1520.

**CHEM 2620**  
Introduction to Organic Chemistry II  
5 Credits  
A continuation of Chemistry 261. The topics include alcohols, alkenes, alkynes, aromatics, aldehydes, ketones and organic acids and their derivatives. Macromolecules including carbohydrates, lipids, proteins and polymers. The study is from the standpoint of chemistry relative to structure, structure determination, and properties. Prerequisite: CHEM 2610.

### COMMUNICATION STUDIES (CMST)

**CMST 1210**  
Introduction to Communication  
MnTC Goal 1  
A course designed to develop an understanding and to improve (by performance) the total communication process of the student. Attention is placed on interpersonal communication, group communication and public communication.

**CMST 2200**  
Public Speaking  
MnTC Goal 1  
Study of communication principles to develop skills in finding, adapting and delivering material which will inform or persuade an audience; practice in a variety of speech situations.

**CMST 2230**  
Listening  
MnTC Goal 7  
A general overview of listening and its function in effective communication. The focus is on understanding the components of the listening process and using effective listening behaviors in a variety of settings.

**CMST 2250**  
Small Group Communication  
MnTC Goal 1  
The study and development of communication skills for working in small group situations, including group dynamics and leadership functions as they relate to effective collaborative problem solving.

**CMST 2260**  
Interpersonal Communications  
MnTC Goals 6, 7  
The study of communication in one-to-one relationships through learning concepts and practicing skills. Attention is given to identifying communication problems in relationships and to learning strategies to manage these relationships more effectively.
CMST 2270
Intercultural Communication
MnTC Goal 7
An introduction to communication among people from different cultures. This course explores the relationship between culture and communication, gaining an intellectual framework to understand cultural patterns, verbal and nonverbal codes in intercultural interpersonal relationships. Attention is given to obstacles to and skills for competent intercultural communication.

CMST 2280
Argument and Reasoning
MnTC Goals 6, 9
An introduction to the field of argumentation, addressing the basic structure, types, and critical analysis of argument. Students will learn types of reasoning, argument structure, common fallacies, and refutation, and will apply this knowledge in the construction of arguments.

CMST 2400
Gender and Communication
MnTC Goal 7
The study of how gender effects communication. The student will learn the physiological and cultural basis for gender, and how those gender differences impact social perception and communication styles.

CMST 2500
Computer-Mediated Communication
MnTC Goal 8
The analysis of the relational and social dynamics of technology-based communication, and the identification of strategies for using mediated communication more effectively.

CMST 2600
Organizational Communication
MnTC Goal 9
The study of communication in businesses and organizations. Students will learn about approaches to organizational communication, and understand how culture, organizational climate, technology, leadership style, teams, and networks impact the vitality of a business or organization, and the subsequent impact on society.

CMST 2900
Communication Certificate Capstone
This is the culminating course for students pursuing the Communication Certificate. Students will identify core skills they have attained and will develop and publish a portfolio reflecting their Communication Studies work. Prerequisite: Consent of instructor

DRFT 1001
Principles of Engineering/Engineering Technology
This course helps students understand the field of engineering/ engineering technology. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change.

DRFT 1002
Fundamentals of Parametric Design
This course provides instruction on producing solid models and drawings from those solid models using the parametric software, Solidworks®. This course will cover the fundamentals and basic concepts of parametric modeling as well as creating part and assembly drawings from those models.

DRFT 1500
Drafting Basics
This course addresses the fundamentals of engineering drawing including lettering, line work, scaling, applied geometry, orthographic projections, auxiliary views, section views, and threaded and miscellaneous fasteners. The lab portion emphasizes neatness, correctness, and skills using scales and drawing instruments or CAD. Co-requisite: DRFT 1502

DRFT 1502
CAD I
Basic AutoCAD 2-dimensional commands will be covered in this course. This course addresses the fundamentals of computer-aided drawing utilizing AutoCAD software, the Windows platform, and system networking. The student will learn to utilize drawing and editing commands to create, store, and output single and multiview drawings.

DRFT 1503
Interpreting Engineering Drawings
A basic course exposing students to drawings used in manufacturing industries enabling them to interpret the intent and meaning of a variety of industrial prints. Visualization, reading dimensions, and interpreting special symbology are stressed.

DRFT 1504
Technical Sketching
This course familiarizes students with objectives and methods of technical sketching. Emphasis for this course will be placed on how to sketch an object by looking at a blueprint, the object itself, or a photograph and maintain its proportions. Drafters, engineers, and illustrators must communicate their ideas to coworkers, bosses, or a board of directors. A sketch must communicate its technical and geometric data exactly. The skills and construction techniques will be developed into creating pictorial drawings and illustration. Proper lettering techniques will also be discussed.

DRFT 1506
Manufacturing Processes
This course familiarizes students with shop safety and basic fabrication processes. The student is introduced to and operates equipment such as a press brake, shear, plasma table, wire feed, tig and stick welders. This course also requires the student to manufacture a project from raw material to a final weldment, utilizing the shop equipment available.

DRFT 1508
Applied Math
This course introduces the fundamentals of applied geometry and trigonometry as applied to drafting and manufacturing math problems. Topics covered include angles, circles, functions, right and oblique triangles, and compound angles. Exercises will be presented using the textbook exercises and a series of worksheets, with an emphasis on actual shop calculations. This course is dual-listed with MACT 1508.
Course Descriptions

DRFT 1510   3 Credits
CAD II
This course is a continuation of the study of AutoCAD software to include additional input modes and applications, pictorial drawing, and an introduction to three-dimensional AutoCAD drawing. Prerequisite: DRFT 1502

DRFT 1511   3 Credits
Intersections and Development
This course provides a study of descriptive geometry as it pertains to sheet metal pattern developments. Various methods are utilized to construct flat patterns and scale models of 3-dimensional objects. Sheet metal bend allowances are also studied as they pertain to different gauges of metal. Prerequisite: DRFT 1500

DRFT 2500   4 Credits
Design Drafting I
A study of manufacturing materials, forming processes including castings, forgings, weldments, design concepts, pipe drafting, and structural drafting. Detail and assembly drawings are developed. Prerequisite: DRFT 1500

DRFT 2501   2-3 Credits
Geometric Dimensioning and Tolerancing
This course covers the use of geometric tolerancing per the ANSI/ ASME Y14.5 Standard on Dimensioning and Tolerancing. Included are rules, datums, geometric controls, and calculations of positional tolerances. (2-credit option for Machine Tool Tech students)

DRFT 2502   2 Credits
Fixture Design and Tooling
This course covers basic principles and procedures for the design of jigs and fixtures used for machining applications, related automated loading equipment, and associated tooling.

DRFT 2503   3 Credits
Parametric Design I
This course introduces the student to the basics of Solidworks, a parametric, feature-based solid modeling system. Prerequisite: DRFT 1500 or instructor approval

DRFT 2504   2 Credits
Electronic and Electrical Drawings
This course covers logic diagrams, schematic diagrams, printed circuit board drawings, and the symbology used to create them.

DRFT 2505   2 Credits
Computer Aided Manufacturing
This course introduces the student to drafting opportunities in the manufacturing engineering field. The student will create manufacturing programs from the stand-alone station and also utilize computer-aided manufacturing software. Students will program fabrication equipment such as a CNC (Computer Numerical Control) mill, plasma cutting table, and a robotic welder. Prerequisite: DRFT 1510

DRFT 2506   2 Credits
Sheet Metal Design
This course introduces the basics of sheet metal design. Students will learn to apply bend equations to sheet metal and plate steel. In addition, they will calculate flat patterns for 90 and non-90 degree bends, cones, transitions and tubing necessary to develop formed components to specific dimensions. Class assignments will entail bending calculations, develop flat-pattern layouts, bending notches, orthographic drawings, and create a single part from a weldment. Prerequisite: DRFT 1502, DRFT 2503, DRFT 2513, and DRFT 2515 or instructor approval

DRFT 2510   4 Credits
Design Drafting II
A study of power transmissions is covered in this course. Topics to be covered include belts, chains, gears, couplings, bearings, seals, cams, linkages, and actuators. Prerequisite: DRFT 1500

DRFT 2512   2 Credits
Technical References
A study of resource materials used in the engineering/drafting field to include: Internet resourcing, Machinery Handbook, ASME Y14 SM-1994 Standard on Dimensioning and Tolerancing, the Thomas Register, Sweets Catalogs, Ryerson Steel Catalog, and other standards and vendor catalogs.

DRFT 2513   3 Credits
Parametric Design II
This course introduces the student to the basics of the Pro Engineer software, a parametric, feature-based solid modeling system.

DRFT 2515   3 Credits
Parametric Design III
This course introduces the student to the basics of the Inventor software, a parametric, feature-based solid modeling system.

DRFT 2516   3 Credits
Advanced Parametrics
This course will give the students advanced training using Solidworks, a parametric design software. The course will cover advanced modeling topics such as creating multibody parts, advanced revolving tools, flex bending, using sweep and guide curves, creating lofts and boundaries, surfaces, simulation and top down assembly techniques. Prerequisite: DRFT 2503

DRFT 2518   1-6 Credits
Special Projects/Topics
This course provides the opportunity for students to pursue topics and/or projects concentrating on concepts of current interest to Computer Aided Drafting and Design studies. The course will include research and project work in a mentored setting. The topics studied, and the projects chosen by the instructor and the students, will develop concepts that integrate and further develop skills and concepts essential to the Computer Aided Drafting and Design program.
COMPUTER SCIENCE (CSCI)

CSCI 1400 3 Credits
Business Computers
This is an introductory course in computers, including basic hardware and software, information systems, computers in the business world, security issues, and their societal impact. An introduction to computer applications is also studied using word processing, spreadsheets, data base programs, and the Internet. Dual numbered with BUS 1400.

COMPUTER SYSTEMS TECHNOLOGY (CST)

CST 1021 3 Credits
HTML and CSS
This course is designed to give students the basic skills they need to design web pages. Students will develop the skills they need to write, understand, and use HTML and CSS code in the creation of web pages. Course content addresses topics such as the use of HTML coding, HTML versions, browser differences, and CSS for page layout and design. In addition, students will navigate the World Wide Web and understand how web pages are delivered.

CST 1022 3 Credits
HTML II and Javascript
This course covers advanced topics in the use of the Hyper Text Markup Language (HTML). Students will develop the skills they need to create forms for data entry, embed multimedia, use cascading style sheets for printing, and the use of JavaScript to enhance page function. Javascript code will be written by hand and then debugged and managed using Macromedia Dreamweaver. Dreamweaver. Prerequisite: CST 1021 or MMDT 1021 and CST 1794.

CST 1025 2 Credits
Network Basics
In this course students will learn how local networks, wide-area networks, and the Internet work. They will also learn about the various types of servers and the services they provide. This will be learned through the installation and configuration of a variety of application programs of the type used in organizations. Students will work with various types of network hardware in a hands-on lab setting.

CST 1026 1 Credit
TCP/IP Routing
This course is designed to provide students an overview of the structure and algorithms used in the TCP/IP networking protocols that make up the foundation of the Internet. The emphasis of the class will be on routing and network configuration. TCP/IP v4 and v6 will be covered.

CST 1072 3 Credits
Windows Workstation Support
The purpose of this course is to address the implementation and desktop support needs of customers who are planning to deploy and support current Microsoft Windows desktop operating system in a variety of stand-alone and network operating system environments. It provides in-depth, hands-on training for Information Technology (IT) professionals responsible for the planning, implementation, management, and support of Microsoft Windows.

CST 1146 3 Credits
PHP Programming
In this course students will design and write programs using PHP, a widely used programming language used to make dynamic web sites and web applications. Students will write PHP programs to solve real world problems. PHP code will be written by hand and then debugged and managed using Adobe Dreamweaver. Students will be running their projects on an actual web server with PHP and MySQL installed. Prerequisites: CST 1794 and CST or MMDT 1021.

CST 1261 2 Credits
Applications Support
In this class students will learn how to install, configure, and support a basic user's computer software, and Microsoft Office application software used in businesses and by other employers of computer technicians.

CST 1510 3 Credits
System Diagnostics
This course is designed for a student entering the computer systems field who desires an understanding of basic computer hardware architecture, and troubleshooting techniques. Students will learn about the system hardware and practical troubleshooting skills. This is done through textbook study and hands-on lab work.

CST 1511 3 Credits
Storage Media Diagnostics
In this course students will learn about computer system hardware and practical troubleshooting skills. Topics covered in this course include the following: hard drive storage, optical storage, solid state storage, other static storage devices, video output, video cards, audio output, audio cards, and power supplies.

CST 1600 3 Credits
Relational Database Design
This course is designed for a student entering the computer systems field who desires an understanding of relational databases. Students will apply relational database concepts and principles using MySQL. Topics covered in this course are: relational database design, tables, records, fields, data normalization, data types, primary and foreign keys, relationships, and queries. This course is based on the use of textbook study and hands-on structured labs assigned by the Instructor.

CST 1602 3 Credits
Advanced Databases
This course is designed to introduce students to SQL and PL/SQL functions for database management systems. Students will learn how to create and maintain database objects, and how to store, retrieve, and manipulate data. Students will also create PL/SQL blocks of application code that can be shared in multiple forms, reports, and data management applications. Prerequisite: CST 1600 or prior knowledge of relational databases.

CST 1611 3 Credits
Web Server Administration
This course is designed for a student entering the network administration field who desires an understanding of web server administration. Students will learn the skills they need to install and administer a web server in an Internet or Intranet environment using Apache web server. Topics covered include: installation, configuration, maintenance, security, and uses of the web server.

CST 1620 4 Credits
C# Programming
This course covers both design and programming using the programming language Microsoft C#, a graphical derivative of C, which is a widely used
CST 1640  
Introduction to Java  
The course covers both design and programming using Java, which is an object-oriented language. The student will develop programs using Java. Prerequisite: CST 1794 or equivalent.

CST 1700  
CCNA R & S Introduction to Networks  
Cisco Certified Network Associate Routing and Switching, Introduction to Networks is a theory course in networking technologies and implementation. Topics include the OSI reference model, network protocols, transmission media, topologies, access methods, and networking hardware and software.

CST 1794  
Introduction to Programming  
This course is designed to introduce the student to the principles and techniques involved in programming. In the process of teaching programming principles, the student will be taught structured programming approaches. Students will be introduced to computer related math, number systems, and logic to provide foundations for later programming principles. Students will be taught the fundamentals of I/O programming, looping, functions, and will be introduced to data structure related concepts. Students will be exposed to the processing of disk files. Upon completion of this course the student should be prepared to write basic code and should have the foundations for further learning as it relates to programming.

CST 1802  
Helpdesk Diagnostics  
This course is designed for a student entering the computer systems or network administration field who desires an understanding of computer diagnostics and hands-on experience troubleshooting and repairing computer hardware and software. This is by performing 48 hours of service in the CST Helpdesk. This class covers many diagnostic and repair techniques, work place documentation, demonstration of proper business ethics, and cooperation with peers and customers. This course may be repeated for up to 2 credits.

CST 1861  
Command Line and Registry  
This course covers the use of command line commands, Windows shell scripts, and the Windows Registry. Computer technicians and network administrators are given the skills they need to use command line commands, write shell scripts to enhance their work, and manage the registry.

CST 2274  
Windows Server Install and Configure  
This course provides students with the knowledge and skills to manage accounts and resources in a Microsoft Windows Server environment. The course is intended for systems administrator and systems engineer candidates who are responsible for managing accounts and resources. These tasks include managing user, computer, and group accounts; management access to network resources; managing printers; managing an organizational unit in a network based on Active Directory services.

CST 2276  
Windows Server Advanced Services  
The objective of this course is to teach students the knowledge and skills needed to install, configure, and administer Cloud based Application services on the Windows Server platform. This course is intended for IT professionals who will administer private, public, and hybrid cloud based application services on the Windows server platform.

CST 2284  
Network Security  
In this course, students learn general security concepts including authentication methods, cryptography basics, and how to recognize how to safeguard against common network attacks. Students will learn to create secure communications for remote access, email, the Internet, directory and file transfer, and wireless communications. In addition, students will develop an appreciation for and plan for the implementation of physical security and disaster recovery. Prerequisite: CST 1072

CST 2504  
A+ Certification Prep  
This course prepares students to troubleshoot and repair microcomputer systems and their peripherals. This goal is achieved through a three-part effort which includes: 1) solid theory presentation, 2) hands-on operation and exploration in lab experiments, and 3) troubleshooting applications in lab procedures. It also prepares the student to pass the Comp TIA A+ certification exam. Prerequisites: CST 1861, CST 1511, CST 1072, CST 1025, CST1510 and CST 1261

CST 2505  
Introduction to Linux  
This course covers administration basics of the UNIX operating system. Network administrators are given the skills they need to install, configure, optimize, and use the UNIX operating system.

CST 2514  
Printer Diagnostics  
This course will familiarize the students with basic troubleshooting and preventative maintenance using the latest laser printer, ink jet and dot matrix printers. Basic installation and setup is also covered.

CST 2608  
Linux Server Administration  
This course provides the core foundation for supporting the Linux operating system in a server environment. The goal of this course is to provide support professionals with the skills necessary to install, configure, customize, optimize, network, integrate, and troubleshoot a Linux server.

CST 2641  
Introduction to Mobile Applications  
Mobile devices are becoming common place in business as well as everyday life. This course focuses on producing interactive web apps optimized for the mobile platform, and producing hybrid cross platform mobile apps that run on...
Android, iOS, and Windows Mobile devices. This will be accomplished by leveraging existing web and programming technologies as well as utilizing emerging technologies. Prerequisite: CST/MMDT 1021, CST 1794

CST 2646  3 Credits
Software Project Management
An introduction to project management techniques focusing on the software development process. A study of different project management methodologies including Prototyping, the Water-Fall Model, Unified Software Development Process, Agile Development, and other modern project management techniques yielding a capstone project.

CST 2702  2 Credits
CCNA R & S Scaling Networks
Cisco Certified Network Associate Routing and Switching, Scaling Networks, is the third in the series of four courses required to prepare the student for the Cisco CCNA certification exam. Topics covered in this course include VLSM, RIP v2, VRF's, LAN Technology, LAN Switching, VLAN, LAN Design, IGRP and LAN troubleshooting. Prerequisite: CST 1700, CST 1701

CST 2703  2 Credits
CCNA R & S Connecting Networks
Cisco Certified Network Associate Routing and Switching, Connecting Networks, introduces WAN converged applications and quality of service (QoS). It focuses on WAN technologies including PPP, Frame Relay, and broadband links. WAN security concepts are discussed in detail, including types of threats, how to analyze network vulnerabilities, general methods for mitigating common security threats and types of security appliances and applications. The students will learn the principles of traffic control and access control lists (ACLs) and how to implement IP addressing services for an Enterprise Network, including how to configure NAT and DHCP. IPv6 addressing concepts are also discussed. Students will learn how to use Cisco Router and Security Device Manager (SDM) to secure a router and implement IP addressing services. Finally, students learn how to detect, troubleshoot and correct common Enterprise Network implementation issues. Prerequisite: CST 1700, CST 1701, and CST 2702

CST 2802  1 Credit
Helpdesk Management
This course is designed for a student entering the computer systems or network administration field who desires an understanding of computer Helpdesk management. This is done by performing 48 hours of service managing the CST Helpdesk. This class covers many diagnostic and repair techniques, workplace documentation, demonstration of proper business ethics, customer relations, employee time management, equipment supply, parts ordering, and workflow management. This course may be repeated for up to two credits. Co-requisite: CST 1802 or prior Helpdesk experience

CST 2823  3 Credits
Network Intrusion
This course examines ethical hacking and information systems security auditing. Students will focus on the current security threats, advanced attack vectors, and practical real-time demonstration of the latest hacking techniques, methodologies, tools, tricks, and security measures. The course will explore pentesting (Penetration Testing), hacking and securing systems. The lab intensive environment provides student’s in-depth knowledge and practical experience with the current security systems. Foundational concepts include how perimeter defenses work and scanning and attacking networks. Students will learn how intruders escalate privileges and what steps can be taken to secure information technology system. Content topics include: intrusion detection, policy creation, social engineering, Distributed Denial-of-Service (DDoS) attacks, buffer overflows, and virus creation. Prerequisite: CST 2284

CST 2824  3 Credits
Advanced Network Defense
This course examines theoretical understanding of network security principles as well as the tools and configurations available. The course will emphasize the practical application of skills needed to design, implement, and support network security. Students will develop critical thinking and complex problem solving skills using simulation-based scenarios that promote the exploration of networking security concepts, allowing students to experiment with network behavior and ask “What if” questions. Students will be equipped with the knowledge and skills needed to prepare for entry-level security specialist careers. The course will cover modern network security threats, securing network devices, authentication, authorization and accounting, firewall technologies, intrusion prevention, cryptography, implementing virtual private networks, managing a secure network, and implementing the cisco adaptive security appliance. Prerequisite: CST 2284

CST 2826  3 Credits
Security Capstone
This course allows students to develop their professional competency in cyber-security by working on a semester-long project. Students will research the SysAdmin, Audit, Networking and Security (SANS) Institute 20 critical security controls. Using the SANS model, students will be required to design, deploy, manage, identify and fix security risks in a virtual network of their design. Prerequisite: CST 2284

CST 2840  2 Credits
Wireless LAN Networking
This course will focus on the design, planning, implementation, operation and troubleshooting of wireless networks. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands-on skills. Prerequisites: CST 1700 or CST 1025

CST 2845  2 Credits
VoIP Networking
VoIP Networking is an introductory course that focuses on the history of traditional POTS systems and the basic theories of Voice over IP design, planning, implementation, operation and troubleshooting. It covers a comprehensive overview of technologies, security, and design best practices. It also covers how traditional phone systems can interact with VoIP networks of the future. Prerequisite: CST 1700

CST 2881  1-10 Credits
CST Internship
This course is a cooperative work study program between Ridgewater Computer Systems Technology Department and a company dealing with the field of computers which allows the student an employment-like work experience.

CST 2895  1 Credit
Customer Service
Help desk and customer service skills are presented in this course. Participants will develop skills needed to meet the requirement of customer satisfaction in a help desk setting.

CST 2950  1-6 Credits
Special Projects/Topics
This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be enrolled in this course.
COSMETOLOGY (COS)

COS 1403
Cosmetology Fundamentals Hair Track
This course covers esthetic procedures used in a salon and day spa environment. Students will perform acne and aging treatment procedures. Topics covered include advanced massage techniques, aroma therapy, photography, and product knowledge and client consultations.

COS 1404
Cosmetology Fundamentals Spa Track
This course introduces foundational content essential to hair, skin, and nail services. The course is designed to meet the theoretical and application needs in preparing for licensure and employment in the broad field of cosmetology services.

COS 1405
Pre-Clinic Haircutting
In this course, students will learn the basic elements and principles of hair cutting design to establish a foundation for seeing, thinking, creating and adapting as a designer. In addition, students will demonstrate the theoretical and practical skills required to provide appropriate hair sculpture services to meet the needs of a variety of clients.

COS 1407
Pre-Clinic Nail Care
This course covers salon fundamentals for nail technology. Students will study manicuring, pedicuring, and applying artificial nails using a variety of professional products. This course also covers related massage techniques, product knowledge and client consultations.

COS 1409
Pre-Clinic Chemical Control
This course offers instruction on creating curl in straight hair and removing from existing curl patterns. Students will study the scientific principles of hair properties and the artistic principles of texture, form and design. In addition, the use of relaxers and reformation curls, product chemistry and safety, and client home care maintenance steps will be covered.

COS 1411
Pre-Clinic Skin Care
This course covers salon fundamentals for estheticians. Students will study skin types, skin conditions and skin treatment procedures. Additional topics covered include massage techniques, product knowledge, make-up applications and client consultations.

COS 1413
Pre-Clinic Hair Color
This course covers products and techniques used for temporary, semi-permanent, demi-permanent, and permanent hair coloring agents. In addition, this course covers techniques for lightening hair, color correcting and design techniques, and the depositing and lifting abilities of color products.

COS 1415
Pre-Clinic Hair Design
This course covers the artistic and scientific principles of hair design theory, concept, and application as they apply to design systems and design classics. Students will learn how to mold, scale and set hair with rollers, pin curls, fingerwaves, air forming, and curling iron techniques. In addition, comb-out techniques including backcombing and backbrushing, as well as pressing and curling the hair will be covered.

COS 1417
Pre-Clinic Hair Care
This course focuses on the study of trichology and covers fundamental principles of hair theory, phases of hair growth, common hair and scalp disorders, and common causes and treatments of hair loss. Additional topics covered include hair care, draping, shampooing, scalp massage, thermal styling techniques and client consultations.

COS 1418
Design Forum
This course covers the latest fashion trends and uses the Pivot Point’s Design Forum Collections to integrate salon techniques and training. Also included in this course are topics focused on developing “people skills” which integrate salon communication, client consultations, and retailing.

COS 1419
Salon Success I
This course focuses on essential life skills that create the personal foundation for career success using skills for character development, interpersonal relationships, professional communication, career planning and self-management.

COS 1435
Minnesota Laws and Rules
Upon successful completion of this course, students will have the necessary qualifications for Cosmetology licensure. Along with a review of essential theories, Minnesota state rules and regulations will be covered to prepare students for national written examinations and salon ownership.

COS 1451
Extra Clinic or Out-of-State Hours
This clinical course provides students additional hours to meet state license requirements. Students apply skills learned in PreClinic courses for various styles using the latest equipment, technology and products necessary to be successful in the salon and day spa industries. Students will be required to complete state required quotas needed for licensure and prepare for practical certification testing exams.

COS 1460
Salon Fundamentals for Nail Technology
This course includes information needed to complete the licensure requirements through the Minnesota Department of Commerce. It will prepare students for the written Minnesota Manicurist Exam issued by the state.

COS 1461
Salon Fundamentals for Estheticians I
This course covers esthetic procedures used in a salon and day spa environment. Students will perform acne and aging treatment procedures. Topics covered include advanced massage techniques, aroma therapy, photography, and safety, sanitation and healthy skin. In addition, the course content addresses the Minnesota and national licensure exams.
COS 1500  
**Clinical**  
This course provides hands-on clinical experiences in the Ridgewater College Salon and Day Spa. Students apply skills learned in Pre-Clinic courses using the equipment, technology, products and services necessary to be successful in the salon and spa industries. Students will be required to complete quotas established by the Minnesota Board of Cosmetology for licensure, and will prepare for practical certification testing exams. This is a variable credit course (1-3 credits). This course may be repeated in increments of 1-3 credits to meet the 12 credits Estheology Certificate, the Advanced Esthetics Certificate, and the Advanced Esthetics AAS degree.

COS 1501  
**Clinical**  
This course provides hands-on clinical experiences in the Ridgewater College Salon and Day Spa. Students apply skills learned in Pre-Clinic courses using the equipment, technology, products and services necessary to be successful in the salon and spa industries. Students will be required to complete quotas established by the Minnesota Board of Cosmetology for licensure, and will prepare for practical certification testing exams. This is a variable credit course (1-3 credits). This course may be repeated in increments of 1-3 credits to meet the 12 credits Estheology Certificate, the Advanced Esthetics Certificate, and the Advanced Esthetics AAS degree.

COS 1502  
**Clinical**  
This course provides hands-on clinical experiences in the Ridgewater College Salon and Day Spa. Students apply skills learned in Pre-Clinic courses using the equipment, technology, products and services necessary to be successful in the salon and spa industries. Students will be required to complete quotas established by the Minnesota Board of Cosmetology for licensure, and will prepare for practical certification testing exams. This is a variable credit course (1-3 credits). This course may be repeated in increments of 1-3 credits to meet the 12 credits Estheology Certificate, the Advanced Esthetics Certificate, and the Advanced Esthetics AAS degree.

COS 1519  
**Salon Success**  
This course focuses on the foundational skills essential to obtaining employment and succeeding in the cosmetology industry.

COS 2460  
**Advanced Esthetics I**  
This course consists of treatments performed by estheticians in a medical environment or full service salon and day spa. Students will complete an in-depth study of light, medium and deep chemical peels, acne treatment procedures, medical microdermabrasion and derma planning. It will also include camouflage make-up, body treatment procedures and advanced massage techniques including manual lymphatic drainage to promote healing. Students should successfully complete COS 1411, 1419, 1420, 1422, 1424, 1426, 1428, 1435, and 1461 prior to beginning this course.

COS 2462  
**Advanced Esthetics II**  
This course consists of the study of esthetic treatments performed by medical professionals under the supervision of a dermatologist or plastic surgeon. Students will study procedures including laser treatments, botox injections, and soft tissue fillers. In addition, students will develop a basic understanding of paramedical cosmetic procedures and learn associated medical terminology and records requirements. Students should successfully complete COS 1411, 1419, 1420, 1422, 1424, 1426, 1428, 1435, 1461 and 2460 prior to beginning this course.

COS 2464  
**Spa and Alternative Therapies**  
This course covers advanced spa services, body treatments, and alternative massage related therapies. Students will be able to identify, explain and perform spa treatments and services suited for individual client needs.

COS 2920  
**Advanced Esthetics Experiential Capstone**  
This capstone course will include experiential learning activities focused on exposure to current technology equipment, facility tours, job shadowing, performing salon procedures and services, observing esthetic procedures within medical facilities that offer esthetic treatments under the supervision of a medical director and at a full service salon/spa. It will also include guest speakers representing laser and esthetic equipment manufacturers and medical grade product manufacturers. Students should successfully complete COS 1411, 1419, 1420, 1422, 1424, 1426, 1428, 1435, 1461, 2460 and 2462 prior to beginning this course.

**EARLY CHILDHOOD EDUCATION (ECED)**

ECED 1015  
**Activity Ideas**  
This course requires students to create activities and projects that encourages growth and development in students in an early childhood environment. Opportunities to interact with young children to use these activities is an important part of this course.

ECED 1105  
**Guiding Children’s Behavior**  
This course explores the methods of creating and maintaining a positive classroom and/or early childhood environment. Discipline, enhancing students’ self-esteem, including all students, and evaluating the environment are also included.

ECED 1110  
**Language Arts**  
This course covers concepts, methods, and techniques of assisting in language arts instruction in a preschool, elementary, or special needs classroom. Special topics covered are language development, reading readiness, lesson plans, comprehension, spelling, listening, whole language, and storytelling.

ECED 1115  
**Special Education**  
This course covers the social, physical, emotional, and intellectual development of individuals with special needs and includes specific strategies for working with those learners. During the lab component of this course, students will spend 15 hours in an early childhood center and/or elementary classroom applying the information they have learned in the classroom.

ECED 1120  
**Child, Family and Community**  
This course will study the influence of different variables impacting effective teacher, caregiver and family relationships. Family diversity, parenting styles and attitudes, and their relationship to the caregiver-child relationship will be emphasized. Cultural dilemmas and their impact on early care and education will be identified as students begin to evaluate their own cultural competence. Students will learn how to identify and strengthen positive factors that empower families.
Course Descriptions

ECED 1125  3 Credits
Child Development
This course presents a study of the growth and development characteristics of infants from conception through preschool years. Included is an emphasis on stages of development with focus on physical, intellectual, social and emotional growth, and multiculturalism.

ECED 1150  2 Credits
Children's Mental Health
Young children's healthy social and emotional development are essential in their success in school and beyond. This course will introduce students to strategies to promote healthy social and emotional development, assist them in identifying children who are at risk for mental health disorders, and introduce strategies to provide individualized attention to young children who are exhibiting symptoms of mental health disturbances.

ECED 1410  2 Credits
Introduction to Autism Spectrum Disorder
This course will study ways early childhood educators can look for characteristics of autism in those children yet to be identified and help children with autism reach their highest potential. Setting up a positive social climate, helping children learn life skills, managing behavior, helping them communicate and encouraging children with autism to play will also be discussed.

ECED 1420  1 Credit
Bullying: An Educator's Role
This course will study methods to create a caring early childhood environment and appropriate ways to respond to negative social behaviors such as teasing and bullying. Ways to help teachers create a climate of mutual respect where all children feel safe, comfortable, and welcome will also be discussed.

ECED 1430  1 Credit
Assistive Technology in Early Childhood Special Education
This course will study ways to help children with disabilities use assistive technology to completely participate in inclusive early childhood environments. A wide variety of assistive technology supports will be discussed that assist students in the areas of communication, language, play, mobility, and literacy.

ECED 1440  1 Credit
Creating an Inclusive Early Childhood Environment
This course will study ways to adapt regular curriculum activities to meet the needs of all children in the early childhood environment. Practical ways to adjust centers, activities, and classroom routines so that all children can learn and be kept involved in developmentally appropriate activities will also be discussed.

ECED 1610  3 Credits
Health in Early Childhood
This course covers an overview of health, safety, and nutritional issues of young children from conception through grade three. It is designed for educators entering an early childhood educational environment. The prenatal environment and its impact on the health of the individual will also be emphasized. There will also be discussion on the importance of adults in the child care and school environment in assisting young children in developing good habits and attitudes, and to assume lifelong responsibility for their own health.

ECED 1620  3 Credits
Foundations of Early Childhood
This course explores the foundations of the Early Childhood field. A variety of research methodologies, advocacy and legislation, and events leading to the current philosophies in the area of early childhood will be explored. There will also be discussions on the societal changes that affect child care, development, and family involvement.

ECED 1630  3 Credits
Practices and Assessments in Early Childhood
This course discusses current programming techniques for care giving, facilitating learning, and assessment. A variety of standardized and authentic assessment methods will be explored. There will also be discussion on improving practices to provide for a more inclusive environment for all children. Concurrent enrollment: ECED 1631

ECED 1631  1 Credit
Practices & Assessments in Early Childhood Lab
This course is a field experience where students will be placed in an early childhood environment for a minimum of 30 hours. Opportunities will be given for the students to use information obtained in Practices and Assessments in Early Childhood. Concurrent enrollment: ECED 1630

ECED 1640  3 Credits
Early Childhood Methods & Curriculum Planning
This course focuses on instructional strategies used to develop appropriate curricula for the early childhood environment. Theories of curriculum development and various research and experimental models will be explored. Adapting curricula for inclusive settings will also be studied. Concurrent enrollment: ECED 1641

ECED 1641  1 Credit
Early Childhood Methods & Curriculum Planning Lab
This course is a field experience where students will be placed in an early childhood environment for a minimum of 30 hours. Opportunities will be given for the students to use information obtained in Methods and Curriculum Planning with the young children at their site. Concurrent enrollment: ECED 1640

ECED 2900  2 Credits
Internship
This course is a cooperative work-study program between Ridgewater College Early Childhood Education department and an educational facility or child care center. This opportunity allows the student an employment-like work experience.

ECED 2910  2 Credits
Early Childhood Special Education Internship
This course is a cooperative work study program between the Ridgewater College Early Childhood Education Department and an educational facility, preschool, or child care facility. The experiential learning in this course will increase the student's understanding of special education and programs serving young children with special needs and their families.

ECED 2950  1-6 Credits
Special Projects/Topics
This course provides the opportunity for students to pursue projects and/or topics concentrating on concepts of current interest to Early Childhood Education studies. The course will include research and project work in a mentored setting. The topics studied and the projects chosen by the instructor and the students will develop concepts that integrate and further develop skills and concepts essential to the Early Childhood Education program.
**Earth Science (ESCI)**

**ESCI 1100**  
Physical Geology  
MnTC Goals 3B, 10  
This course focuses on the physical aspects of the earth. We examine basic scientific methods, concepts and theories related to the earth as a dynamic planet and its origin and place in the cosmos. Minerals, rocks, and economic resources are introduced and interpreted. Methods of representing and interpreting the earth (maps and graphs) are evaluated and used. Surface processes that shape our planet and internal processes that drive the dynamic systems of the planet are studied (local/regional examples are used). The impact of human activities on the planet are examined. A semester long earthquake and volcano monitoring project is assigned as well as several online and written activities. Lecture - 3 hours. Lab - 2 hours. Prerequisite: Basic math recommended.

**ESCI 1120**  
Introduction to Meteorology  
MnTC Goals 3B, 10  
This course focuses on weather and climate. We look at basic scientific methods, concepts, and theories dealing with weather systems and daily weather conditions. Global air circulation, air masses, forecasting techniques, severe weather, and climate patterns are examined. Human impact on our atmosphere, weather and climate are closely studied and possible solutions are discussed. A semester lab project related to observational meteorology is assigned as well as several internet and written activities. Lecture - 3 hours. Laboratory - 2 hours.

**ESCI 1130**  
Introduction to Astronomy  
MnTC Goal 3B  
This course focuses on the observable universe. We look at basic scientific methods, theories and concepts related to space/time, motion, and forces that govern the universe. The origin, evolution, and fate of planets, stars, galaxies, and the universe are examined and interpreted. Observational techniques for astronomical studies are introduced and used. Events and techniques related to space exploration and searches for life elsewhere are covered. Several voluntary night observations are offered during the semester. A semester project using observational skills is assigned along with several internet and written activities. Lecture - 3 hours; laboratory - 2 hours. Prerequisite: Basic math recommended.

**ESCI 1140**  
Natural Disasters  
MnTC Goals 3B, 10  
This course provides an in-depth investigation of natural phenomena that have potentially disastrous effects on humans and the environment. Topics are investigated from both a historical and a current perspective, and include earthquakes, volcanism, landslides, severe weather, shoreline problems, flooding, astronomical activities, and future global issues. Exploration methods will include discussions on cause and effect, discussions of prediction and prevention, reading and writing activities, media studies, Internet research, and data collection and analysis. Laboratory activities include using inquiry-based modules and online resources along with several realtime data collecting projects. This course is delivered in an online format and requires computer and internet access. - 3 hours, laboratory - 2 hours. Prerequisite: Basic math recommended.

**Economics (ECON)**

**ECON 1900**  
Personal Finance  
MnTC Goal 9  
This course is a study of major financial decisions facing the typical American household. It introduces students to credit, banking, personal budgeting and planning, risk management, investing, and retirement and estate planning. Civic responsibility, personal ethics, and the socio-political consequences of personal actions are emphasized as is our individual role in creating the society we want to live in. This is a general education course open to all students.

**ECON 1950**  
Introduction to Economics  
MnTC Goals 5, 9  
This course is designed for the non-business, non-economics major who wishes to further his/her knowledge of the economic problems facing the United States and world. A non-mathematical survey of macro- and microeconomic topics including demand, supply, modern and historic economic systems, pollution, government regulation, taxes, unemployment, and inflation. The impact of economic policy and market choice from social, personal, and ethical perspectives will be examined. This is a terminal course and should not be taken after Economics 0206 and/or Economics 0207.

**ECON 2060**  
Principles of Microeconomics  
MnTC Goals 5, 10  
This course provides traditional coverage microeconomics principles. The course examines the nature of choice and trade from the perspectives of individuals, firms, markets, and government. Microeconomic theory is applied to current events and through the perspective of evolving international markets. Prerequisite: MATH 0980 or 2 years of high school algebra recommended.

**ECON 2070**  
Principles of Macroeconomics  
MnTC Goals 5, 8  
This course provides traditional coverage of macroeconomic principles. The course examines society-wide choices for economic growth, methods of macroeconomic measurement, and applies monetary and fiscal tools for influencing macroeconomic policy variables. Macroeconomic theory is applied to current events from a global perspective. Prerequisite: MATH 0980 is recommended.

**ECON 2080**  
Intro to International Business/Economics  
MnTC Goals 5, 8  
A first course in international business aimed at providing a clear introduction to the essentials of international business and the environmental forces that impact on it. Relationships between business, education and government organizations as well as the financial, physical, sociocultural, political and economic forces of the international environment will be studied.
**Course Descriptions**

**Education (EDUC)**

**EDUC 2900**
Cooperative Education - Education Internship
Students are placed with supervising teachers in elementary, secondary, and special education classrooms. Contact hours required range from 75 to 300 depending on the number of credits carried. In addition to the field placement, students meet in weekly seminar at the college and complete additional course requirements. Prerequisites: Completion of 30 semester credits, a 2.0 GPA and consent of instructor.

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**Educational Assistant (EDA)**

**EDA 1005**
1-2 Credits
Occupational/Service Learning
This course takes a hands-on approach to introducing the student to the human service profession related to the education paraprofessional career area. The student will complete meaningful service to the community linked to curriculum-based learning by shadowing, observing, and participating in events hosted by organizations, agencies, schools, or facilities of related interest. Students will also attend field trips and workshops. (This course may be taken in 1-credit increments)

**EDA 1010**
2 Credits
Cultures in the Workplace
This course covers an anti-bias, multicultural approach to attitudes, knowledge, and skills necessary for working in a complex, diverse world. We will also address the importance of communication and relationships within the workplace.

**EDA 1015**
1-3 Credits
Activity Ideas
The ability to create and apply activity ideas and resources is an essential skill in the human service profession. Students will create projects, a resource planning guide, plan excursions and highlight special events as they relate to people of all ages and backgrounds.

**EDA 1020**
2 Credits
Sign Language I
This course introduces students to basic fingerspelling and American Sign Language with focus on developing expressive and receptive sign communication skills.

**EDA 1025**
2 Credits
Sign Language II
This course builds upon and expands previously learned vocabulary, incorporating fingerspelling and American Sign Language. Prerequisite: EDA 1020

**EDA 1030**
2 Credits
Sign Language III
This course emphasizes the importance of continual use of American Sign Language and provides experience and study with fingerspelling. Prerequisite: EDA 1025

**EDA 1035**
2 Credits
Sign Language IV
This course accents the importance of continual use of American Sign Language. Experience and study with fingerspelling, facial expression and body movement reinforce the learning of this conceptual language. This is a participatory course which will be reflected by your grade. Prerequisite: EDA 1030

**EDA 1065**
2 Credits
Teaching Strategies
This course covers analyzing teaching techniques, identifying effective instructional elements, identifying task analysis, reasonable accommodations and curricular adaptations and analyzing specific teaching strategies. We also spend some time talking about learning styles.

**EDA 1075**
2 Credits
Human Relations at Work
This course covers the importance of communication and relationships within the workplace. Topics covered include communication styles, non-verbal communication, speaking styles, listening styles, and employer-employee relationships. A self-evaluation of your personal communication style will be completed.

**EDA 1105**
2 Credits
Behavior Intervention
This course explores behavior in classroom environments and an analysis of the ways to effectively deal with management problems while enhancing the student's self-esteem.

**EDA 1110**
3 Credits
Language Arts
This course covers concepts, methods, and techniques of assisting in language arts instruction in a preschool, elementary, or special needs classroom. Special topics covered are language development, readiness, lesson plans, comprehension, spelling, listening, and story telling. Prerequisite: Placement in this course is determined by placement test.

**EDA 1115**
2 Credits
Special Education
This course covers the social, physical, emotional, and intellectual development of individuals with special needs. Included are specific strategies, skills, and technology for working with those individuals.

**EDA 1125**
3 Credits
Child Development I
This course presents a study of the growth and developmental characteristics of infants from conception through preschool years. Included is an emphasis on stages of development with focus on physical, intellectual, social, and emotional growth and multiculturalism.

**EDA 1130**
3 Credits
Child Development II
This course covers the developmental study of children from middle childhood through adolescence. Special topics covered are overall development, organizing, and sustaining positive functioning of children and their families in a multicultural learning environment.

**EDA 1150**
2 Credits
Children's Mental Health
Young children's healthy social and emotional development are essential in their success in school and beyond. This course will introduce students to strategies to promote healthy social and emotional development, assist them in identifying children who are at risk for mental health disorders, and introduce strategies to provide individualized attention to young children who are exhibiting symptoms of mental health disturbances.
EDA 1155
Crisis Prevention/Intervention
This course will train students how to safely manage disruptive and assaultive behavior. Along with proven methods for defusing explosive behavior, students will learn how to handle most any type of threatening or challenging situation with minimal anxiety and increased confidence.

EDA 1180
Employment Readiness
The work environment undergoes constant change. To be prepared to meet those changes, students, as prospective employees, must be able to evaluate their strengths, skills, and abilities. They need to be able to match those to a career, and they need to be able to investigate, locate, and obtain employment in that career area. This course is designed specifically for persons desiring work in the human service occupation area. Students will create resumes, cover letters, follow-up letters, and employment portfolios. They will have an opportunity to complete a practice interview in their career field.

EDA 1185
Math Activities
This course covers activities and techniques used to support and facilitate the learning of mathematics by preschool and elementary students. Prerequisite: Placement in this course is determined by placement test.

EDA 2900
Internship I
This course is a cooperative work study program between the Ridgewater College Educational Assistant department and an educational facility, child care, elder care, cleaning service, food service, residential facility or experience in the activity field. This opportunity allows the student an employment-like work experience. This internship is specifically for students completing the AAS degree.

EDA 2910
Internship II
This course is a cooperative work-study program between the Ridgewater College Educational Assistant program and an educational facility, child care, elder care, residential facility or related experience in the field. This opportunity allows the student an employment-like work experience. (Course may be repeated for a total of up to 12 credits)

EDA 2950
Special Topics/Projects
This course allows the student to complete a course of study on a special topic or project with the approval of the instructor. Under direction of the instructor, the student will explore new concepts and complete assigned projects.

**Electrician (CNEL)**

CNEL 1001
Basic Wiring Lab I
This course will cover the safety aspects encountered in today’s workplace sites with an emphasis on Electrical Safety. A practical study of safety topics and NFPA 70E safety practices will be covered.

CNEL 1313
Circuit Lab I
In this course, students apply theories covered in Circuits 1 (CNEL 1411) with hands-on practical applications focused on fundamental electronic circuit topics including Ohm’s law, power, series circuits, parallel circuits and combination circuits. Corequisite: CNEL 1411

CNEL 1314
Circuits Lab II
In this course, students apply the theory covered in Circuits 2 (CNEL 1412) in a hands-on lab setting. Students will construct and evaluate the characteristics and behaviors of a variety of circuits. Corequisite: CNEL 1412

CNEL 1411
Circuits I
In this course, students will study fundamental concepts of DC electricity including Ohm’s law, Kirchhoff’s law, resistors, series circuits, parallel circuits, and combination circuits. A hands-on practical application of theories will take place in a lab setting.

CNEL 1412
Circuits 2
This course covers series and parallel inductive, capacitive, resistive – capacitive, resistive – inductive, and resistive – capacitive circuits, and associated power factor correction calculations. A hands-on practical application of theories will take place in a lab setting. Prerequisite: CNEL 1411

CNEL 1513
Semiconductors
This introductory course covers basic concepts of current flow in semiconductor materials and provides an overview of the analysis and operation of solid state devices including p-n diodes, zener diodes, LEDs, and bipolar junction transistors.

CNEL 1621
Digital Logic
This course introduces basic concepts of digital logic and provides an overview of numbering systems, logic gates, Boolean algebra, De Morgan’s theorem, Karnaugh mapping, comparators, multiplexing, de-multiplexing and flip-flops. Prerequisites: CNEL 1314, CNEL 1412

CNEL 1809
Electrical Materials Lab
In this course, students will learn to apply specific technical skills, workplace competencies, concepts and knowledge within the context of activities representative of the typical electrician’s workplace. It is expected that all students will complete and demonstrate entry level proficiency with core competencies. In addition, students will complete optional learning activities based on their individual career interests.

CNEL 1810
Basic Wiring Lab I
This course introduces the student to electrical safety, basic wiring methods, basic wiring materials, and basic electrical circuits. Practical applications of the National Electrical Code are covered with emphasis on organization, content and terminology as applied to basic residential wiring.

CNEL 1811
Basic Wiring Lab 2
This course is a continuation of CNEL 1810. More advanced circuits are taught along with additional wiring methods so that the student will become proficient in layout and development of advanced electrical installations. Prerequisite: CNEL 1810

CNEL 1815
Applied Math for Electricians
This is a foundation course for beginning electrician students. The course reviews the fundamental concepts of mathematics as related to the electrical
workplace emphasizing the essential elements of arithmetic, basic algebra, geometry and trigonometry.

**CNEL 1820 3 Credits**
**National Electrical Code I**
This course provides an overview of the National Electrical Code, and introduces the laws and rules for the State of Minnesota, definitions, articles pertaining to requirements for electrical installations, use and identification of grounded conductors, branch circuits, feeders, services, and over-current protection.

**CNEL 1825 3 Credits**
**National Electrical Code II**
This course is a continuation of the study of the National Electrical Code. This course emphasizes grounded conductors, branch circuits, feeders, services, over-current protection, grounding and bonding and wiring methods. Prerequisite: CNEL 1820

**CNEL 1830 3 Credits**
**Print Reading, Planning and Estimating for Electricians**
This course covers reading and interpreting blueprints in terms of wiring schematics and specifications, analysis of construction and wiring methods and materials, and fundamentals of estimating practices. Prerequisite: CNEL 1810

**CNEL 1850 2 Credits**
**Lighting Equipment**
This course will cover the principles of light and sight, luminaries, light distribution, and an introduction to lighting calculations. A variety of equipment including incandescent, fluorescent, and HID fixtures and lamps will be covered with an emphasis on code, trade application and installation.

**CNEL 2413 2 Credits**
**Circuits 3 Lab**
In this course using NIDA Training Modules, the student will conduct the required coursework in a lab format. Items covered will include the study of Diodes and Diode circuits, power supplies, digital logic functions, and combinational logic circuits. Prerequisite: CNEL 1412

**CNEL 2730 3 Credits**
**Motor Controls**
This course covers electrical tools, instruments, safety, electrical symbols, line diagrams, AC manual contactors and motor starters, time delay logic and control devices as related to motor controls. Lab activities give students the opportunity to hard wire, test and troubleshoot common control circuits. Prerequisite: ELEC 1412

**CNEL 2731 3 Credits**
**Programmable Logic Controllers**
This course provides an overview of PLC hardware and devices including input transducers and output devices. In addition, the course provides a practical hands-on approach to installing, programming, maintaining, and troubleshooting PLC controlled systems to control specific industrial processes. Prerequisite: CNEL 2730

**CNEL 2805 2 Credits**
**Electric Motors Lab**
This is an introductory course in the theory and operation of electric motors and the fundamentals of DC and single phase AC motors and motor controls. Troubleshooting, repair and maintenance of equipment is strongly emphasized. Prerequisite: ELEC 1412

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**CNEL 2830 3 Credits**
**National Electric Code III**
This course is a continuation of National Electric Code II. This course covers the NEC that pertains to heating equipment, motors and controllers, refrigeration, and air conditioning equipment. This course also covers the requirements and installation of service entrance equipment and the installation methods and material used in industrial wiring. Prerequisite: CNEL 1825

**CNEL 2835 3 Credits**
**National Electrical Code IV**
This is a continuation of National Electrical Code III with emphasis on special conditions such as hazardous wiring, agriculture wiring, power limited wiring and communication systems. Prerequisite: CNEL 2830, minimum grade required: C

**CNEL 2840 3 Credits**
**Commercial Wiring Lab**
This lab course gives the student practical application and practice of wiring installations normally found in commercial buildings. Prerequisite: CNEL 1811

**CNEL 2846 2 Credits**
**Wiring Methods**
This course consists of a review and application of grounding methods, grounding safety, bonding of electrical services, transformers, and all non-current carrying metal parts used in the electrical industry. In addition, wiring methods related to switches, devices, equipment and advanced conduit bending techniques will be covered. Prerequisites: CNEL 1810, CNEL 1811

**CNEL 2847 1 Credit**
**Basic Residential Wiring Lab**
This hands-on lab course is designed to give the students the practical experience needed to install electrical materials, apparatus and circuits necessary for residential construction. All installations are applicable to the current edition of the National Electrical Code and local accepted wiring standards. Prerequisite: CNEL 1848

**CNEL 2848 1 Credit**
**Advanced Residential Wiring Lab**
This hands-on lab course is designed to give students the practical application needed to wire special circuits and apparatus, and install services for both single and multi-family dwellings. All installations are applicable to the current edition of the National Electrical Code and local accepted wiring standards. Proper use of hand and power tools will be covered as well as safety practices and work ethics. Prerequisite: CNEL 2847

**CNEL 2850 3 Credits**
**Specialized Systems**
This course is designed as an enhancement to CNEL 2840 - Commercial Wiring Lab, covering specialized systems found in many commercial applications. The primary emphasis of this course is to introduce installation of fire alarm systems, security systems and generators. Prerequisite: CNEL 1850

**CNEL 2870 3 Credits**
**Heating and Air Conditioning Controls**
In this course, students learn electrical controls and their functions as they pertain to heating and air conditioning equipment in both residential and commercial settings. Prerequisite: CNEL 1412
Electronics (ELEC)

ELEC 1204  1 Credit
Control System I Lab
In this course, students will write PLC programming. Co-requisite: ELEC 1203

ELEC 1311  3 Credits
Electronics Lab I
This course combines an intense study of the techniques of high reliability soldering and basic hand tools. Students implement the theory that is being learned in Electronic Circuits I and Semiconductors I.

ELEC 1312  3 Credits
Practical Electronics Lab II
A continuation of Practical Electronics Lab I. The students in this course practice the theory being taught in Electronic Circuits II and Semiconductors II. Prerequisite: ELEC 1311

ELEC 1514  5 Credits
Semiconductors
This course covers BJT biasing, BJT common emitter, collector and base amplifiers, power amplifiers, field effect transistors, and operational amplifiers. Frequency response of amplifiers is studied as well as tuned amplifiers. Oscillators of various types are covered. Thyristor devices diac, triac, SCR, IJT, and optoisolators are also covered. Prerequisite: ELEC 1819

ELEC 1602  1 Credit
Soldering and Cable Assembly
In order for technicians to install audio visual equipment, it is necessary for them to perform proper termination of the various types of conductors and cables used in systems. This course explains the proper termination methods for various types of conductors and cables used in systems. Students will study the tools, materials, and procedures for cable preparation, soldering, and crimping common cables and develop the necessary skills for basic circuit board soldering.

ELEC 1701  2 Credits
Beginning Router Configuration
This course focuses on initial router configuration, Cisco IOS (inter-network operating system), software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Students will develop skills on how to configure a router, manage Cisco IOS software, configure routing protocol on routers, and set the access lists to control the access to routers. Skills will be learned through on-line curriculum and testing, use of hands-on equipment, and through the use of network configuration simulation software. Prerequisite: CST/ELEC 1700. Co-requisite: CST/ELEC 1700. CST/MMDT/ELEC 1001 is recommended.

ELEC 1814  3 Credits
Electronics 1
This course covers the principles of basic electricity and electronic systems. Items covered include safety, components, symbols, electron theory, conductors, voltage, current, resistance, Ohm’s law and circuits.

ELEC 1815  3 Credits
Electronics 2
This course covers direct and alternating current electronic circuits. Specific areas covered include Ohm’s law, power formulas, series circuits, parallel circuits, combination series-parallel circuits, voltage dividers, Kirchhoff’s Current and Voltagess laws, and power transfer. Prerequisite: ELEC 1814

ELEC 1816  4 Credits
Electronics 3
This course covers basic alternating current electronics. Specific areas covered include alternating current, sine wave, oscilloscope, capacitance, RC circuits, inductance, RL circuits, RLC circuits, Pythagorean Theorem, and phaser algebra.

ELEC 1817  3 Credits
Transistor Fundamentals
This course covers semiconductor theory, the principals of P-N junctions, diodes, bi-polar transistors, biasing circuits, operation and use of semi-conductor devices in a hands-on lab setting. Prerequisites: ELEC 1814

ELEC 1818  1 Credit
Advanced DC Circuits
In this course, students will cover advanced applications of Kirchhoff’s Voltage and Current Laws and network theorems for the analysis of circuit components. Prerequisite: ELEC 1815

ELEC 1819  1 Credit
Advanced Transistor Fundamentals
In this course, students will learn to troubleshoot BJT amplifier circuits and power amplifiers. Prerequisite: ELEC 1817

ELEC 2211  2 Credits
Digital Logic I
This course introduces the basic concepts of digital logic, including numbering systems, logic gates, Boolean Algebra, DeMorgan’s Theorem, Karnaugh mapping, comparators, multiplexing, de-multiplexing and flip-flops.

ELEC 2212  1 Credit
Digital Logic I Lab
Students will troubleshoot circuits and combinational logic circuits. They will also construct comparators, decoders, encoders, multiplexers and de-multiplexers. Co-requisite: ELEC 2211

ELEC 2313  2 Credits
Introduction to RF Communications
This course investigates radio frequency (RF) technology fundamentals necessary for technicians working in any of electronics. Modulation techniques such as AM, FM, receiving and transmitting systems, radio wave propagation, antenna theory, and other RF spectrum topics are covered. Prerequisite: ELEC 1412

ELEC 2413  2 Credits
Power Supplies
This course reviews rectifier networks. It includes the study of filtering networks, series and shunt regulators, three terminal regulators, and switch mode regulators with a special emphasis placed on troubleshooting strategies. Prerequisite: ELEC 1512
Course Descriptions

ELEC 2414  3 Credits
Solid State Application
Solid state applications use integrated circuitry as building blocks in advanced applications such as voltage and current regulation, function generators, wave-shaping circuits, amplification, motion and control circuitry. Emphasis is on creating the interface circuitry to fully expand the feature set built into the integrated circuit and building functional devices that perform well in a real-world environment.

ELEC 2424  3 Credits
Troubleshooting Techniques
This course includes the study of all the possible ways that electronic circuits can be tested. Signal tracing, signal injection, D-C voltage analysis, visual inspection, symptom analysis, and comparative analysis are some of the topics covered. This knowledge helps individuals to analyze problems and work with others in a team setting. As a result of this course, students become more systematic in their troubleshooting approach. Prerequisite: ELEC 1412

ELEC 2524  3 Credits
Electronic Projects
In this course students will build a project using a programmable logic controller. Each student is responsible for the design, procurement of parts, and assembly of a project. A variety of input and output devices are required. A strong emphasis is placed on the process used in the development of the total project. Prerequisites: ELEC 1203, ELEC 1204

ELEC 2612  4 Credits
Digital Logic II
This course is a continuation of Introduction to Digital Logic. Which cover the following: counters, shift registers, tri-state logic, interfacing, multi-vibrators, 555 timers, memory, and programmable arrays.

ELEC 2614  2 Credits
Electronic Product Development & Manufacturing
This course investigates the process of taking an electronic product from the idea stage through the schematic, circuit layout, testing, documentation and final assembly stages. Students practice design and troubleshooting of circuits by using computer-based circuit design and simulation tools. Prerequisite: ELEC 1412

ELEC 2624  2 Credits
Microcontrollers
This course is designed to teach students the operation and programming of the PIC micro controller chip. The student will wire the PIC chip on a Breadboard and program the chip to control various timers, inputs, and outputs. Prerequisite: ELEC 2513

ELEC 2731  4 Credits
Programmable Logic Controllers
Plus are used in almost every segment of industry where automation is required. This course provides a practical hands-on approach on installing, programming, maintaining and troubleshooting a PLC-controlled system. The student will work with LADDER LOGIC DIAGRAMS. Using various input transducers and output devices, the student will write programs to control specific industrial processes. Identifying PLC hardware components and their use and troubleshooting practices are strongly emphasized.

ELEC 2800  4 Credits
Fundamental Principles of Light and Electro-Optics
This course provides an introduction to fundamental principles of optics, electro-optics, lasers, fiber optics and photonics. Concepts covered include the nature and properties of light, optical handling and positioning, light sources, laser safety, basic geometric and physical optics and principles of lasers. Hands-on labs conducted illustrating light properties and characteristics. Calculations will be made of several operational characteristics using algebraic formulas.

ELEC 2805  3 Credits
Elements of Photonics
This course covers key parameters that describe the operational characteristics of lasers including small signal gain, saturation, threshold gain, and power output. The five specific classes of lasers are introduced: atomic gas, molecular gas, liquid, solid-state, and semiconductor. Operation and characteristics of optical detectors: photon and thermal are explored. Photonics enabled technologies used in various fields including fiber optic communications, photonic devices for imaging, display and storage, principles and applications of holography, manufacturing, forensic science and homeland security, biomedicine, environmental monitoring, and optoelectronics are discussed. Hands-on lab activities with lasers are conducted, as well as, computational labs in which important laser characteristics are figured using algebraic formulas. Prerequisite: ELEC 2800

EMS 1016  6 Credits
Emergency Medical Technician - Basic
The Emergency Medical Technician - Basic course follows the National Standard Curriculum - the core curriculum to be presented within a 112-hour training course. The EMT-B serves as a vital link in the health care chain of survival. This course will include skills and classroom information necessary to provide emergency care at the basic life support level. The EMT-B can be utilized in a BLS ambulance service or other specialized rescue agency. Modules presented include: preparation of the EMT-B, airway, patient assessment (medical and trauma), infants and children, ambulance operations, interventions (medical and semi-automatic defibrillation).

EMS 1032  3 Credits
First Responder Basics
This course is designed to provide First Responders with the necessary knowledge and skills to manage patient care at the scene of a trauma or medical emergency until ambulance personnel arrive. This First Responder course uses the guidelines established by the US DOT and meets or exceeds the requirements established by the Minnesota EMS Regulatory Board (MN EMSRB). This course satisfies 50% of the new EMT-B “bridge track”, allowing students the option to bridge to full EMT-B certification at a future date. This First Responder e-Learning course is intended for law enforcement, firefighters, ambulance and rescue personnel, ski patrol, athletic coaches, school nurses, camp counselors, industrial emergency response teams, and other individuals charged with “first response” duties.

EMS 1033  2 Credits
Emergency Medical Responder
This course is specifically designed for law enforcement and emergency responder personnel, or people interested in becoming law enforcement or rescue personnel. The course provides instruction on practical on-the-scene procedures including CPR, legal aspects relative to rendering emergency medical care, treatment of fractures, control of bleeding, patient examination, hazardous materials, blood borne pathogens, and environmental emergencies. This course follows the guidelines of the American Heart Association.
### Engineering (ENGR)

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<th>Title</th>
<th>Credits</th>
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<tr>
<td>ENGR 1010</td>
<td>Introduction to Engineering</td>
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<td>ENGR 2030</td>
<td>Mechanics of Materials</td>
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<td>ENGR 2350</td>
<td>Statics</td>
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<td>Dynamics</td>
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<td>ENGR 2500</td>
<td>Circuit Analysis I</td>
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<td>ENGR 2510</td>
<td>Circuit Analysis II</td>
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### English (ENGL)

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<td>ENGL 0960</td>
<td>Gateway to Critical Reading and Writing</td>
<td>6</td>
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<tr>
<td>ENGL 0970</td>
<td>English for Academic Purposes</td>
<td>6</td>
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### EMS 1116
**Emergency Medical Technician 1**
This course is the first of a sequence of two courses covering the Emergency Medical Technician (EMT) requirements of the National Registry of EMT standard curriculum and following the guidelines of the American Heart Association. The courses are designed for law enforcement and emergency responder personnel, or people interested in becoming law enforcement or ambulance personnel. This course provides instruction in practical on-the-scene procedures including CPR, legal aspects relative to rendering emergency medical care, treatment of fractures, control of bleeding, patient assessment, hazardous materials, blood borne pathogens, and environmental emergencies.

### EMS 1120
**Emergency Medical Technician**
This course covers the Emergency Medical Technician (EMT) requirements of the National Registry of EMT standard curriculum. The course is designed for law enforcement and emergency responder personnel, or people interested in becoming law enforcement or ambulance personnel. This course provides instruction on practical on-the-scene procedures including CPR, legal aspects relative to rendering emergency medical care, hazardous materials, blood borne pathogens, and environmental emergencies. Topics covered include airway, patient assessment (medical and trauma), medical/behavioral emergencies, OB/GYN, trauma, special populations, ambulance operations, and interventions (medications and semi-automatic defibrillation). Upon successful completion of the EMT basic course, the student will be eligible to take the National Registry of EMT’s written examination. This course follows the guidelines of the American Heart Association.

### EMS 2008
**EMT Blended Learning (Willmar)**
This course takes advantage of the strengths of the traditional classroom and the cutting-edge, interactive technology of e-learning. Interactive training will be available 24 hours a day, 7 days a week. Learn advanced level skills and knowledge relating to medical emergencies, shock, and anatomy and physiology. The skills learned include CPR, defibrillation, airways, OB, patient assessment and treatment skills, with hospital and ambulance clinical time. Computer with Internet is required.

### EMS 2009
**First Responder Blended Learning (Willmar)**
The First Responder e-learning course provides dynamic computer-based, interactive training directly to the students 24 hours a day, 7 days a week. Responders come to the class “ready to go” already having learned the subject matter. Instructors ensure that students master both the knowledge and skills needed to be compliance-trained practitioners. Computer with internet is required.

### ENGL 0960
**Gateway to Critical Reading and Writing**
This course prepares students for the critical reading, thinking, and writing that will be required in college-level courses across the curriculum. ENGL 0960 will use college-level, academic texts for students to practice and hone their skills. The course design includes an integrated approach to reading and writing instruction and a scaffolded, recursive approach to learning. Students completing the course with a grade of C or better progress to ENGL 1210 while students completing with a grade of C- to D- progress to ENGL 0980. Prerequisite: Score 38-59 on Accuplacer Reading Comprehension

### ENGL 0970
**English for Academic Purposes**
This course begins to prepare English Language Learners (ELLs) for the specific language skills necessary to read and write effectively in academic settings including essential English grammar, sentence structures and vocabulary. Assignments will emphasize critical thinking and integrative skill development through speaking, reading, listening, and writing with emphasis on recognizing the common structures of reading texts and practical experience in producing essays. Students completing the course with a grade of C or better progress to ENGL 1210 while students completing the course with a grade of C- to D- progress to ENGL 0980. Prerequisite: Score 1-70 on the Accuplacer ESL Reading Skills
Course Descriptions

ENGL 0980 3 Credits
Transitions to Academic Reading and Writing
This course supports students who are simultaneously enrolled in ENGL 1209. This course is structured through an integrated approach and emphasizes the reading and writing skills needed to achieve the ENGL 1209 outcomes. Instruction focuses on reading comprehension strategies to support the critical reading happening in the college-level classroom, while writing instruction focuses on a scaffolded approach, supporting the writing expectations of ENGL 1209. Students registered for 0980 must also be enrolled in a paired section of ENGL 1209. ENGL 1209 is equivalent to ENGL 1210. This is a P/NC Course. C- to D- in ENGL 0960 or 0970 or 60-77 on Accuplacer Reading Comprehension. Corequisites: ENGL 1209 companion section

ENGL 1209 3 Credits
College Composition I: Critical Reading & Writing
A course designed to give students extended practice at developing and improving their writing abilities. Students work on their writing through a process approach and through an emphasis on critical reading. Assignments address specific audiences and range from personal writing to writing from sources. ENGL 1209 is reserved for students who register for ENGL0980. All students registered for ENGL 1209 must be concurrently enrolled in a paired section of ENGL0980. ENGL 1209 is equivalent to ENGL1210. Prerequisite: Course placement into ENGL 0980. Corequisite: ENGL 0980

ENGL 1210 3 Credits
College Composition I: Critical Reading & Writing
ENGL 1210 is equivalent to ENGL 1210. Composition I. If both ENGL 1209 and 1210 are completed, only the higher grade will be counted toward graduation and in the computation of the overall grade point average. Students are placed into ENGL 1210 by way of appropriate placement scores, or successful completion of ENGL 0970 with instructor recommendation, or successful completion of ENGL 0980. Prerequisite: Appropriate placement scores or successful completion of ENGL 0980

ENGL 1220 3 Credits
College Composition II - Writing with Sources
An introduction to the research paper stressing methods of research, critical thinking, organization, documentation, and research paper style. This course focuses on writing from outside sources with at least one major research paper required. Prerequisite: C- or better in ENGL 1209 or ENGL 1210

ENGL 1230 3 Credits
Scientific and Technical Writing
Study and application of the written, visual, and verbal communication skills involved in gathering, analyzing, and distributing scientific and technical information efficiently, accurately, and ethically for specific audiences. Assignments will include, but are not limited to, professional communications, proposals, and technical reports. Research will be required for applicable assignments. Prerequisite: C- or better in ENGL 1210

ENGL 1500 3 Credits
Introduction to Literary Studies
ENGL Goal 6, 7
Introduction to major forms of literature: fiction, prose, poetry, and drama. Discussions and writing require students to apply critical thinking skills. Students will be introduced to literary terms and literary criticism. English 121 recommended. This course is part of the Minnesota Transfer Pathways program for English, Area 1 and MnTC Goals 6, 7.

ENGL 1600 3 Credits
The Short Story
MnTC Goals 6, 8
The study of the short story as a literary form and its development from its beginnings in oral traditions, to the conscious formulation in 19th Century American, to its continued metamorphosis in the 20th Century. Primary emphasis is placed on the reading, discussing, interpreting and writing about short stories. English 121 is recommended. This course is part of the Minnesota State Transfer Pathways program for English, Area 1 and MnTC Goals 6, 8.

ENGL 1700 3 Credits
World Literature
MnTC Goals 6, 8
The course emphasizes the study and consideration of the literary, cultural, and human significance of selected great works of the Western and non-Western literary traditions. An important goal of the class is to promote an understanding of the works in their cultural/historical contexts and of the enduring human values which unite the different literary traditions. This course is part of the Minnesota State Transfer Pathways program for English, Area 2 and MnTC, Goals 6, 8.

ENGL 1800 3 Credits
American Writers: Modern and Contemporary
MnTC Goals 6, 9
Students will read, discuss, and write about works from a variety of American authors who represent the diverse viewpoints and experiences of Americans during the modern and contemporary eras, 1914 to present. This course is part of the Minnesota State Transfer Pathways program for English, Area 2 and MnTC, Goals 6, 9.

ENGL 1900 3 Credits
British Writers: Modern and Post-Modern
MnTC Goals 6, 8
Students will read, discuss, and write about works written by a variety of British authors of the modern and post-modern areas, 1914 to present. This course is part of the Minnesota State Transfer Pathways program for English, Area 2 and MnTC, Goals 6, 8.

ENGL 2110 3 Credits
Multicultural Literature
MnTC Goals 6, 7
This course introduces students to literature from selected cultures in order to foster an understanding and awareness of cultures other than their own. The focus will be on critical reading and discussion, the elements of literature and analysis, interpretation and evaluation with special attention to specific cultural backgrounds. Readings for this course will vary. This course is part of the Minnesota State Transfer Pathways program for English, Area 3 and MnTC, Goals 6, 7.

ENGL 2200 1-3 Credits
Creative Writing
MnTC Goal 6
A study of imaginative writing in several genres. Students will share their work in non-evaluative critique sessions. For part of the course, students will be encouraged to pursue their particular creative interests in areas such as poetry, fiction, children’s literature and non-fiction. Students may enroll up to 3 times for a total of no more than 6 credits. This course is part of the Minnesota State Transfer Pathways program for English, Area 4 and MnTC Goal 6.
ENGL 2320  Fantasy, Fable, and Science Fiction  3 Credits
MnTC Goals 6, 8
A study of highly imaginative literature which may include mythology, fantasy, fable and science fiction. Emphasis may differ from section to section. Short stories and novels will be used to discuss aspects of characterization, plot and metaphor, as well as common themes, such as “utopia” and “good versus evil.” This course is part of the Minnesota State Transfer Pathways program for English, Area 3 and MnTC Goals 6, 8.

ENGL 2390  Gender and Sexuality in Literature  3 Credits
MnTC Goal 6, 7
This course will examine literary representations of women and men in literature focusing on gender issues, including lesbian and gay-male sexuality and the Latin American concept of machismo. Literature may include the works of North American, Latin American, and European authors. Students will contrast notions of sexual orientation and identity with gender-based conceptions of sexuality, and will consider the intersections of sexuality and social class, race, religion, AIDS, and leftist and rightist political ideologies. Authors studied will vary from year to year but may include Willa Cather, Alice Walker, Gloria Anzaldúa, Reinaldo Arenas, E.M. Forster, Tony Kushner, Cherrie Moraga, Octavio Paz, and Manuel Puig. This course is part of the Minnesota State Transfer Pathways program for English, Area 3 and MnTC, Goals 6, 7.

ENGL 2470  International Study of Literature  3 Credits
MnTC Goals 6, 7
Designed to provide credit for international study experiences conducted under the auspices of Ridgewater College faculty. Course requirements may vary but will include pre-departure, on-site, and post-trip readings and assignments.

ENGL 2950  Special Topics in Literature  3 Credits
MnTC Goal 6
Study of a prominent theme, time period, or genre. Descriptions of specific courses will be available from the instructor prior to registration. Examples include Literature of the American West, the Jazz Age, Environmental Literature, Film and Literature, Regional Writers, and Literature in Translation. Students may repeat this course if content changes. Prerequisite: ENGL 1210 or permission of instructor.

ENVIS 1510  People, Sustainability, and the Environment  4 Credits
MnTC Goal 3A, 10
Discussion and evaluation of current environmental biology topics, including the wise use of renewable resources with an emphasis on human impacts and sustainable living. This course is designed to encourage critical evaluation of biological information, providing students with the knowledge to make sustainable decisions affecting their own lives and the well being of society.

ENVIS 2470  International Travel  1-3 Credits
Designed to provide credit for international study experiences conducted under the auspices of Ridgewater College faculty. Course requirements may vary but will include pre-departure, on-site, and post-trip readings and assignments.

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**GENERAL STUDIES - COMPUTER/INFORMATION TECHNOLOGY (GSCI)**

GSCI 1002  Keyboarding/Word Processing  2 Credits
This course provides students with fundamental concepts and skills required to efficiently create, edit and format business documents. Emphasis will be placed on keyboarding and word processing techniques and skills.

GSCI 1301  Introduction to Computers  1 Credit
This course is designed for the person who has had limited or no previous computer experience. Personal computers will be used to introduce the learner to a wide variety of computer concepts and various applications. Microsoft Windows operating system will be utilized as the foundation platform for the Microsoft Office Suite. Students may have the opportunity to utilize word processing, spreadsheet, database, presentation software as well as the Internet.

GSCI 1302  Introduction to Computers  2 Credits
This course is designed for the person who has had limited or no previous computer experience. Personal computers will be used to introduce the learner to a wide variety of computer concepts and various applications. Microsoft Windows operating system will be utilized as the foundation platform for the Microsoft Office Suite. Students may have the opportunity to utilize word processing, spreadsheet, database, presentation software as well as the Internet.

GSCI 1312  Industry Computer Applications  1 Credit
This introductory computer class exposes the student to computers as they are used in the industrial setting. Students will use personal computers to become familiar with a variety of software which may be used in an industrial setting.

GSCI 1401  Computer Technology  1 Credit
This course focuses on various computer technologies used in a business setting. The Microsoft Windows operating system will be used as a foundation. Topics covered include basic file storage and management, hardware/software, using electronic resource materials, e-mail usage, and Internet procedures.
GENERAL STUDIES — COMMUNICATIONS (GSCM)

GSCM 1102 2 Credits
Applied Written Communications
This course covers introductory writing and professional communication skills. The course is designed for students preparing to enter an occupation and focuses on those aspects of communication that are known to be troublesome for both students and industrial employees. Emphasis is placed on the communicative use of language rather than simply its formal aspects. Most emphasis is placed on the psychological, social, and rhetorical principles underlying effective communication.

GSCM 1103 3 Credits
Applied Written Communications
In this course, students develop language skills necessary for effective writing and interpreting of technical field related information. Additional communication skills will be learned as they relate to the specific major the student is pursuing.

GSCM 1112 2 Credits
Applied Oral Communications
This course prepares students for day-to-day employer requests to speak to a group at a moment’s notice. These applied oral exercises in this course are employment-based scenarios and are different from the normal speech course. Types of scenarios may include giving a tour, an entire organizational briefing, a departmental briefing, or briefing the boss and his staff on a project previously assigned.

GSCM 1122 2-3 Credits
Applied Oral and Written Communications
The students will develop language skills necessary for effective writing on the job. Basic grammar, word usage, spelling, and editing skills are taught. Students will develop oral communication skills by oral presentations in class which may include impromptu, demonstration, autobiographical, and persuasive speeches.

GSCM 1123 3 Credits
Oral and Written Communication
Principles of leadership and oral and written communication skills for farm and agri-business managers and technicians. This course is part of the basic core of required courses for the Agri-business, Agronomy Tech, Farm Operation and Management, and Dairy Management programs.

GSCM 1132 2 Credits
Applied Technical Writing
The student is introduced to the characteristics of technical communication: review of the ethical/legal considerations, use of electronic tools, analysis of audience, determination of the purpose, and drafting of a document. The student will prepare various written proposals, memos, and user manuals.

GENERAL STUDIES — INTERPERSONAL SKILLS (GSIS)

GSIS 1403 3 Credits
Professional Developmental Skills
This course covers a selection of topics relating to personal and professional development in a business environment. Such topics may include group/team dynamics, stress management, wellness, sexual harassment, chemical dependency, time management, professional organizations, assertiveness, leadership, supervision, confidentiality, conflict management, and professionalism, among others.

GSIS 1502 2 Credits
Human Relations
Students will explore theories of self-concept, personality types, wellness, the global workplace, and work ethics. Management styles, goal setting, organizational management, and group dynamics will be discussed.

GSIS 1602 2 Credits
Personal Financial Management
An overview of personal and family financial planning with an emphasis on financial record keeping, planning your spending, consumer credit, making buying decisions, purchasing insurance, selecting investments and retirement and estate planning.

GENERAL STUDIES — Math/Sciences (GSMS)

GSMS 1201 1 Credit
Applied Mathematics
Topics covered in applied mathematics include a review of basic arithmetic principles pertaining to the industry and trade areas represented in the class. It includes the application of common numbers, decimals, fractions, percentages, ratios and proportions, area, volume, metric and English measurements and basic trigonometry. Additional topics covered as course schedule permits.

GSMS 1202 2 Credits
Applied Mathematics
Topics covered in applied mathematics include a review of basic arithmetic principles pertaining to the industry and trade areas represented in the class. It includes the application of common numbers, decimals, fractions, percentages, ratios and proportions, area, volume, metric and English measurements and basic trigonometry. Additional topics covered as course schedule permits.

GSMS 1222 2 Credits
Applied Elementary Algebra
This course is designed for the trade or technical student and provides application of algebra to the technical courses. The emphasis is on the algebra necessary to solve literal equations and formulas, exponents, powers, roots, radical expressions, verbal problems, expressions involving trigonometry functions, algebraic fractions, and scientific notation.
**GSWS 1251**

**Applied Physics**

This course may include selections from the following topics as they apply to specific technical programs: electricity, electrical circuits, switches, generators, transformers, motors, conductors, meters, measuring devices, micrometers, calipers, etc. Metric and English units of measurements and temperature. Dimensional analysis is also covered.

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**GENERAL STUDIES — WORKPLACE SKILLS (GSWS)**

**GSWS 1401**

**Employment Preparation**

Students will create various employment-seeking documents, practice comprehensive interviewing techniques, research applicable job search tools, review the do's and don'ts of employment laws, utilize the internet for job search, and discuss how attitude, dress, and confidence play a large role in a successful job search.

**GSWS 1402**

**Employment Prep & Retention**

The main purpose of this course is to assist the student in development of job search skills and documents necessary for a successful, self-directed job search. In addition, this course will expose the student to relationships with co-workers, supervisors, and customers. A variety of employment application materials will be developed by the student.

**GSWS 1411**

**Small Business Operation**

This course includes the study of small business operation. Topics may include electronic record keeping for the small business, marketing, managing, business organizations, patents, trademarks, logos, copyright laws, franchises, employee rights and responsibilities, government laws and regulations, labor standards, OSHA, permits and license necessary in the operation of a business.

**GSWS 1412**

**Small Business Operation**

This course includes the study of small business operation. Topics may include electronic record keeping for the small business, marketing, managing, business organizations, patents, trademarks, logos, copyright laws, franchises, employee rights and responsibilities, government laws and regulations, labor standards, OSHA, permits and license necessary in the operation of a business.

**GSWS 1413**

**Small Business Operation**

This course includes the study of small business operation. Topics may include electronic record keeping for the small business, marketing, managing, business organizations, patents, trademarks, logos, copyright laws, franchises, employee rights and responsibilities, government laws and regulations, labor standards, OSHA, permits and license necessary in the operation of a business.

**GSWS 1422**

**Quality Management**

Students will learn principles and use tools for quality and continuous improvement. Emphasis will be on assessing the supervisor’s role and responsibilities related to quality including identifying customer needs, applying tools and techniques for improving systems and processes, developing a quality training plan for work group members, and enhancing work group commitment to quality. Students will participate in a group to complete a quality/continuous improvement course project.

**GSWS 1432**

**Problem Solving/Decision Making**

Problem solving will be a hands-on experience using a root cause analysis method. Teams will identify problems, expose root causes, and create lasting solutions. Also, decision making processes will be discussed and integrated into a team structure.

**GSWS 1442**

**Team Development**

Students will become familiar with the purpose of team environments, their role in facilitating or participating possible problems experienced by team situations, and how team members deal with interpersonal relationships within the team structure.

**GSWS 1451**

**First Aid/Safety**

This course provides emergency care instruction for anyone who works with the public. It includes legal rights of the injured, treatment for obstructed airway, management of cardiac arrest using an automatic defibrillator, management of fractures, spinal injury, and medical emergencies until the ambulance arrives. The student receives a 3-year Red Cross First Aid certification card and a 2-year CPR certification card.

**GSWS 1452**

**First Aid/Safety**

This course provides emergency care instruction for anyone who works with the public. It includes legal rights of the injured, treatment for obstructed airway, management of cardiac arrest using an automatic defibrillator, management of fractures, spinal injury, and medical emergencies until the ambulance arrives. The student receives a 3-year Red Cross First Aid certification card and a 2-year CPR certification card.

**GSWS 1462**

**Industry Skills**

Students will be exposed to skills present in an industrial work setting.

**GSWS 1471**

**CPR for Healthcare Providers**

This course is intended for healthcare professionals and involves CPR training.

**GSWS 1481**

**OSHA General Industry / First Aid**

This course provides emergency care instruction for anyone who works with the public. It includes legal rights of the injured, treatment for obstructed airway, management of cardiac arrest using an automatic defibrillator, management of fractures, spinal injury, and medical emergencies until the ambulance arrives. Successful students will receive First Aid and CPR certification. The OSHA 10-course component is designed to familiarize workers with OSHA standards as well as safety and health hazards common to the workplace. This course will focus on providing a foundation for students to identify, avoid, control, and prevent jobsite hazards.
Course Descriptions

**Geography (GEOG)**

**GEOG 1400** 3 Credits
Introduction to Geography
MnTC Goals 5, 8
An introduction to the discipline of geography. Interaction of both the physical and human concepts. Including all of the traditions of geography; spatial distribution, spatial diffusion, and spatial interaction. Emphasis on analysis of maps, graphs, and tables.

**GEOG 1410** 3 Credits
World Regional Geography
MnTC Goals 5, 8
A study of world regional geography. Emphasis is placed on the development of a conceptual overview of the world. Regions are analyzed by integrating geographic elements from both the physical and cultural worlds, and by analyzing the interaction between different regional systems.

**GEOG 2470** 3 Credits
International Travel
This course is a true environmental, cultural, and historical immersion into the rain forests of Costa Rica. Students will explore the vast diversity and majestic splendor of this disappearing ecosystem. The historic exploitation and manipulation of this ecosystem will also be addressed. This course can be taken for credit or without. The credit option will have regular class meetings before and after the 2-week experience in the rain forests of Costa Rica.

**Global Studies (GLST)**

**GLST 1010** 3 Credits
Introduction to Global Studies
MnTC Goals 6, 8
Introduction to Global Studies is designed to introduce students to global issues and the analysis of the events that are affecting today’s new global society. Students will explore these issues through areas such as art, sociology, economics, media, business, history and science to name a few. This introductory course prepares students for the remaining multi-disciplinary courses that comprise the Global Studies certificate program.

**GLST 2010** 1 Credit
Global Studies Capstone
MnTC Goals 6, 8
Global Studies Capstone is designed to synthesize the coursework from the Global Studies certificate courses as well as other cultural experiences students have had. Students will engage in further reading and analysis of current global issues and complete a project that will enhance their global awareness. Prerequisite: Must have completed or be in the process of completing all other Global Studies certificate requirements.

**Health Information Technology (HIMC)**

**HIMC 1100** 3 Credits
Fundamentals of Health Information
This course covers the history and development of health/medical record keeping in the health profession and provides a foundation for the application of techniques necessary to assure adequate documentation of health care in the health record (patient information systems). The student is given the opportunity to learn about the roles of health care professionals who contribute to and utilize patient information systems, the techniques used in the development and implementation of primary and secondary health information systems, and the analysis of information design, retention and retrieval.

**HIMC 1110** 3 Credits
Anatomy and Physiology for Health Information Technology
This is a one-semester introductory level Human Anatomy and Physiology course designed to assist the student in developing a basic understanding of the normal structure and function of the anatomy and physiology of the major body systems as well as a basic structure of the human body from the cellular level to the tissue level. Such knowledge is basic to understanding common disease processes.

**HIMC 1115** 1 Credit
Anatomy and Physiology Applications for HIT
This is a one-semester Human Anatomy and Physiology Applications course designed to assist the student in further development and application of their understanding of the structure and function of the anatomy and physiology of the major body systems. The course includes activities directed towards coding applications with review of pertinent terminology, abbreviations, math conversions, coding cases where that knowledge is reinforced, specific body functions and how those body function tie into all of the systems, tie-in to medical laboratory tests, pharmacology interactions, etc.

**HIMC 1120** 3 Credits
Medical Terminology
This course shows students how to recognize and build medical terms after learning the meaning of the word parts, prefixes, and suffixes. The course is based on a body systems approach with a focus on spelling, definitions and pronunciation of commonly used medical terms. Students will also learn how to interpret and use common medical abbreviations and symbols.

**HIMC 1140** 3 Credits
Pharmacology
This course introduces the coding student to basic pharmacology concepts and drug categories as related to current coding guidelines. A review of basic math, drug information sources, drug standards and legislations, pharmaceutical preparations and prescriptions will also be covered. Students will also learn the study of drugs according to classification and/or body systems. Emphasis is placed on commonly used drugs and their effects on body systems. Drug reference utilization is included.

**HIMC 1150** 2 Credits
Legal Aspects of Health Information
This course covers the application of legal principles, policies, regulations, and standards for the control and usage of health information. Ethical and bioethical practices will be explored, along with discussion on contracts and consent forms used in health care.
**HIMC 1250**  
**Health Information Technician Experiential Foundations**  
This course provides students with experiences in the application of concepts, practices and structures related to the work setting of the Health Information Technician (HIT) and Health Information Manager (HIM). The course incorporates research, documentation and simulation, and may include job shadowing, internship, and/or externship to provide experiences in the day-to-day work environment. The experiences will benefit the student by giving them deeper occupational perspective and networking opportunities. Workplace interpersonal relations and teamwork are emphasized. Students must have a cumulative GPA of 2.0 or greater and the consent of the instructor. Prerequisite: Approval of instructor

**HIMC 1320**  
**Reimbursement Methodologies**  
This course provides a study of numerous health insurance plans, reimbursement practices, and compliance policies as well as a basic understanding of Revenue Cycle. Prerequisite: HIMC 1100

**HIMC 1330**  
**Electronic Health Records**  
This course introduces the student to electronic health records including the evolution of systems and software that have influenced electronic health records used today. The development and implementation of EHR strategies for healthcare organizations and the stages of preparation of electronic health record development will be covered. The challenges of electronic health record implementation will also be discussed. Students will also receive hands-on application utilizing EHR software to reinforce these concepts to build their knowledge and skills.

**HIMC 1340**  
**Health Records Documentation**  
This course addresses fundamental health record documentation. Fundamental health record documentation requirements and practices for acute care as well as those required by ambulatory care, long-term care, home care, hospice, and behavioral care settings will be covered. This course will address both paper and electronic health records.

**HIMC 1350**  
**Pathophysiology**  
This course covers basic information about common disease conditions affecting various body systems. Causes, signs, and symptoms of various diseases will be presented. Diagnostic and treatment procedures will be discussed and related to health information records.

**HIMC 2001**  
**CPT Coding**  
This course covers the basic coding rules and principles for coding diseases using the ICD-10-CM, ICD-10-PCS, ICD-9-CM, and CPT-4/HCPCS Level I and Level II classification systems. Further emphasis is placed on proper procedures to code and index diagnoses and procedures. The need for accuracy and following coding rules is stressed. Prerequisite: HIMC 1110, HIMC 1120

**HIMC 2003**  
**ICD Coding**  
This course covers the basics of coding with the current ICD coding system. Students learn how to classify and index diagnoses for the purposes of standardization, retrieval, and statistical analysis. Prerequisite: HIMC 1110

**HIMC 2004**  
**Advanced Coding**  
This course provides advanced study of the ICD, CPT/HCPCS Level II coding systems and ICD legacy systems. DRG/APC optimization and data accuracy are emphasized. Prerequisite: HIMC 1100

**HIMC 2020**  
**Health Information Technology Review**  
This course provides a review for the AHIMA Registered Health Information Technician (RHIT) national examination. It includes a study plan, review of all major examination and domain topics, mock tests, guidance to good computer test taking skills, and assistance with the application process.

**HIMC 2030**  
**Certified Coding Assistant Review**  
This course provides a review for the AHIMA Certified Coding Associate (CCA) national examination. It includes a study plan, review of all major examination and domain topics, mock tests, guidance to good computer test taking skills, and assistance with the application process. Prerequisite: HIMC 1100

**HIMC 2040**  
**Quality Management and Healthcare Statistics**  
This course covers quality improvement concepts and practical tools for problem-solving, decision-making, risk management, and time management as applied to healthcare service systems. Processes for reviewing and evaluating healthcare services will be explored. In addition, this course will cover procedures for collecting, analyzing, interpreting, and presenting numerical data relating to health care services. Prerequisite: HIMC 1100

**HIMC 2240**  
**Supervision of Health Information**  
This course provides an examination of decision making processes, leadership, direction, and documentation necessary for control of human resources as applicable to the healthcare services industry. Prerequisite: HIMC 1100

**HIMC 2250**  
**Health Information Technician Experiential Capstone**  
This course focuses on application of the knowledge and skills covered throughout the Health Information program including those in the first experiential experience. The course incorporates research, job shadowing, internship, and/or externship to provide experiences in the day-to-day work environment. Depending on availability, lab hours will vary. Students will be required to meet written goals and objectives, undergo work evaluations, and submit a written report on their learning experience that will include details of the experiences that directly relates to their career path in HIM. This course will consist of 1 credit lecture (didactic content) and 1-2 credits of lab and internship as determined by the instructor. Prerequisite: Approval of the instructor

**HIMC 2252**  
**Health Information Technician Internship**  
This course is an application of the skills that have been learned by the student throughout their coursework in an internship setting. Students will be required to meet written goals and objectives, undergo work evaluations, and submit a written report on their learning experience. Prerequisite: HIMC 1100

**HIMC 2260**  
**Medical Coding Specialist Experiential Capstone**  
This course focuses on application of the knowledge and skills covered throughout the Medical Coding program. The course incorporates research, job shadowing, internship, and/or externship to provide experiences in the day-to-day work environment. Depending on availability, lab hours will vary. Students
HIST 2220  3 Credits
Western Civilization II
MnTC Goals 6, 8
Survey of major political, economic, and sociocultural topics of European history from 1500 to the contemporary period.

HIST 2470  3 Credits
International Study
MnTC Goals 6, 8
Designed to provide credit for international study experiences conducted under the auspices of Ridgewater College faculty. Course requirements may vary but will include pre-departure, onsite, and post-trip readings and assignments.

HIST 2500  3 Credits
Minnesota History
MnTC Goals 5, 7
Survey of major political, economic and sociocultural topics of Minnesota history from ancient times to the contemporary period.

HIST 2570  1-3 Credits
Special Topics
MnTC Goals 5, 7
This course covers special topics in History. Students may repeat this course if content changes.

HIST 2670  1-3 Credits
Special Topics
MnTC Goals 6, 7
This course covers special topics in History. Students may repeat this course if content changes.

HIST 2950  1-3 Credits
Topics in History
MnTC Goal 5
Individual reading with seminar discussions on selected topics in history.

HISER 1010  3 Credits
Introduction to the Study of Chemical Dependency
The historical development of drug abuse and basic terminology of chemical dependency are discussed. Special emphasis is placed on understanding the relationship between personality variables, the environment and the chemical abused. Various theoretical models of treatment are examined.

HISER 1660  2 Credits
Introduction to Social Services
This course is designed for social service majors and other students who desire knowledge of the history, organizational structure and the work of the major public agencies of welfare, mental health and rehabilitation.
NOTE: This course will change from 2 credits to 3 credits, effective Spring semester, 2020.

HISER 1980  1 Credit
Pre-Professional Practicum
An orientation experience into chemical dependency treatment and the continuum of care, this course gives the student some onsite exposure to various types of treatment centers. Classroom presentations present the rest of the
continuum of care along with the theory and principles of Alcoholics Anonymous. Prerequisites: Consent of instructor

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<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Prerequisites</th>
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<tr>
<td>HSER 2010</td>
<td>2</td>
<td>Introduction to Case Management</td>
<td>Consent of instructor</td>
<td>This course will examine the theoretical and practical knowledge needed for entry level practice in casework. Casework values will be identified and basic helping skills will be emphasized. Practice of these skills will be stressed. Prerequisite: HSER 0200 or consent of instructor</td>
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<td>HSER 2340</td>
<td>3</td>
<td>Assessment and Interviewing</td>
<td>Consent of instructor</td>
<td>This course is designed to develop a specialized set of interviewing skills. It meets requirements for general assessments as well as chemical use assessments and Rule 25 assessments. A major emphasis will be on the application of these skills in a laboratory setting.</td>
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<td>HSER 2900</td>
<td>1-12</td>
<td>Cooperative Education</td>
<td>Consent of instructor</td>
<td>This course is designed to be completed as an adjunct to the classroom learning environment. The student will be required to secure their own internship site which must be approved by the internship supervisor prior to enrolling in the course. The course will include field experience, an internship contract, journaling assignments, mid-term and final evaluations, and a time log. Prerequisite: Consent of instructor</td>
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LAWE 2310 Law Enforcement Operations and Community 3 Credits
This course provides a practical overview of key issues, questions, and concepts related to police interaction with communities. Topic areas include ethics, leadership, diversity, problem-solving, crime prevention, patrol functions and tactics and communication. The course will also explore the relationship of police and community, and public relations procedures.

LAWE 2410 Criminal Investigations 3 Credits
Knowledge of investigative procedures and practices is central to the role of a law enforcement officer. This course focuses on reporting and investigative techniques as well as the processes and procedures required in crime scene investigations. Special attention is paid to accurate documentation and evidence handling and preservation.

LAWE 2430 Homeland Security 3 Credits
This course provides a general overview and practical application of current terrorism and homeland defense information. It is designed to prepare students to address terrorism threats and acts of terrorism, which affect communities both nationally and internationally. This is a specialized course designed for criminal justice students, but is open to and may be of interest to any student.

LAWE 2450 Police Ethics and Leadership 3 Credits
Police Ethics includes definitions, perceptions and concerns, code of honor, racial profiling, and history of police work environment. The student will explore corruption, deviancy, and criminality found within police departments, and discuss the impact upon relations within the community and citizens. This course alerts students to some of the more sensitive and often problematic matters involved in police conduct and ethics. Students will specify actions contrary to duties and responsibilities of law enforcement officers and learn how to conduct themselves and their affairs in a manner that reflects department standards and professionalism.

LAWE 2470 Juvenile Justice 3 Credits
This course emphasizes the origin, development, organization, functions, and jurisdiction of the Juvenile Justice System in America, with emphasis on the MN Juvenile Justice System. Topic areas covered include processes and detention of juveniles; constitutional protections extended to juveniles; case disposition, juvenile statutes and court procedures relative to juvenile offenders, laws and procedures regarding child abuse, child neglect, juvenile records and juvenile court process.

LAWE 2490 Introduction to Policing in Indian Country 1 Credit
Historic overview of law enforcement in Indian Country, challenges law enforcement face unique to Indian Country, Public Law 280, Minnesota statues that give Tribal Police authority, Tribal Law and Order Act and Cultural and Spiritual beliefs in Indian Country.

LAWE 2510 Law Enforcement and Human Behavior 3 Credits
This course integrates the academic and applied aspects of the basic patrol function for a patrol officer. Course topics include an in-depth examination of the knowledge, skills, and abilities required to fulfill a patrol officer’s duties, functions, and responsibilities. Students explore vehicle stops, traffic enforcement, pedestrian checks, officer safety issues, and other duties as they relate to the basic function of a patrol officer.

LAWE 2900 Cooperative Education 1-6 Credits
This course provides students a cooperative education experience in the field of Law Enforcement. Placement is made in a criminal justice agency with instruction in the operation of that agency. Classroom study emphasizes basic criminal justice theory and problems of power in inter-human relationships. The student will have a combination of field experiences alternated with academic study to provide a more meaningful education. In this class students will have the practical exposure necessary to make their field experience relative to their long range occupational and/or scholastic goals. Prerequisite: LAWE 1030, LAWE 113 and/or consent of program coordinator.

LAWE 2950 POST Seminar 1 Credit
Seminar discussion and review of the MN POST Board learning objectives for professional peace officer education.

LAWE 2970 Independent Study 1 Credit
Provides a course of independent study in the area of criminal justice.

MACHINE TOOL TECHNOLOGY (MACT)

MACT 1005 Blueprint Reading for Machinists 2 Credits
This course provides a foundation for understanding and using drawings (blueprints). Topics covered will provide students with basic skills required for understanding prints utilized in a manufacturing/machining environment. Emphasis will include geometric dimension and tolerance symbols/principles, lines, multi-view drawing, title blocks, identification of general manufacturing notes and specific machining notes.

MACT 1190 Principles of Machining Operations 2 Credits
This course introduces students to the most common machine types and their functions, basic machining operation techniques, and overall operations in the machine shop. Students will apply principles of shop safety, part measurement, and blueprint reading. In addition, students will examine the scope and trends of the machining industry and how it relates to other advanced manufacturing processes.

MACT 1508 Applied Math 2 Credits
This course introduces the fundamentals of applied geometry and trigonometry as applied to drafting and manufacturing math problems. Topics covered include angles, circles, functions, right and oblique triangles, and compound angles. Exercises will be presented using the textbook exercises and a series of worksheets, with an emphasis on actual shop calculations. This course is dual-listed with DRFT 1508.

MACT 1800 Manufacturing Computer Applications 1 Credit
Personal computers will be used to introduce the learner to a wide variety of computer applications. Word processing, spreadsheet applications, database, Internet research and general computer skills will be covered.
MACT 1801
Fundamentals of Precision Manufacturing
This course is designed to give students foundational knowledge in safety, precision measuring and use of basic manual tools and common machines used in a machine shop. Topics include an overview of basic machining practices, measurements and tolerances used for machining of components, and aids in transfer of engineering drawings to 3-D visualizing.

MACT 1812
Fixtures Design and Tooling
This course covers basic principles in the design of jigs, fixtures, automated loading equipment, and tooling techniques. The students will use CAD software for the design and plotting of their drawings.

MACT 1831
Lathe Operations and Theory I
This course introduces techniques in the basic operation of an engine lathe with technical theory worksheets. Topics covered include safety, turning, boring, tapping and machining angles.

MACT 1836
Lathe Operations & Theory II
This course covers advanced techniques in the operation of an engine lathe. Topics include thread chasing, advanced turning, boring, internal grooving and machining with soft jaws.

MACT 1840
2-Axis CNC I
This course covers basic principles of vertical milling operations and the techniques used to program, set up and operate a 2-axis milling machine to create component parts with steps, angles, slots, shapes, and holes.

MACT 1842
2-Axis CNC II
This course covers advanced 2-axis vertical milling operations. Topics covered include programming, advanced setup and operation of 2-axis vertical milling machines to produce complex parts. Students should successfully complete MACT 1840 prior to beginning this course.

MACT 2503
Parametric Design I
This course provides instruction on producing solid models and drawings from those solid models using the SOLIDWORKS® parametric software. This course will cover the fundamentals and basic concepts of parametric modeling as well as creating part and assembly drawings from those models.

MACT 2506
Reverse Engineering for Machinists
Machinists are often called upon to make replacement parts that are no longer produced or available for purchase. The development of the skills needed to do that will be the focus of Reverse Engineering for Machinists. Students will be given machined parts to measure and assess. Those measurements will then be used to design solid models using Solidworks software. The solid models will be imported into a MasterCAM program for production on a CNC machine. Design for machinability will be a major focus of instruction.

MACT 2507
Practical Application of Geometric Dimensioning and Tolerancing
This course provides comprehensive overview of the fundamentals of geometric dimensioning and tolerancing including the review of applicable sections in the ASME Y14.5M-2009 standard. Classroom lecture and practical exercises are combined to give students an opportunity to assess part accuracy based on geometric tolerance principals using precision measurement.

MACT 2508
Applied Math II
This course is a study of actual shop problems faced by drafters and machinists. It is structured like industry where you may use a machinery handbook for reference. The problems are solved by the use of geometry, trigonometry, algebra, and solid geometry.

MACT 2803
Precision Grinding I
This course covers basic principles of surface grinding with technical worksheets. Topics covered include surface grinding parts flat, parallel, square and to a step. Also included are metallurgy and heat treating of projects before surface grinding.

MACT 2805
Precision Grinding II
This course is a continuation of Precision Grinding I. Topics covered include how to select the correct grinding wheel, form dress the grinding wheel, set up the grinder with special fixtures and perform grinding operations to precision tolerances. Students should successfully complete MACT 1840 prior to beginning this course.

MACT 2811
CNC Programming and Set-up - Mill
This course introduces students to CNC machining centers and the programming code that controls them. Two-axis contour programming using Fanuc compatible G&M codes programming will be introduced. Students should successfully complete MACT 1840 prior to beginning this course.

MACT 2813
CNC Vertical Machining Centers
This course covers intermediate level principles, programming, setup, and operation of CNC vertical milling centers that are essential for employment in manufacturing and machining shops. CAD-CAM programs will be used. Prerequisite: MACT 2811

MACT 2815
CNC Programming and Set Up - Lathe
This course introduces students to Numerically Controlled Turning Centers and the programming that controls them. Students should successfully complete MACT 1831 prior to beginning this course.

MACT 2820
Mentorship I
Mentorship I is designed to solidify the learning of students in the Machine Tool Technology program by allowing them to instruct and guide first semester students to successfully and safely complete two machine shop projects. The projects are basic and have previously been completed by the mentors. Instructor will provide written and oral direction, assign students their mentee, and assist with the scheduling of mentorship appointments.

MACT 2821
Mentorship II
Mentorship II is designed to solidify the learning of students in the Machine Tool Technology program by allowing them to instruct and guide second semester students to successfully and safely complete several CNC machine shop projects. The CNC projects are introductory and have previously been
Die block. Prerequisite: MACT 2880

Computer Assisted Machining I
This course introduces computer-assisted numerical-controlled programming using a computer-aided manufacturing system.

Computer Assisted Machining II
This course builds upon MACT 2826 Introduction to CAM and covers solids, surfaces and multi-axis programming and design techniques. This course will provide a deeper exploration of the capabilities of CAM software when working with solid models and multi-axis parts. Prerequisite: MACT 2826

Die Design
This course gives the students basic knowledge in the metal stamping industry. The course covers die types, metal forming, tool steels, and design techniques.

Mold Design
This course gives the students basic knowledge in plastic molding, die casting components, molding techniques and mold designing.

Mold and Die Design
This course provides an overview of mold and die design. This course is designed to give students basic knowledge of plastic molding, design of molds, mold components, and molding processes. In the metal stamping industry, discuss the various stamping operations, design of dies, stamping die components and special machine tools.

Mold Making I
Students will learn general concepts for mold design and function. They will use this information, combined with their previous Solidworks software training, to design all of the components of a mold.

Mold Making II
The student will build the complete mold base with cooling lines, cavities and core pockets, and a runner system. Prerequisite: MACT 2870

Mold Making III
This course covers how to test fit the force and cavity plates and installation of ejector system in the mold-set. Also covered is final assembly, polishing, setup and operate the injection mold press. Prerequisite: MACT 2872

Die Making I
In this course the students will develop the design and print package for a complete stamping die including the set, punches, pilots, die block, stripper and stop.

Die Making II
The student will build the complete die set and start machining the punches, pilots, die block, stripper, etc. The student will also heat treat the punches and die block. Prerequisite: MACT 2880

Die Making III
This course covers how to test fit the punches and dies in the dies-set. Also covered is final assembly, install die in punch press and operate the punch press. Prerequisite: MACT 2882

CNC Turning Centers
In this course, students will use MasterCAM software to program parts to run on a CNC lathe. This course covers advanced CNC concepts related to developing tool paths, operating a turning center, and part planning and construction.

Advanced CNC I
This course focuses on the intermediate phases of machining using CNC equipment. This course covers advanced CNC concepts related to programming, part set-up, multi-axis programming and 3D contouring.

Advanced CNC II
This course focuses on the advanced phases of machining using CNC equipment and covers advanced CNC concepts related to multi-axis programming and setup. In addition, students will be required to document the process using industry documentation procedures. Students are required to have working knowledge of parametric design software to complete the design portion of their final project. All CNC machining programs for components of the final projects will be created using MasterCAM software.

Special Topics/Projects
This course allows the student to complete a course of study on a special topic or project with the approval of the instructor. Under direction of the instructor, the student will explore new concepts and complete assigned projects.

Manufacturing Technology (CMAE)

CMAE 1514 Safety Awareness
This course is designed to align with the National Skill Standard assessment and certification system for Safety Awareness. The course curriculum is based on federally-endorsed national standards for production workers. This course will introduce OSHA standards relating to personal protective equipment, Hazard Communication, tool safety, confined spaces, electrical safety, emergency responses, lockout/tagout, and others.

CMAE 1518 Manufacturing Processes and Production
This course is designed to align with the National Skill Standard assessment and certification system for Manufacturing Processes. The course curriculum is based on federally-endorsed national standards for production workers. The course emphasizes Just-In-Time manufacturing principles, basic supply chain management, communication skills, and customer service.
CMAE 1522  
Quality Practices  
This course is designed to align with the National Skills Standard assessment and certification system for Quality Practices. The course curriculum is based upon federally-endorsed national standards for production workers. Emphasis is placed on continuous improvement concepts and how they relate to a quality management system. Students will be introduced to a quality management system and its components. These include corrective actions, preventative actions, control of documents, control of quality records, internal auditing of processes, and control of nonconforming product.

CMAE 1526  
Maintenance Awareness  
This course is designed to align with the National Skills Standard assessment and certification system for Maintenance Awareness. The course curriculum is based upon federally-endorsed national standards for production workers. The Maintenance Awareness course introduces the concepts of Total Productive Maintenance and preventative maintenance. Students will be introduced to lubrication, electricity, hydraulics, pneumatics, and power transmission systems.

MARKETING AND SALES MANAGEMENT (MSM)

MSM 1000  
Student Success  
1 Credit  
This course intends to inspire and engage students with the perseverance and determination of an entrepreneurial mindset needed to succeed academically, professionally, and personally. This course encourages students to apply real-world circumstances, which will allow them to develop entrepreneurial attitudes, behaviors, and skills that can support them throughout college and beyond. The core concepts include their own power of choice, opportunity, action, and knowledge. The advanced concepts include resourcefulness, reliability, community, and persistence.

MSM 1012  
Business Presentations  
3 Credits  
This course covers the development of business presentations. Students will plan, write and deliver presentations on various topics using appropriate media and presentation software. This course is dual listed with ADS 1012, Business Presentations.

MSM 1101  
Principles of Marketing  
3 Credits  
This course is a study of the marketing process and the environment with regard to product pricing, distribution and communication in order to satisfy consumer needs. International marketing will be addressed. Students will apply the principles of marketing research including laboratory, field and historical research; sampling procedures; questionnaire design; and data analysis.

MSM 1103  
Basic Sales Techniques  
3 Credits  
This course covers the role of sales in the economy, the importance of communication skills and the basic steps of a sale. It also covers topics related to customer service department including standard operating procedures, telephone procedures, customer contact, conflict handling and problem solving.

CMAE 1137  
Business Math and Accounting  
3 Credits  
This course is an introduction to the fundamental accounting concepts and principles used to analyze and record business transactions. Topics include the accounting cycle, accounting for service businesses and accounting system design.

MSM 1212  
Personal Finance  
3 Credits  
This course is designed to help students make better personal financial decisions. They will learn how to spend and save money more wisely and to improve their standard of living. Emphasis will be given to budgeting, credit, taxes, insurance, and investing.

MSM 1220  
Advertising  
3 Credits  
This course acquaints the students with advertising psychology, types of media available, and the steps in the preparation of creative advertisements. Emphasis is placed on planning, execution and evaluation of these promotional components.

MSM 1818  
Internship I  
3-6 Credits  
This course is designed to provide the students with a purposeful occupational experience in the wholesale/retail/sales marketing industry. Each occupational experience is individualized and a training plan is created for each student in conjunction with the training station the student is assigned to.

MSM 1819  
Internship II  
1-3 Credits  
For this course, projects, reports, and discussions are coordinated to relate to the students employment situation. A minimum of two employer evaluations per student is a requirement of this course.

MSM 2102  
Professional Sales  
3 Credits  
This course provides the practical sales applications of business-to-business sales transactions. Students will learn the value of relationship sales and study presentation methods to differ customer personalities. It will cover the techniques to overcome objections, prospecting, and negotiation skills. Significant time is spent preparing and delivering actual sales presentation.

MSM 2105  
Computer Applications  
3 Credits  
This course explores the use of spreadsheets, data base management, word processing, and business graphic software on an intermediate application basis as well as the internet as a marketing tool and information on social media as a tool being used by business organizations.

MSM 2110  
Principles of Supervision  
3 Credits  
The theories, methods, and techniques of supervision are emphasized in this course. This course addresses such topics as goal-setting, productivity, team-building, motivation, delegation and appraisal. The use of case problems and/or simulations is a part of the training.

MSM 2125  
E-Commerce & Social Media  
3 Credits  
This course covers an overview of e-Commerce and how it is used as an additional marketing tool for many businesses. Students will learn the basics of developing a web page, what goes into developing a shopping cart for products,
explore linking to other websites, and practical application in evaluating web-site effectiveness.

**MSM 2203**

**Management Issues**

This course is intended to prepare students to deal with contemporary business problems. The students take part in a computer-based business simulation. Topics discussed include problem solving, financial statement analysis, diversity, supervision, and community service.

**MSM 2207**

**Merchandise Management**

This course covers the merchandise management strategies within a retail organization. Topics to be covered: six-month plan, sales stock, open-to-buy, vendor relations and negotiations, pricing, profitability, assortment and merchandise planning, Merchandise inventory controls and strategies will be discussed.

**MSM 2823**

**Introduction to Entrepreneurship**

This course inspires and engages students in the fundamental aspects of an entrepreneurial mindset as an essential life skill. Eight fundamental concepts are discussed using real-world entrepreneurs who have overcome challenges by embracing the core concepts of an entrepreneurial mindset. The course also provides experiential learning through the process of identifying problems, finding solutions, and making connections beyond the classroom.

**MSM 2850**

**Small Business Development**

This course is a foundational course for the individual pursuing the establishment of a small business. Students will learn what it takes to own, operate, and grow a small business successfully. Various types of small business start-ups will be examined. Students will develop an understanding of the steps required to start a small business and will examine the elements that can either lead to a business failure or success.

**MSM 2950**

**Special Projects/Topics**

This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be able to enroll in this course.

**Course Descriptions**

**Massage Therapy (MTHE)**

**MTHE 1201**

**Basic Massage**

This course is designed to provide students with the technical and interpersonal skills to provide a proper and effective full body, partial, and seated-chair massage for therapeutic purposes. Topics will include good therapeutic communications, benefits and precautions, general pathology, correct body mechanics, proper procedures in a variety of massage applications, and guide-lines for giving and receiving massage. The use of hot stones for therapeutic purposes and incorporating various massage tools will also be covered. Students will have sufficient time for hands-on practice both in the campus lab and through the externship program. Corequisites: MTHE 1203, MTHE 1204, MTHE 1205, MTHE 1206, MTHE 1208

**MTHE 1203**

**Massage Therapy Anatomy and Physiology**

This course will cover basic anatomy and physiology, including the names, locations, types, characteristics, actions, functions and dysfunctions of all structures and systems of the human body as they relate to the practice of massage therapy. Students will also become familiar with the energetic anatomy system and how it functions within the physical body. Co-requisites: 1201, MTHE 1204, MTHE 1205, MTHE 1206, MTHE 1208

**MTHE 1204**

**Business Practices/Communications I For Massage**

This course will focus on the requirements for the practice of massage therapy including laws, regulations and insurance, equipment and supplies, standard sanitation and safety practices, personal ethics and boundaries, client communication, record keeping, creating an appropriate practice setting, negotiating contracts and analyzing choices for a career as a professional massage therapist. Students will participate in business-related aspects of the on-site Student Massage Center. Co-requisites: MTHE 1201, MTHE 1203, MTHE 1205, MTHE 1206, MTHE 1208

**MTHE 1205**

**Principles of Holistic Health**

This course has been developed to provide students with a broad range of information and experience with holistic medicine and complementary health and healing techniques they are likely to encounter in their work as a massage therapist. Topics studied will include nutrition information, diagnostic sciences, and many types of holistic therapies. The course will also provide students with hands-on experience in meditation techniques, yoga and tai chi, and various vibrational therapies, as well as an opportunity to design their own strategies for long-term health and wellness. Co-requisites: MTHE 1201, MTHE 1203, MTHE 1204, MTHE 1206, MTHE 1208

**MTHE 1206**

**Clinical/Field Experience I**

Field experience will offer students the opportunity to perform massage therapy, including the use of relaxation, deep tissue techniques and adjunctive therapies, through both the Externship program outside of the classroom and in the college Student Massage Center under the supervision of the instructor. Experience the business, technical and interpersonal aspects of a massage therapy practice for either self-employment or employment in a spa or non-medical setting will be gained. Co-requisites: MTHE 1201, MTHE 1203, MTHE 1204, MTHE 1206, MTHE 1208

**MTHE 1208**

**Introduction to Pathology**

Introduction to Pathology is designed to give students a practical understanding of conditions that relate to the safe practice of massage therapy. Students will learn to recognize dysfunctions and diseases of major body systems, identify whether or not they are contagious, and determine if massage therapy is indicated or contraindicated. Topics covered include use of reference materials, modality recommendations, terminology, assessment tools, infectious agents, hygienic practices, and prescription medications for the purpose of keeping both clients and therapists protected in the therapeutic environment. Co-requisites: MTHE 1201, MTHE 1203, MTHE 1204, MTHE 1205, MTHE 1206
MTHE 1211 
Advanced Massage

This course will expand on methods taught in Basic Massage and also include the areas of Reflexology, Shiatsu, Myofascial Release, and Hot Stone spot treatments, as well as pre- and post-event sports massage. Students will also be introduced to advanced massage methods including pregnancy/infant massage, joint mobilization, cranial sacral techniques and energy balancing techniques, as well as assessment and treatment plan procedures. Students will tour therapeutic massage practices and participate in 50 hours of internship as a part of MTHE 1230 Clinical Experience II. Prerequisites: MTHE 1201, MTHE 1203, MTHE 1204, MTHE 1205, MTHE 1206, MTHE 1208. Co-requisites: MTHE 1212, MTHE 1213, MTHE 1214, MTHE 1230

MTHE 1212 
Massage Therapy Anatomy and Kinesiology

This course focuses on the muscular and skeletal systems, the relationship of body structures and body movement, and the physiological, mechanical, and psychological mechanisms of human movement. Emphasis will be placed on muscle tissue, skeletal attachments, neuromuscular connections, biomechanical laws, muscle and joint movements, and myofascial integration as related to therapeutic massage. Prerequisite: MTHE 1203, 1208. Co-requisites: MTHE 1211, 1213, 1214, 1230

MTHE 1213 
Massage Therapy Business Practices/Communication II

Whether a student is planning to be employed or self-employed, this essential course will help insure long-term success as a professional massage therapist. Students will benefit from topics in the areas of goal-setting, strategic planning, business development and ethics, financial management, target market analysis, value added services, and professional communications, as well as hands-on experience in designing business cards, brochures, promotional materials and conducting market research and analysis studies. Students will also practice negotiating contracts, job search and interviewing skills. Students will also make on-site visits to a number of successful massage therapy practices in the area and participate in business-related aspects of the on-campus Student Massage Center. Prerequisite: MTHE 1204. Co-requisites: MTHE 1211, MTHE 1212, MTHE 1230

MTHE 1214 
Ancillary Treatments

This course will educate students in the use of equipment, products, and spa body treatment application procedures, including exfoliation, mud/ inch loss wraps, hydration and spa treatments including ear candling and essential oil protocols. An overview of various spa techniques will be presented and key aspects of client relations, consultations, benefits and precautions, treatment types, purposes and practices will be covered. Nutritional supplements will be examined. Prerequisites: MTHE 1201, MTHE 1203, MTHE 1204, MTHE 1205, MTHE 1206, MTHE 1208. Corequisites: MTHE 1211, MTHE 1212, MTHE 1213, MTHE 1230

MTHE 1220 
Massage Therapy Certification Preparation

This course is designed to help students prepare for the national certification examination to become a licensed Massage Therapist, and will cover NCETMB and NCTE professional standards. Topics covered will include body systems; anatomy, physiology, and kinesiology; pathology; therapeutic massage assessment; therapeutic massage application; professional massage standards, ethics, business, and legal practices; and Eastern modalities.

MTHE 1225 
Field Experience

Field experience will offer students the opportunity to perform massage therapy techniques such as relaxation, deep tissue techniques, and adjunctive therapies in the college Student Massage Center under the supervision of the instructor.

MTHE 1230 
Clinical/Field Experience II

This course will focus on the requirements for the practice of massage therapy, including laws, regulations and insurance, equipment and supplies, standard sanitation and safety practices, personal ethics and boundaries, client communication and consultation, record keeping, creating an appropriate practice setting and analyzing choices for a career as a professional massage therapist. Field experience will offer students the opportunity to perform massage therapy, including the use of relaxation, deep tissue techniques and adjunctive therapies in the college Student Massage Center under the supervision of the instructor. Experience in some business aspects of a massage therapy practice and use of both the technical and interpersonal skills necessary for successful practice, whether employed or self-employed will be gained. Prerequisite: MTHE 1201, MTHE 1203, MTHE 1204, MTHE 1205, MTHE 1206, MTHE 1208. Co-requisites: MTHE 1211, MTHE 1212, MTHE 1213, MTHE 1214

MTHE 1501 
Advanced Massage 2

This course will expand on methods taught in Basic Massage and Advanced Massage including areas such as Reflexology, Myofascial Release, Pregnancy Massage and additional industry relevant therapeutic massage techniques. Students will also be introduced to advanced assessment and treatment plan procedures that will allow them to work in varied therapeutic settings. Students will also learn how to find quality research as well as determine evidence based practices for massage therapy. Prerequisite: MTHE 1211, MTHE 1230

MTHE 2950 
Special Projects/Topics

This course provides educational opportunities with topics and/or projects of current interest to therapeutic massage. The course may include research and project work in a mentored classroom or clinical lab setting. The specific topics studied and projects chosen will integrate and further develop knowledge and skills related to the Massage Therapy program. This course may be repeated in intervals of 1-6 credits for a maximum of six credits.

MATHEMATICS (MATH)

MATH 0930 
Encounters in Pre-Algebra

This course is designed for the college student who desires better knowledge of basic pre-algebra principles needed to take a course in elementary algebra. The course should help the student apply this knowledge to problems encountered in daily life. Topics covered include whole numbers, fractions, mixed numerals, decimals, signed numbers, solving linear equations, applications and problem solving. Prerequisite: Appropriate score on the math placement exam

MATH 0970 
Beginning Algebra

This is a beginning algebra course designed for students with an insufficient background for MATH 0980. Topics covered at the introductory level include real numbers; operations with integers and rational numbers; evaluating and simplifying algebraic expressions; solving linear and absolute value equations and inequalities; problem solving with percents, ratios, and proportions and geometric applications; functions; graphing linear equations and inequalities; finding slope and equations of lines; operations on polynomials; and work with
Course Descriptions

MATH 0980  Intermediate Algebra
Topics covered include factoring, solving polynomial equations, solving systems of equations, operations on rational and radical expressions; graphing rational functions, simplifying radical expressions, solving rational and radical equations, properties of real and complex numbers, graphing and solving quadratic equations, exponential and logarithmic functions, and algebraic problem solving. Credits earned from this course do not apply toward graduation. Prerequisite: A grade of C- or better in MATH 0970 or appropriate score on the math placement exam

MATH 0990  Mathematical Reasoning
This developmental course provides an alternative pathway to earning a college level liberal arts mathematics course. All college students, regardless of their college major, need to be able to make reasonable decisions about fiscal, environmental, and health issues that require quantitative reasoning skills. An activity based approach is used to explore numerical relationships, graphs, proportional relationships, algebraic reasoning, and problem solving using linear, exponential and other mathematical models. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. This course is the first in a two part sequence and is not suited for Science, Technology, Engineering, or Math (STEM) students. Prerequisite: A grade of C- or better in MATH 0970 or appropriate score on the math placement exam

MATH 1000  Quantitative Reasoning
MnTC Goal 4
This course provides an alternative pathway to completing a college level liberal arts mathematics course. All college students, regardless of their college major, need to be able to make reasonable decisions about fiscal, environmental, and health issues that require quantitative reasoning skills. Like Quantway I, an activity-based approach is used to explore numerical relationships, graphs, proportional relationships, algebraic reasoning, and problem solving. In addition, topics from probability and statistics, finance, graph theory and logic will also be introduced. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. This course is the second in a two part sequence and is not suited for Science, Technology, Engineering, or Math (STEM) students. Prerequisite: A grade of C- or better in MATH 0980 or MATH 0990 or appropriate score on the math placement exam

MATH 1090  Elements of Algebra & Trigonometry
MnTC Goal 4
Algebraic and trigonometric concepts are taught with a heavy emphasis on applications to technical fields. Topics covered include the real number system; algebraic concepts, operations, and factoring; graphing; linear, quadratic, fractional and radical equations; proportion and variation; geometry; trigonometric functions and their graphs; and logarithmic and exponential functions. Prerequisite: A grade of C- or better in MATH 0980 or appropriate score on the math placement exam

MATH 1100  Contemporary Concepts in Mathematics
MnTC Goal 4
This course is designed to fulfill the general education mathematics requirements at four-year colleges. It will introduce and expand upon fundamental concepts of modern mathematics including work with sets, logic, the real number system, linear models, exponential growth, geometry, counting methods, probability, and statistics. Concepts studied will be used to develop strategies for solving real world problems. Prerequisite: A grade of C- or better in MATH 0980 or appropriate score on the math placement exam

MATH 1120  College Algebra
MnTC Goal 4
Short review of elementary algebra topics; general problem-solving strategies; solving first degree, second degree, and absolute value equations and inequalities; linear, quadratic, exponential, and logarithmic functions; systems of linear equations and inequalities; matrix algebra, solving polynomial equations; quadratic systems; fundamental geometric concepts. Prerequisite: A grade of C- or better in MATH 0980 or appropriate score on the math placement exam

MATH 1160  Trigonometry
MnTC Goal 4
Trigonometric functions, identities, and equations; right triangle trigonometry; circular functions; trigonometric and polar form of complex numbers. Prerequisite: A grade of C- or better in MATH 1120 or appropriate score on the math placement exam

MATH 1190  Accelerated Pre-Calculus
MnTC Goal 4
A review of algebra, trigonometry, and elementary analytic geometry, inequalities, special functions, determinants, mathematical induction, inverse functions and graphing. This course is designed for the student planning to continue on in mathematics or related fields. Prerequisite: A grade of C- or better in MATH 1120 and MATH 1160 or appropriate score on the math placement exam

MATH 1210  Calculus I: Calculus and Analytic Geometry
MnTC Goal 4
Study of limits, differentiation and applications of the derivative. The definite integral and applications, curve sketching. Prerequisite: A grade of C- or better in MATH 1160 or MATH 1190 or appropriate score on the math placement exam

MATH 1220  Calculus II: Calculus and Analytic Geometry
MnTC Goal 4
Differentiation and integration of logarithmic, exponential, inverse trigonometric and hyperbolic functions. Techniques of integration, indeterminate forms, improper integrals, infinite series and sequences, and tests for convergence. Prerequisite: A grade of C- or better in MATH 1210 or appropriate score on the math placement exam

MATH 2010  Elementary Statistics
MnTC Goal 4
Topics covered include using formulas and technology in solving problems, grouping and graphing data, measures of central tendency and variability, normal distributions, confidence intervals, hypothesis tests, and correlation. This course is designed to provide the students with statistical concepts and techniques used in sociology, psychology and related fields. Prerequisite: A grade of C- or better in MATH 0980 or MATH 0990, or appropriate score on the math placement exam
### MATH 2070
Statistics and Its Applications  
**MnTC Goal 4**

This course is designed to give students a conceptual introduction to the field of statistics and its variety of applications. The class is applications-oriented and is presented with the needs of the nonmathematician in mind. Topics covered may include: data collection, summarizing and describing data, estimation and hypotheses testing, statistical inference, goodness of fit, analysis of variance, regression analysis, time series, forecasting, and quality control. Prerequisite: A grade of C- or better in MATH 0980 or appropriate score on the math placement exam.

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<tr>
<td>MATH 2070</td>
<td>Statistics and Its Applications</td>
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### MATH 2080
Statistics for Social and Behavioral Sciences  
**MnTC Goal 4**

Students use basic mathematical and computerized procedures to analyze data in the social and behavioral sciences. Students use statistical software (e.g., SPSS, R, PSPP) to conduct descriptive and inferential data analyses. Students choose and apply statistical procedures to help to answer social and behavioral science research questions. Students read, interpret, and write American Psychological Association (APA) style results sections for social and behavioral science research. This course is dual listed with PSYC 2080. PSYC 1310 Intro to Psychology (Grade of 2.0 or higher) AND completion of Math MnTC requirement (MATH 1120 or 2010 or higher).

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<tr>
<td>MATH 2080</td>
<td>Statistics for Social and Behavioral Sciences</td>
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### MATH 2100
Introduction to Modern Mathematics I  
**MnTC Goal 4**

Topics included are introduction to problem solving, whole numbers and numeration, the Hindu-Arabic system, relations and functions, operations with and properties of whole numbers, ordering and exponents, mental math and estimation, written algorithms for whole number operations, algorithms in other bases, ratio and proportion, distance and slope in the coordinate plane. Prerequisite: A grade of C- or better in MATH 0980 or appropriate score on the math placement exam.

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<td>MATH 2100</td>
<td>Introduction to Modern Mathematics I</td>
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### MATH 2110
Introduction to Modern Mathematics II  
**MnTC Goal 4**

This is the second course of a two-semester sequence in math for elementary education majors. Topics covered include geometric figures, measurement, algebra and functions, the rectangular coordinate system, graphing, equations of lines and slope, geometry using congruence and similarity, geometry using transformations, statistics, and probability. The student will also learn how to use a scientific calculator and practice with a graphing calculator. Prerequisite: A grade of C- or better in MATH 0980 or appropriate score on the math placement exam.

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<td>MATH 2110</td>
<td>Introduction to Modern Mathematics II</td>
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### MATH 2230
Calculus III: Calculus and Analytical Geometry  
**MnTC Goal 4**

Study of solid analytic geometry, polar curves, vectors in space involving dot and cross products, vector functions, partial derivatives, directional derivatives, maxima and minima for functions of two variables, gradient, curl and divergence, line integrals, and calculus of vector fields. Double integrals, triple integrals in cylindrical and spherical coordinates, Greens, Stokes, and Divergence Theorems. Prerequisite: A grade of C- or better in MATH 1220 or appropriate score on the math placement exam.

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<tr>
<td>MATH 2230</td>
<td>Calculus III: Calculus and Analytical Geometry</td>
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### MATH 2330
Linear Algebra and Differential Equations  
**MnTC Goal 4**

Study of matrices and systems of equations, determinants, vector spaces and linear transformations. Solving differential equations involving the standard first and second order types plus higher order linear equations with constant coefficients as well as an introduction to Laplace transforms. Prerequisite: A grade of C- or better in MATH 1220 or appropriate score on the math placement exam.

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<td>MATH 2330</td>
<td>Linear Algebra and Differential Equations</td>
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### MEDA 1002
Applied Communications/Scribing I

This course introduces the development of basic computer, and word processing techniques with emphasis on building speed and accuracy. A windows-based word processing program will be used to provide opportunities for application of the keyboarding skill in formatting letters, reports, tables, memos, as well as editing, storage, and use of other basic software features. This course will also introduce basic medical scribing techniques.

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<td>MEDA 1002</td>
<td>Applied Communications/Scribing I</td>
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### MEDA 1010
Anatomy and Physiology I

This course is designed to assist the student in developing a basic understanding of the normal structure and functioning of the human body. Such knowledge is basic to understanding common disease processes.

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<tr>
<td>MEDA 1010</td>
<td>Anatomy and Physiology I</td>
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### MEDA 1021
Disease Conditions

This course presents basic information about common disease conditions affecting various body systems. Causes, signs and symptoms of various diseases will be presented. Diagnostic and treatment procedures will be discussed. Prerequisite: MEDA 1010, MEDA 1113 or concurrent enrollment.

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<tr>
<td>MEDA 1021</td>
<td>Disease Conditions</td>
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### MEDA 1102
Applied Communications/Scribing II

This course provides practical application of spelling, capitalization, and punctuation rules in the medical field. Various kinds of medical forms and technologies are utilized including letters, chart notes, scribing, history and physicals, and medical reports. Stress is on accuracy of grammar, spelling, punctuation, proofreading, and formatting. Prerequisite: MEDA 1002.

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<td>MEDA 1102</td>
<td>Applied Communications/Scribing II</td>
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### MEDA 1110
Human Relations for Health Care

This course focuses on increased awareness of self and others in normal and abnormal situations.

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<td>Human Relations for Health Care</td>
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### MEDA 1113
Medical Terminology

This course shows students how to recognize and build medical terms after learning the meaning of word parts, prefixes, and suffixes. The course is based on a body systems approach. Students will also learn how to interpret and use common medical abbreviations and symbols.

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<td>MEDA 1113</td>
<td>Medical Terminology</td>
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Course Descriptions

**MEDA 1135**  
**Clinical Procedures I**  
This course covers the fundamentals of clinical medical assisting including documentation, patient interview, patient education, vital signs, physical exam, eye and ear, gastrointestinal, pulmonary, pediatrics, geriatrics, orthopedics, rehabilitation, and physical therapy.

**MEDA 1225**  
**Orientation to Medical Lab**  
This course is an introduction to the clinical lab setting, laboratory safety, specimen collection, laboratory math and measurement concepts, use and care of lab equipment, CLIA regulations, including patient test management and quality assurance.

**MEDA 1235**  
**Clinical Procedures II**  
This course covers the continued study of the fundamentals of medical assisting. Included in this course are minor surgery, drug administration, x-ray, emergency care and assisting in the primary care areas of women's health, prenatal care and obstetrics, men's health and urology. Prerequisite: MEDA 1135 or consent of instructor.

**MEDA 1313**  
**Human Development for Allied Health**  
This course introduces the student to theories of human development, the progressive stages of physical, emotional, cognitive, and social development during the lifespan, and application in the healthcare setting.

**MEDA 1324**  
**Lab Skills I**  
This course includes physical and chemical examination of urine. Prerequisite: Successful completion of all program course work.

**MEDA 1326**  
**Lab Skills II**  
This course includes microscopic urine examination, occult blood testing, and immunology tests. Prerequisite: MEDA 1225, MEDA 1324, or concurrent enrollment.

**MEDA 1328**  
**Certification Exam Review I**  
The course focuses on an overall review of theory covered in the first semester in the Medical Assistant program. Prerequisite: Completion of all program coursework of first semester, concurrent enrollment in second semester, and/or consent of instructor.

**MEDA 1451**  
**Practicum Seminar**  
This course covers the role of the medical assistant in relation to the following areas: ethical-legal issues, community resources, patient education, hiring practices, job seeking/keeping skills, DOT collections, and review of lab procedures. Prerequisite: Currently enrolled or successful completion of all related theory and practical courses.

**MEDA 1540**  
**Medical Office Procedures**  
This course teaches medical office skills including filing, medical appointments, telephone techniques, billing, and handling medical records. Students will also learn medical insurance, insurance forms, as well as proper coding techniques using ICD-9-CM, CPT, and HCPCS. Prerequisite: GSCI 1102, MEDA 1010, MEDA 1021, MEDA 1113, concurrent enrollment or consent of instructor.

**MEDA 1900**  
**Phlebotomy Practicum**  
This course is designed to provide on-the-job experience. The student will be assigned to work in a health care facility for a total of 120 hours. The student will work under the supervision of facility personnel performing tasks pertinent to the student's program curriculum. Prerequisite: All previous program courses.

**MEDA 2020**  
**Certification Exam Review II**  
This course focuses on an overall review of theory covered in the Medical Assistant program. Prerequisites: Completion of all program coursework, concurrent enrollment in final semester, and/or consent of instructor.

**MEDA 2032**  
**Pharmacology**  
This course covers a review of basic math, drug information sources, drug standards and legislations, pharmaceutical preparations and prescriptions. Students will also learn the study of drugs according to classification and/or body systems. Prerequisite: MEDA 1010, MEDA 1021 or consent of instructor.

**MEDA 2100**  
**Practicum**  
This 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 200 hours. The student will work under the supervision of office personnel doing tasks pertinent to the student's program curriculum. There will also be one required personal reflection paper to complete in which the student will evaluate his/her own performance during the entire program as well as evaluating personal growth. Prerequisite: Successful completion of all program course work.

**MEDA 2310**  
**Laboratory Procedures I**  
This course covers the fundamental of performing automated electrocardiograms: preparing the patient, applying leads correctly, recording and mounting the tracing. Standard 12-lead electrocardiograms will be performed. Monitoring of the heart rhythm will be discussed. This course will also cover fundamentals of spirometry testing. Prerequisite: MEDA 1010.

**MEDA 2320**  
**Laboratory Procedures II**  
This course focuses on medical laboratory procedures for basic manual and automated hematology tests, blood chemistry testing and medical microbiology. These include hemoglobin, hematocrit, cell counts, red cell indices, preparation of blood smears, differential counts, erythrocyte sedimentation rate, coagulation testing, measurement of chemical analytes in blood, inoculation and set-up of cultures, gram stain techniques and identification of common microorganisms. Prerequisites: MEDA 1225.

### Multimedia Design Technology (MMDT)

**MMDT 1002**  
**Graphic Visualization**  
This course enables students to begin multimedia design as they are introduced to the design elements and principles. Students will become more aware of design in the world around them, and learn how to create effective designs. Students will also learn how to conduct a design critique with their peers.
MMDT 1008  
Introduction to Computer Graphics  
3 Credits  
This course provides an introduction to vector and image-editing software used in the design fields. Students will learn the basics of creating vector and raster graphics, utilizing file formats, along with a basic understanding of multimedia software.

MMDT 1010  
Typography & Color Theory  
3 Credits  
Theories of design will be discussed specifically related to typography and color. Students will be introduced to type terminology, the categories and anatomy of fonts, and font installation. In addition, students will learn typographic tips and techniques, and will utilize fonts in various formats. Color management will also be explored as it relates to various output forms. Students will understand various psychological responses to color in addition to color harmonies/schemes in order to use it more effectively.

MMDT 1015  
Digital Video Production  
3 Credits  
Create desktop video with Adobe Premiere. Students will assemble and edit clips, add transitions, use filters and motion setting, create super-impositions and titles in creating videos. In addition, they will learn hardware set-up, capturing techniques, and video compression schemes as they output their pieces to videotape.

MMDT 1021  
HTML and CSS  
3 Credits  
This course is designed to give students the basic skills they need to design web pages. Students will develop the skills they need to write, understand, and use HTML and CSS code in the creation of web pages. Course content addresses topics such as the use of HTML coding, HTML versions, browser differences, and CSS for page layout and design. In addition, students will navigate the World Wide Web and understand how web pages are delivered.

MMDT 1022  
HTML II and JavaScript  
3 Credits  
This course covers advanced topics in the use of the Hyper Text Markup Language (HTML). Students will develop the skills they need to create forms for data entry, embed multimedia, use cascading style sheets for printing, and the use of Javascript to enhance page function. JavaScript code will be written by hand and then debugged and managed using Macromedia Dreamweaver. Prerequisite: MMDT 1021 or CST 1021 and CST 1794.

MMDT 1025  
Networking Basics  
2 Credits  
In this course students will learn how local networks, wide-area networks, and the Internet work. They will also learn about the various types of servers and the services they provide. This will be learned through the installation and configuration of a variety of application programs of the type used in organizations. Students will work with various types of network hardware in a hands-on lab setting.

MMDT 1041  
Information Illustration  
3 Credits  
Students learn the fundamental concepts and features to create vector art, illustration and information graphics using the precise drawing and typography tools of vector-based graphic software programs such as Adobe Illustrator. Students become fluent in the software through hands-on exercises including vector graphics, logos, page layout and information graphics output for print or web.

MMDT 1051  
Image Editing  
3 Credits  
Students will learn the basics of image editing software such as Adobe Photoshop. They will acquire competencies in image acquisition, selections, using tools and panels, using layers, customizing the work environment, and using paths and filters. This is a project-based course.

MMDT 1057  
Electronic Publishing  
3 Credits  
Students learn techniques for page layout and design using a page layout software such as Adobe InDesign. Concepts include basic tools, text formatting and flow, graphics incorporation, style sheets and master pages. In addition, Portable Document Format (PDF) will be introduced and used to create interactive PDF files.

MMDT 1088  
Basic Digital Photography  
3 Credits  
Students will learn basic knowledge of digital photography as it applied to multimedia titles and the Web. Students will work with digital cameras to produce a variety of photographic images for practical business applications using both creativity and technical skill. Industry-standard software will be utilized to manipulate photos for multimedia application.

MMDT 1112  
Animation for Web Design I  
3 Credits  
Students will develop animations that are optimized for real-world applications. Using industries most current technologies, students will create interactive and animated web content for output on desktops, a variety of browsers and devices.

MMDT 1124  
Web Publishing  
3 Credits  
This course is designed to give students the necessary skills in setting up a website and publishing it publicly on the internet. Students will learn to create a live website with a functional structure, host their website on an actual web server, and manage their website’s presence within search engine indexes.

MMDT 1135  
Internship  
1-3 Credits  
This course is designed to provide the student with a purposeful occupational experience in the field of graphics and design, web design, video editing or multimedia design. Each student’s internship is an individualized experience. A training plan is created for each student in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program. Prerequisites: Instructor’s approval, grade or C or better in program.

MMDT 1142  
Interface Design  
3 Credits  
Students learn the design of Web and mobile interface elements.

MMDT 1146  
PHP Programming  
3 Credits  
In this course students will design and write programs using PHP, a widely used programming language used to make dynamic web sites and web applications. Students will write PHP programs to solve real world problems. PHP code will be written by hand and then debugged and managed using Adobe Dreamweaver. Students will be running their projects on an actual web server with PHP and MySQL installed. Prerequisites: CST 1794 and CST or MMDT 1021.

MMDT 1150  
Independent Studies  
1-3 Credits  
Independent studies focus on a specialized area of computerized video and multimedia production, such as the in-depth study of a particular piece of software.
or equipment (i.e. Managing a website or Advanced Authorware). Student will work cooperatively with an instructor to create a plan, and complete the work.

MMDT 1152  3 Credits
Business of Multimedia
Utilizing the teamwork concept in multimedia production, the class simulates a multimedia production team, working together on real-world projects. Students will each have a position, creating proposals, budgets, and timelines for projects.

MMDT 1180  4 Credits
Multimedia Portfolio
Student plots and implements a multimedia project from initialization to completion. All aspects of planning a project, the needs analysis, writing a proposal, developing goals, creating a schedule, meeting deadlines, and quality standards are included. The final project will be published online.

MMDT 2146  3 Credits
Data Driven Web
This course is designed to give students the advanced skills they need to design a data driven web site. Topics covered in this course are: dynamically created web pages using data obtained from a database, the use of PHP as a server-side language to create the pages, and the use of MySQL as the database to store and obtain the data. Students will construct a business web site or application. Students will be running their projects on an actual web server with PHP and MySQL installed. This course is based on the use of textbook study and hands-on structured labs assigned by the instructor. Prerequisite: CST 1146 or MMDT 1146

MMDT 2950  1-6 Credits
Special Topics
This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be able to enroll in this course.

Music (MUSC)

MUSC 1000  1 Credit
Concert Choir
Concert Choir is the main performing ensemble which is open to all students by audition. The group performs at least two major concerts per year and takes a bi-annual tour. Exposure to a wide variety of musical styles is emphasized. This credit may be repeated as often as desired.

MUSC 1010  1 Credit
Chamber Singers
Chamber Singers is an auditioned select group which performs various types of choral music that is mainly a cappella. This credit may be repeated as often as desired. Prerequisite: Simultaneous membership in MUSC 1000 - Concert Choir

MUSC 1070  1 Credit
Community Band
Participation in band includes rehearsals and performances which cover standard band literature. This credit may be repeated as often as desired. Prerequisite: consent of director

MUSC 1080  1 Credit
Community Orchestra
The orchestra is a performing ensemble that rehearses one evening per week and is made up of college and high school students as well as Willmar area community members. The group performs at least three major concerts a year often with guest artists and other performing ensembles. This credit may be repeated as often as desired. Prerequisite: consent of director

MUSC 1110  3 Credits
Introduction to Music
MnTC Goals 6, 8
An introduction to the experiential aspects of music through a study of its functions in society, in different cultures and in historical contexts. Indigenous music from world cultures and a variety of genres including rock and roll, classical, folk, jazz and blues will be examined.

MUSC 1210  3 Credits
From Bach to Broadway
MnTC Goals 6, 8
This course is designed to survey the development of music through representative works and composers of many style periods. The course focuses on the role of music and musicians in Western culture. Emphasis is placed on developing good musical listening skills as well as becoming more knowledgeable members of an audience.

MUSC 1220  3 Credits
Music of the United States
MnTC Goals 6, 7
Music of the United States is designed for non-music/music majors who desire to expand their knowledge of classical and contemporary American music. The course will include the study of orchestral instruments, American folk music, jazz, musical theatre, country and popular music. In addition to listening to the music of each different style period, students will study the lives of several composers/musicians from each style.

MUSC 1230  3 Credits
Fundamentals of Music
MnTC Goal 6
This course studies the elements of music such as pitch, rhythm, scales, intervals, and chords. Basic sight singing/ear training skills will be introduced as well as beginning keyboard skills. MUSC 1230 is a course for liberal arts students and is recommended for elementary education students.

MUSC 1300  4 Credits
Basic Musicianship I
MnTC Goal 6
First-year study of the fundamentals and structural elements of music such as scales, intervals, chords, and part-writing. Students will learn how to sight read and notate rhythmic, melodic and harmonic dictation. This course is open to all liberal arts students.

MUSC 1310  4 Credits
Basic Musicianship II
MnTC Goal 6
First-year study of the fundamentals and structural elements of music such as scales, intervals, chords, and part-writing. Students will learn how to sight read and notate rhythmic, melodic and harmonic dictation. This course is open to all liberal arts students. Prerequisite: MUSC 1300

MUSC 1350  3 Credits
Survey of Rock and Roll Music
MnTC Goals 6, 7
A survey of rock and roll music from 1954 to the present. Emphasis will be placed on listening to and identifying individual styles as well as delving into the historical development and social/political contexts of rock and roll music.
This course studies music including formal, traditional and popular styles, its functions and its transformation in cultures in various areas around the world. Areas included but not limited to are: Asia, India, Latin America, and Africa.

MUSC 1500
Voice Class
Class instruction in vocal technique for beginning students which includes the study of voice production, posture, breathing, diction and pronunciation. Different styles of vocal music such as art songs, Broadway, jazz and folk songs will be explored. Basic music fundamentals such as note reading and keyboard skills will be introduced.

MUSC 1510
Applied Voice
Private music instruction by arrangement in the following: voice and piano. An additional fee is charged. Lessons must be arranged with the instructor the first week of the semester.

MUSC 1520
Applied Piano
Private music instruction by arrangement in the following: voice, piano, and guitar. An additional fee is charged. Lessons must be arranged with the instructor the first week of the semester.

NONDESTRUCTIVE TESTING TECHNOLOGY (NDT)

NDT 1030
Basic Liquid Penetrant Inspection
This course covers basic principles and practices of liquid penetrant inspection. Students learn why and when to use various types of penetrant materials, and the proper techniques necessary for reliable inspection. The course includes extensive hands-on training in the penetrant lab.

NDT 1040
Introduction to Radiography
This course introduces radiographic principals, terms, definitions, and theory to provide students with a fundamental understanding of radiation, measurements of radiation, radiographic imaging, film characteristics, processing, quality and interpretation.

NDT 1050
Basic Radiographic Inspection I
This course introduces radiographic principals, terms, definitions of film selection, film processing, film artifacts, and identification of discontinuances.

NDT 1051
Basic Radiographic Inspection II
This course is a continuation of Basic Radiographic Inspection I and introduces additional radiographic principals, terms and definitions including radiographic procedures, radiographic standards and codes. In addition, this course introduces concepts of film interpretation for welds, castings and nonmetallic materials.

NDT 1060
Introduction to Ultrasonics
This course introduces ultrasonic principles of sound wave propagation, terminology and applications of ultrasonic inspections. It also introduces the student to the calibration of ultrasonic equipment and various straight beam testing methods.

NDT 1070
Basic Ultrasonic Inspection I
This course will cover linearity test and immersion ultrasonic testing as well as thickness meters. Snells law and the introduction to angle beam calibration and testing will also be covered. This course is part of a sequence of ultrasonic inspection courses.

NDT 1071
Basic Ultrasonic Inspection II
This course will cover the use of angle beam testing to locate and size welding flaws. Immersion inspection of composite materials will also be covered. At the completion of this course the student will be given Level I General, Specific and Practical Tests.

NDT 1080
Basic Eddy Current Testing Inspection
This course will cover the theory of the production of eddy currents, electrical concepts, calibration and operation of eddy current machines, and applications of eddy current testing.

NDT 1090
Basic Magnetic Particle Inspection
This course covers basic principles and practices of magnetic particle inspection. Students learn how and why to use different types of equipment, magnetization techniques, and wet and dry particle materials. The course includes extensive hands-on training in the magnetic particle lab.

NDT 1100
Manufacturing Processes
This course provides an overview of manufacturing processes. Topics covered include material properties, machining, joining, casting, forming, heat treating, and finishing. Emphasis is placed on fundamental parameters of each process, advantages and limitations, and factors that should be considered when choosing a manufacturing process.

NDT 1140
Basic Blueprint Reading
This course introduces principals, terms, and definitions of reading and understanding blueprints.

NDT 1501
Introduction to NDT
This course introduces terms, definitions and an overview of key Nondestructive Testing methods including; Eddy Current Liquid Penetrant, Magnetic Particle, Radiography, and Ultrasonic Testing.

NDT 1502
Fundamentals of Nondestructive Testing
This course introduces the student to the field of Nondestructive Testing and the inspection methods used in industry today. The student will be introduced to the basic principles of Ultrasonic inspection, Eddy Current inspection, Radiographic inspection (x-ray), Metallurgy, Visual inspection, Magnetic Particle inspection, and Liquid Penetrant inspection. The student will attend and perform lab exercises for each of the NDT instructional topics. The student will
become familiar with the Nondestructive Testing industry and how it is used as an inspection tool to make the world a safer place.

**NDT 1510 3 Credits**
*Fundamentals of Metallurgy*
This course provides an overview of metallurgy and its application in industry. Topics covered include metallographic sample preparation, hardness and tensile testing, fundamentals of physical metallurgy and heat treating.

**NDT 1516 1 Credit**
*Intro to Codes & Specifications*
This course introduces codes and specifications terms, definitions, and applications. How to use and interpret in specific applications in field situations.

**NDT 1517 1 Credit**
*Intro to Report Forms/Writing*
This course introduces the student to the technical style of report and test procedure and writing commonly used in nondestructive testing.

**NDT 1820 3 Credits**
*NDT Geometry and Trigonometry*
This course will cover the geometry and trigonometry involved in Nondestructive testing. Emphasis will be placed on word problems and right triangle trigonometry.

**NDT 2021 1 Credit**
*Quality Improvement Tools and Techniques*
This course presents concepts and techniques used in quality improvement. The course provides a review of quality control and philosophies including, those of Demning and Juran, with emphasis on total quality management. The course includes an introduction to statistics with practical applications of statistical process control.

**NDT 2030 1 Credit**
*Advanced Liquid Penetrant Inspection*
This course covers evaluating liquid penetrant indications, interpreting standards and specifications, and checking penetrant system quality. Students will review fundamental liquid penetrant principles and techniques, develop and write procedures, and inspect welds, castings, forgings and machined components. Parts are evaluated according to relevant codes and/or standards. Prerequisite: NDT 1030

**NDT 2040 3 Credits**
*Isotope & Radiation Safety*
This course covers the safety aspect of working with radioisotopes and equipment used in radiography.

**NDT 2049 2 Credits**
*Advanced Radiography I*
This course covers radiographic techniques commonly used in industrial testing. The student will make radiographs using X-ray machines and Iridium 192 isotope sources. Prerequisite: NDT 2040

**NDT 2051 3 Credits**
*Advanced Radiography II*
This course covers radiographic technique requirements of the American Society of Mechanical Engineers, American Welding Society Structural Welding Code, American Petroleum Institute, and other codes used in industry. The student will do radiographic inspection and evaluation to each code as well as computer enhanced real-time radiography, and Cobalt 60 isotope radiography. Prerequisite: NDT 2049

**NDT 2052 2 Credits**
*Computerized Radiography I*
This course covers the use of computer enhanced radiographic techniques. The students will learn the use of digital radiographic screens and the software used to download and process radiographic images. Prerequisite: NDT 1040

**NDT 2060 3 Credits**
*Advanced Ultrasonic Inspection I*
This course introduces the student to advanced principles of ultrasonic testing. Advanced applications will be performed using normal beam, angle beam and immersion testing techniques. Prerequisite: NDT 1060

**NDT 2061 2 Credits**
*Advanced Ultrasonic Inspection II*
This course covers the application of advanced ultrasonic techniques to procedures, codes, and specifications as they apply to industry. Techniques used in the power industry, construction industry, manufacturing industry, as well as aircraft inspection will be performed. Prerequisite: NDT 1060

**NDT 2021 1 Credit**
*Quality Improvement Tools and Techniques*
This course presents concepts and techniques used in quality improvement. The course provides a review of quality control and philosophies including, those of Demning and Juran, with emphasis on total quality management. The course includes an introduction to statistics with practical applications of statistical process control.

**NDT 2030 1 Credit**
*Advanced Liquid Penetrant Inspection*
This course covers evaluating liquid penetrant indications, interpreting standards and specifications, and checking penetrant system quality. Students will review fundamental liquid penetrant principles and techniques, develop and write procedures, and inspect welds, castings, forgings and machined components. Parts are evaluated according to relevant codes and/or standards. Prerequisite: NDT 1030

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<thead>
<tr>
<th>Course Code</th>
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<th>Course Title</th>
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<tbody>
<tr>
<td>NDT 2060</td>
<td>3</td>
<td>Advanced Ultrasonic Inspection I</td>
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<tr>
<td>NDT 2061</td>
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<td>Advanced Ultrasonic Inspection II</td>
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<td>NDT 2062</td>
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<td>Advanced Ultrasonic Inspection III</td>
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<td>Phased Array Ultrasonic Testing</td>
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<td>NDT 2064</td>
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<td>Advanced Eddy Current Inspection I</td>
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<td>NDT 2081</td>
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<td>Advanced Eddy Current Inspection II</td>
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<td>NDT 2090</td>
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<td>Advanced Magnetic Particle Inspection</td>
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<td>NDT 2110</td>
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<td>Acoustic Emission Inspection</td>
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<td>Infrared Inspection</td>
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<td>NDT 2160</td>
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<td>Advanced Visual Inspection</td>
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<td>Composites I</td>
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<td>Leak Testing</td>
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<td>NDT 2527</td>
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<td>AWS Weld Evaluation</td>
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<tr>
<td>NDT 2605</td>
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<td>Introduction to Nuclear Reactors</td>
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<tr>
<td>NDT 2610</td>
<td>1</td>
<td>IGSCC Detection</td>
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<tr>
<td>NDT 2615</td>
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<td>Planar Flaw Sizing</td>
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<td>NDT 2620</td>
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<td>Weld Overlay Flaw Sizing</td>
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<td>NDT 2625</td>
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<td>NDT 2950</td>
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<td>Special Projects/Topics</td>
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NURSING (NURS / PRNU)

NURS 2700  
Health Promotion and the Role of the Professional Nurse  
This course introduces the student to the role of the professional nurse. The emphasis on health promotion across the lifespan includes learning about self-health, as well as holistic client health practices. Students learn to access and apply research evidence to guide safe preventative care. The student will incorporate communication and growth and development theory in a caring and culturally sensitive manner. The student will work as an ethical member of multi-disciplinary teams giving and receiving feedback about performance and use reflective thinking about their practice. Within the context of the nursing process, populations studied will include children, adults, older adults and the family experiencing a normal pregnancy. The credit-to-contact hour ratio for this combined (lecture/lab/clinical) course is lecture 1:1, lab 1:2, clinical 1:3. Prerequisite: Admission to the MANE curriculum.

NURS 2720  
Transition to the Role of the Professional Nurse  
This course is designed to expand the knowledge and skills of the LPN as they transition to the professional role within nursing. Emphasis is placed on health promotion through the lifespan and incorporates theories related to evidence-based practice, quality and safety, communication, collaboration, clinical decision-making/reasoning, informatics, assessment, caring, and health-illness continuum. The credit-to-contact hour ratio for this combined (lecture/clinical) course is lecture 1:1, clinical 1:3. Prerequisite: Admission to the MANE curriculum.

NURS 2750  
Nutrition and the Role of the Professional Nurse  
This course introduces the student to the role of the nurse in promoting and supporting nutritional health. Emphasis is on the role nutrition plays in health promotion/prevention of illness, recovery from acute illness and/or management of chronic illness. Students learn to access evidence to support healthy nutritional choices that reduce risk factors for disease and/or illness across the lifespan. Students explore how culture, ethnicity, socio-economic status, nutritional trends and controversies, and integrative therapies influence the nutritional health of the client. Prerequisite: Admission to the MANE curriculum.

NURS 2800  
Chronic and Palliative Care  
This course focuses on the nursing care of clients experiencing chronic illness and/or end of life. Emphasis is placed on understanding the “lived experience” of clients and families. Ethical issues related to advocacy, self-determination, and autonomy are explored. Evidence-based practice is used to support appropriate focused assessments and management of care of clients experiencing concurrent illnesses/co-morbidities. The credit-to-contact hour ratio for this combined (lecture/lab/clinical) course is lecture 1:1, lab 1:2, clinical 1:3. Prerequisite: Successful completion of all nursing courses from previous semester.

NURS 2820  
Pharmacology and the Role of the Professional Nurse  
This course introduces theoretical concepts that enable students to provide safe and effective care related to pharmaceuticals and natural products to diverse clients across the lifespan. A framework is presented for approaching the study of pharmacotherapeutics including pharmaceutical research and regulation, quality and safety, major drug classifications, and clinical management. Prerequisite: Successful completion of all nursing courses from previous semester.

NURS 2850  
Applied Pathophysiology for Nursing I  
This course introduces a holistic perspective of pathophysiological processes and the disruption in normal body function. Emphasis will be on objective and subjective manifestations of common chronic health problems resulting from environmental, genetic, and stress-related maladaptations to provide a foundation for nursing care. This course complements selected topics addressed in Chronicity and End of Life to provide a comprehensive understanding of disease processes. Prerequisite: Successful completion of all nursing courses from previous semester.

NURS 2900  
Acute and Complex Care Illness  
This course focuses on the nursing care of clients experiencing acute disruptions of health and/or end of life issues. Emphasis is placed on understanding and application of theory and skills required to provide nursing care to clients with complex and/or unstable conditions. Evidence-based practice is used to support appropriate focused assessments, and effective, efficient nursing interventions. Knowledge of life span, developmental factors, cultural variables and legal aspects of care guide the ethical decision making in delivery of care. The credit-to-contact hour ratio for this combined (lecture/lab/clinical) course is lecture 1:1, lab 1:2, clinical 1:3. Prerequisite: Successful completion of all nursing courses from previous semester.

NURS 2920  
Applied Pathophysiology for Nursing II  
This course will facilitate ongoing critical thinking and analysis of pathophysiological concepts. Emphasis will be on interpretation and prioritization of data resulting from environmental, genetic, and stress-related maladaptations. This course complements the selected topics addressed in Acute & Complex Care to provide a comprehensive understanding of disease processes. Prerequisite: Successful completion of all nursing courses from previous semester.

NURS 2950  
Nursing Leadership I  
This course focuses on prioritization, delegation, and supervision of nursing care of clients across the lifespan. Healthcare policy, finance, and regulatory environment issues are analyzed. Emphasis is on planning, collaborating and coordinating care for individuals and groups across the care continuum. The credit-to-contact hour ratio for this combined (lecture/clinical) course is lecture 1:1, clinical 1:3. Prerequisite: Successful completion of all nursing courses from previous semester.

PRNU 1000  
Foundations of Practical Nursing  
This course introduces the student to the role of the practical nurse. The emphasis is on the introduction of concepts: teamwork and collaboration, safety, quality improvement, professional integrity and behavior, relationship-centered patient care, evidence-based nursing judgment, managing care of the individual patient, and informatics/technology. Within the context of the nursing process, the student will be introduced to nursing skills foundational to the role of the practical nurse. Prerequisite: Admission to the practical nursing program. Successful completion with minimum 2.0 in each Semester One (t) course.

PRNU 1200  
Nursing Care of the Older Adult  
This course introduces the student to the role of the practical nurse in the care of the older adult in restorative and residential settings. Emphasis is on the application of professional concepts of informatics/technology, managing care, evidence-based nursing judgment, relationship-centered patient care, professional integrity and behavior, quality improvement, safety, and teamwork and collaboration in the care of the older adult. The leading causes of mortality ac-
Course Descriptions

PRNU 2200  3 Credits
Pharmacology for the Role of the Practical Nurse
This course introduces the student to information on how medications affect the body and how the body processes medications. Emphasis is placed on drug classifications and nursing care related to the safe administration of medications to patients across the lifespan. Prerequisite: Successful completion with minimum 2.0 in each Semester One (1) course.

PRNU 2300  1 Credit
Transition to Practice
This course facilitates the transition of the student to a practical nurse and the role of the Licensed Practical Nurse (LPN) in the workplace. Professional concepts of informatics/technology, managing care, evidence-based nursing judgment, relationship-centered patient care, professional integrity and behavior, quality improvement, safety, and teamwork and collaboration are examined within the scope of practice of the LPN. Prerequisite: Successful completion with minimum 2.0 in each Semester One (1) and Two (2) practical nursing course.

PRNU 2400  1 Credit
Nursing Assistant
Home Health Aide (NA)

NA 1125  1 Credit
Home Health Aide
This course prepares the student to provide physical care to individuals in Home Care Settings. This course introduces concepts of home care, homemaking skills, care of children and special populations. The course also introduces concepts of observation, reporting, and documentation in the home, as well as emergency procedures and hospice care in the home. Attendance at lecture sessions is mandatory. There is an independent study component, in-home observation experience and a short student presentation. Upon successful completion of this course, the student is eligible to take the Minnesota Competency Evaluation for Home Health Aide.

NA 1612  3 Credits
Nursing Assistant
The Nursing Assistant Certificate course prepares the student to provide physical nursing care to individuals in long-term care facilities. This course helps students learn the roles and responsibilities of the nursing home assistant working in long-term care. Information about residents and client's rights, pertinent laws and ethical issues are introduced. Concepts of basic human needs, basic nursing and personal care skills, mental health, social needs, and restorative services will also be addressed throughout the course. Students learn how to measure vital signs, assist individuals with physical needs such as...
personal hygiene, elimination, mobility, exercise and nutrition. Skills learned are performed in a supervised laboratory setting and in a long-term care setting. Attendance is mandatory, per Minnesota Department of Health regulations. Students successfully completing this course are eligible to take the Pearson Vue Nursing Assistant/Home Health Aide Registry. Students can be placed on the Minnesota Department of Health Nursing Assistant/Home Health Aide Registry.

### OCCUPATIONAL SKILLS (OSP)

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<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
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<td>NA 1614</td>
<td>Long-Term Care Nursing Assistant/Home Health Aide</td>
<td>4 Credits</td>
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<tr>
<td>OSP 1390</td>
<td>Community and Leisure Resources</td>
<td>1 Credit</td>
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<tr>
<td>OSP 1400</td>
<td>Transition to Independent Living</td>
<td>1-3 Credits</td>
</tr>
<tr>
<td>OSP 1500</td>
<td>Personal Safety</td>
<td>2 Credits</td>
</tr>
<tr>
<td>OSP 1600</td>
<td>Topics in Occupational Skills</td>
<td>1-4 Credits</td>
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<tr>
<td>OSP 1700</td>
<td>Supervised Occupational Training Related Seminar</td>
<td>2 Credits</td>
</tr>
<tr>
<td>OSP 1725</td>
<td>Applied Work Experience Seminar</td>
<td>2 Credits</td>
</tr>
<tr>
<td>OSP 1750</td>
<td>Supervised Occupational Training I</td>
<td>1-8 Credits</td>
</tr>
<tr>
<td>OSP 1760</td>
<td>Supervised Occupational Training II</td>
<td>1-8 Credits</td>
</tr>
<tr>
<td>OSP 1850</td>
<td>Internship I</td>
<td>1-8 Credits</td>
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</tbody>
</table>

This course covers human relationships including personal relationships, family relationships, values, and social behaviors. Emphasis is placed on helping students make appropriate and safe social choices.

**OSG 1390 Community and Leisure Resources**
This course covers skills necessary for students to identify and access community and leisure resources. These skills will allow students to access opportunities to assist them in vocational and social independence and enrichment.

**OSG 1400 Transition to Independent Living**
This course helps students identify skills needed for independent living at work and in daily life. Topics include: housing, transportation, personal budgeting, legal rights and responsibilities, insurance and banking services.

**OSG 1500 Personal Safety**
This course covers personal safety and basic First Aid. Students will learn CPR, the Heimlich maneuver, and other basic First Aid procedures. They will also learn how to maintain a safe environment.

**OSG 1600 Topics in Occupational Skills**
Topics in Occupational Skills is a course designed to cover skill acquisition in a specific training area. Some examples of special topics are: forklift driver's training, nursing assistant skills training, fry cooking skills, warehouse operations, and carpentry basic skills. Other topics will be developed according to student needs.

**OSG 1700 Supervised Occupational Training Related Seminar**
This course covers the knowledge and skills that are job-specific to the student's supervised occupational training experience. Instruction focuses on the technical aspects of the student's training as well as transferable skills.

**OSG 1725 Applied Work Experience Seminar**
This course covers the knowledge and skills that are job-specific to the student's supervised occupational training experience. Instruction focuses on the technical aspects of the student's training as well as transferable skills. Students build on skills learned in Supervised Occupational Training Seminar.

**OSG 1750 Supervised Occupational Training I**
This course uses a community-based training site to teach job skills. Students participating in supervised occupational training will have individualized training agreement.

**OSG 1760 Supervised Occupational Training II**
This course uses a community-based training site to teach job skills.

**OSG 1850 Internship I**
This course provides the student opportunity to apply knowledge and skills learned at the supervised occupational training site or in the classroom. The content for each student will be individually developed. The job site will be community based.
ONCOURSE (ONCR)

ONCR 1000  3 Credits
OnCourse 1
This course will help students create greater success in college and in life. Students will learn many proven strategies for creating greater academic, professional, and personal success. Students will explore these strategies, learn to make wise choices, and express themselves more effectively. This class will help students enhance emotional intelligence, improve creative and critical thinking, and demonstrate study skills necessary for success both in college and beyond.

PARAMEDIC (EMSP)

EMSP 1096  2 Credits
Basic Life Support (BLS) Internship
This course provides students with the opportunity to apply EMT skills learned in EMS116 and EMS 1118 in an internship setting. The student will learn how BLS is used through activities at one or more approved pre-hospital BLS/ALS support services with an approved preceptor. Prerequisites: EMS 1116 and EMS 1118 or EMS 1120

EMSP 1502  1 Credit
Introduction to Emergency Care
This course will provide students with an overview of the history of emergency medical services and current standards related to the roles and responsibilities of paramedics. In addition, this course will examine related topics including well-being, personal protection, grief, stress, and infectious disease control issues and legal responsibilities for emergency medical workers. Prerequisite: EMS 1116 and EMS 1118 or EMS 1120

EMSP 1504  2 Credits
Anatomy and Physiology for the Paramedic
This course serves as a foundation for other paramedic courses and will cover key elements of the structure and function of the human body and how the systems work together. The course will examine the body systems in general and then focus on topics of particular importance in the pre-hospital setting.

EMSP 1506  2 Credits
Pharmacology for the Paramedic
This course covers medications commonly used in the pre-hospital, setting, how these medications work, and how they are administered. Concepts covered include indications, contraindications, side effects and other issues of concern. Medication administering skills include working with oral, subQ, IM, IO, and IV meds. In addition to providing knowledge of medications currently used in the pre-hospital setting, the course will cover procedures for maintaining preparedness to administer additional medications that the paramedic may encounter less often in the pre-hospital arena.

EMSP 1510  1 Credit
Ambulance Operations I
This course is part of a series of courses that prepare students to provide pre-hospital care within the scope of practice and capacity of the paramedic to ill or injured individuals. This course focuses on fundamentals of communications and documentation pertinent to EMS. Prerequisites: EMS 1116 and EMS 1118 or EMS 1120.

EMSP 1512  2 Credits
Ambulance Operations II
This course is part of a series of courses which prepare students to provide pre-hospital care within the scope of practice and capacity of the paramedic to ill or injured individuals. This course focuses on advanced ambulance operational issues and practices including, but not limited to, hazardous materials response, natural and man-made events, emergencies requiring specialized response, and crime scene awareness. Prerequisite: EMSP 1510 or instructor’s approval. Co-requisite: EMSP 1540 or instructor’s approval

EMSP 1530  1 Credit
Patient Assessment
This course focuses on patient assessment and emergency response. In addition, related topics covered include acquiring patient health history, the standard techniques of physical examination, communication skills, and medical documentation. Prerequisites: EMS 1116 and EMS 1118 or EMS 1120. Co-requisite: EMSP 1502 or instructor’s approval

EMSP 1540  3 Credits
Shock and Trauma Care
The course focuses on expanded study of the pathophysiology of injury and the acute effects of altered hemodynamic states in the traumatized patient. Specific topics covered include trauma systems, mechanism of injury, hemorrhage, shock, burns, thoracic trauma, and managing the multi-trauma patient.

EMSP 1552  2 Credits
Airway and Pulmonology
This course provides in-depth assessment and treatment modalities for the patient who is suffering from an airway and/or respiratory emergency. In addition, this course will cover respiratory diseases, the pathophysiology behind them and appropriate treatments. Co-requisite: EMSP 1506 or instructor’s approval

EMSP 1554  4 Credits
Cardiology
This course provides in-depth assessment and treatments for the patient who is suffering a cardiac event including how to acquire and interpret 12-lead ECGs. Topics include cardiac anatomy, circulatory system, heart sounds, EtCO2 monitoring and waveform capnography, ECG axis, identifying acute ECG changes, pathophysiology of the patient experiencing and acute myocard-
EMSP 1560        4 Credits
Medical Emergencies
This course is focused on the assessment and treatment of medical emergencies. The topics include, but are not limited to neurology, gastroenterology, toxicology, hematology, and urology. Co-requisites: EMSP 1506 or instructor’s approval

EMSP 1570        3 Credits
Special Populations
This course focuses on care of patients who comprise special populations including OB/GYN, pediatrics, neonatology and geriatrics. Emphasis is placed on recognizing the differences in treating special population patients from that of the average adult patient and treating them appropriately. Co-requisite: EMSP 1506 or instructor’s approval

EMSP 1580        2 Credits
Clinical I-BLS
This course provides the paramedic student with the opportunity to apply knowledge and skills obtained during the classroom and lab sessions. The clinical is conducted in a supervised session at a local/regional medical facility and in the pre-hospital setting. Clinical rotations include an emergency department, ICU, operating room, phlebotomy, catheter lab, nursing home, doctor’s office, and surgical centers, and behavioral units. Co-requisite: EMSP 1506 or instructor’s approval

EMSP 1582        3 Credits
Clinical II
This course provides the paramedic student with the opportunity to apply knowledge and skills obtained during the classroom and lab sessions. The clinical is conducted in a supervised session at a local/regional medical facility setting. Clinical rotations include an emergency department, ICU, pediatrics, burn unit, behavioral health, OB, nursing home, doctor’s office, surgical center, or behavioral health center. Co-requisite: EMSP 1506 or instructor’s approval

EMSP 1590        1 Credit
Field Clinical I-BLS
In this course, the student will apply medical skills and knowledge as a BLS team leader while being monitored by a qualified preceptor. The course includes classroom sessions to present the local protocols and expectations for the field internship. Students will participate in clinical activities at an approved pre-hospital advanced life support service with an approved preceptor. Students completing this course will have a fundamental understanding of how the EMT can assist the paramedic when treating patients. Co-requisite: EMSP 1506 or instructor’s approval

EMSP 1593        1 Credit
Field Clinical II-ALSA
This course presents the concepts and information necessary for the student to apply classroom and clinical learning to the care and treatment of patients. The student will apply medical skills and knowledge as an ALS team member, while being monitored by a qualified preceptor. Students will attend clinical at an approved pre-hospital advanced life support service, with an approved preceptor. Co-requisite: EMSP 1506 or instructor’s approval

EMSP 1594        2 Credits
Field Clinical II-ALS B
This course presents the concepts and information necessary for the student to apply classroom and clinical learning to the care and treatment of patients. The student will apply medical skills and knowledge as an ALS team member while being monitored by a qualified preceptor. Students will attend clinical at an approved pre-hospital advanced life support service with an approved preceptor. Co-requisite: EMSP 1506 or instructor’s approval

EMSP 1596        4 Credits
Field Clinical III and Paramedic Capstone
This course presents concepts and information necessary for the student to apply classroom and clinical learning to the care and treatment of patients. The student will apply medical skills and knowledge as the team leader, while being monitored by a qualified preceptor. Students will attend clinical rotations at an approved pre-hospital advanced life support service with an approved preceptor. The student will also demonstrate proficiency in all paramedic level EMS psychomotor skills and demonstrate knowledge of the didactic material necessary to function as an entry-level paramedic. Co-requisite: EMXP 1540, EMMP 1594, or instructor’s approval

EMSP 1597        1 Credit
Paramedic Psychomotor Examination Preparation
This course will review skills essential for the Paramedic National Registry Psychomotor exam. Corequisite: EMSP 1540 or instructor’s approval

EMSP 1600        1 Credit
ACLS Provider
This course provides a systematic approach to manage a patient who is experiencing an acute cardiac event, respiratory emergency, or a stroke. Scenarios emphasized a team approach to patient care while adhering to standardized algorithms. Topics covered include dysrhythmia review, AV blocks, acute coronary syndromes, acute ischemic stroke, and cardiac arrest management. Upon successful completion of the program, the student is eligible for Advanced Cardiac Life Support credentialing from the American Heart Association. Co-requisites: EMSP 1506, EMSP 1552, EMSP 1554, or instructor’s approval

EMSP 1602        1 Credit
PALS Provider
This course provides a systematic approach to the pediatric patient who is acutely ill or injured. Topics include emergency pharmacology for pediatric patients, interosseous infusion, pediatric intubation, and pediatric resuscitation. Upon successful completion of the program, the student is eligible for Pediatric Advanced Life Support credentialing from the American Heart Association. Co-requisite: EMSP 1506 or instructor’s approval

Philosophy (PHIL)

PHIL 1010        3 Credits
Introduction to Philosophy
MnTC Goals 6, 9
Philosophy is concerned with investigating some of the most fundamental questions about knowledge and existence. This course provides students with a general introduction to the major areas of philosophy, including classical and contemporary topics in epistemology, metaphysics, and value theory.

PHIL 1020        3 Credits
Introduction to Ethics
MnTC Goals 6, 9
Survey of philosophical systems of morality, including their scope and limitations. Applications to traditional and contemporary moral problems.
**PHIL 1100**
Logic and Critical Thinking

MnTC Goal 4

Introduction to modern methods of logical analysis and critical thinking, including the analysis of logical fallacies, the elements of contemporary symbolic logic, and exposure to basic concepts of inductive reasoning.

**PHYSICAL EDUCATION (PE)**

**PE 1020**
Racquet Sports

1 Credit

Beginning skills taught for the racquet sports of tennis, badminton and possibly other racquet sports. Rules and strategies also covered.

**PE 1040**
Weight Training

1 Credit

To provide basic knowledge and techniques of fitness and conditioning. The course will allow an individual to set up an effective strength program when complete. Can be taken on an independent study basis.

**PE 1060**
Golf

1 Credit

Students will learn the basic skills of golf—iron play, driving, chipping, and putting. Students will also learn the rules and strategies of golf. The students will also gain an understanding of golf etiquette.

**PE 1080**
Volleyball

1 Credit

This course is designed to provide the participants with a basic understanding of volleyball through active participation in the sport. Beginning volleyball skills, rules and regulations will be covered in this activity course.

**PE 1100**
Recreational Activities

1 Credit

Designed for Physical Education majors, but also as an elective for nontraditional students. Designed to develop skills in billiards, ping-pong, bowling, racquetball, flag football, tennis, basketball, volleyball, badminton, and other related low-skill level activities.

**PE 1140**
Physical Agility

1 Credit

Designed not only for law enforcement students, it is designed to provide a student the opportunity to enroll in a class for general physical conditioning.

**PE 1160**
Cardio and Core Training

1 Credit

Students can choose from a variety of cardiovascular activities such as power walking, jogging, biking, Stairmaster, in-line skating, aerobics and cross training. Core training activities will include use of balance balls, plank exercises, kettlebells and Pilates.

**PE 1180**
Introduction to Yoga

1 Credit

Yoga offers greater ability to relax, better flexibility and increased strength. You will learn yoga poses that will keep your body fit and breathing exercises to relax and reduce stress. When you practice yoga, you will gain better posture, higher energy levels and an increased feeling of well being.

**PE 1190**
Varsity Athletics I

1 Credit

A first season of participation on an athletic team is required. Students may repeat this course if taken for/in different sports.

**PE 1200**
Self-Defense

1 Credit

Self-defense training is basic information on avoiding dangerous situations and countering a personal attack to ensure enough time to remove oneself from the situation.

**PE 1220**
Wellness and Fitness

2 Credits

This course assists and encourages positive lifestyle choices for wellness and fitness. Required fitness workouts and physical activity labs enhance understanding of the benefits of proper physical activity. Textbook and labs provide information on healthy dietary habits, disease risk reduction, stress management, and maintenance of a healthy body weight.

**PE 1240**
Resistance and Balance

1 Credit

Designed not only for law enforcement students, it is designed to provide a student the opportunity to enroll in a class for general physical conditioning.

**PE 1300**
Outdoor Activities

1 Credit

This class is designed for Physical Education majors to develop skills, awareness and knowledge in all listed activities. Canoeing includes the use and care of canoes and all related equipment. Outdoor activities include many areas of outdoor recreation, including: cooking, gear & shelter, First Aid, hiking, nature interpretation and environmental ethics. In cross-country skiing, students learn about equipment, skills, clothing, safety and skills to enjoy this recreational activity.

**PE 1400**
Strength and Speed Development

1 Credit

Students will learn advanced techniques and concepts in strength and speed. Development of power and explosion will be enhanced through plyometric, interval and aerobic training. The following classes do not count as required activity courses, but are primarily Physical Education major classes or electives.

**PE 2000**
Introduction to Physical Education

2 Credits

This course is designed primarily for physical education majors and minors to help students discover a variety of careers available in the physical education discipline. The course stresses the purpose of physical education, careers as a teacher of physical education, careers other than teaching, the relationship of physical education to health, education and recreation. This is not a physical education activity class.

**PE 2010**
Introduction to Exercise Science

2 Credits

Course introduces students to the professions under the Exercise Science umbrella. It will discuss the history of Exercise Science, career opportunities,
specific education requirements and certifications required for the specific professions. Students will be exposed to these professions with hands-on learning experiences. The course will also provide an introduction to where the Exercise Scientist fits in the health care/health promotion team.

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<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>PE 2020</td>
<td>4 Credits</td>
<td>Anatomical Kinesiology</td>
<td>Kinesiology is a broad-based, umbrella term for the holistic study of human movement. This course focuses on the anatomical perspective, primarily the skeletal and musculature systems, and specifically how these systems are applied in human movement.</td>
</tr>
<tr>
<td>PE 2050</td>
<td>2 Credits</td>
<td>Prevention and Care of Athletic Injuries</td>
<td>Basic recognition, prevention and care of athletic injuries including practical experience in taking care of these injuries. Students will also learn about strength conditioning, nutrition, and rehabilitation methods for injured athletes.</td>
</tr>
<tr>
<td>PE 2090</td>
<td>2 Credits</td>
<td>Sport Skills and Officiating</td>
<td>This course will study the theory, rules, and techniques of officiating and coaching sports.</td>
</tr>
<tr>
<td>PE 2100</td>
<td>2 Credits</td>
<td>Football Skills and Officiating</td>
<td>Course studies theory, rules, and techniques of officiating and coaching football.</td>
</tr>
<tr>
<td>PE 2110</td>
<td>2 Credits</td>
<td>Volleyball Skills &amp; Officiating</td>
<td>Class combines volleyball skills (passing, setting, hitting, blocking) and officiating skills. Individuals learn skills, rules, and duties of officials.</td>
</tr>
<tr>
<td>PE 2120</td>
<td>2 Credits</td>
<td>Wrestling Skills and Officiating</td>
<td>This course follows the guidelines of the MSHSL Rules. Students learn rules and mechanics of officiating. Wrestling skills and coaching methods are examined.</td>
</tr>
<tr>
<td>PE 2130</td>
<td>2 Credits</td>
<td>Basketball Skills &amp; Officiating</td>
<td>This course follows the guidelines of the MSHSL Rules. The student will not only learn the rules of the game, but also have the opportunity to officiate during the skills class. Basic basketball skills will also be taught.</td>
</tr>
<tr>
<td>PE 2140</td>
<td>2 Credits</td>
<td>Softball and Baseball Skills &amp; Officiating</td>
<td>This course follows the guidelines of the MSHSL Rules. The student learns softball and baseball rules and umpiring mechanics. Basic softball/baseball skills are covered.</td>
</tr>
<tr>
<td>PE 2150</td>
<td>2 Credits</td>
<td>Coaching Practicum</td>
<td>This course is designed to provide students opportunities to gain knowledge and experience in coaching in a practical environment.</td>
</tr>
<tr>
<td>PE 2190</td>
<td>1 Credit</td>
<td>Varsity Athletics II</td>
<td>Participation as a second year player on a varsity athletics team. Students may repeat this course if taken for/in different sports. Prerequisite: PE 1190</td>
</tr>
<tr>
<td>PE 2200</td>
<td>2 Credits</td>
<td>First Aid/CPR</td>
<td>This course is designed to provide participants with the knowledge of what they are to do in an emergency before medical help arrives. Participants will be instructed how to recognize an emergency and how to respond.</td>
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## Physics (PHYS)

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<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>PHYS 1000</td>
<td>4 Credits</td>
<td>Concepts in Physics</td>
<td>An introductory physics course designed to introduce the student to the understanding and behavior of physical phenomena; such as mechanics, waves, and electricity which occur in the world. The course focuses on actual use of physics concepts and measurements. MATH 1090, Elements of Algebra, and Trigonometry are recommended, but not required. Courses offered on the Hutchinson campus only.</td>
</tr>
<tr>
<td>PHYS 1010</td>
<td>4 Credits</td>
<td>College Physics</td>
<td>A two-semester physics sequence general education course for students interested in liberal arts studies, or such fields as agriculture, forestry, dentistry, pharmacy and biological sciences. This course addresses that part of physics dealing with motion, rotation, mechanical energy, sound and waves. Computer simulations and lab investigations are emphasized. Laboratory is included. Lecture - 3 hours. Laboratory - 2 hours. Prerequisite: MATH 1120 and MATH 1160 or equivalent</td>
</tr>
<tr>
<td>PHYS 1020</td>
<td>4 Credits</td>
<td>College Physics II</td>
<td>A 2-semester sequence general education course for students interested in liberal arts studies, or such fields as agriculture, forestry, dentistry, pharmacy and biological sciences. This course addresses that part of physics dealing with thermodynamics, electricity, magnetism, optics, and modern physics. Through discussion of lecture topics and laboratory investigations, students examine relationships between environmental systems including transportation, energy production, and nuclear power. This course requires a working knowledge of elementary algebra. Laboratory is included. Prerequisite: PHYS 1010</td>
</tr>
<tr>
<td>PHYS 1210</td>
<td>5 Credits</td>
<td>General Physics</td>
<td>The first course of a general education physics sequence for students interested in liberal arts studies, or in the fields of physical science or engineering. This course focuses on the study of mechanics of particles and rigid bodies including kinematics, dynamics, conservation laws, linear momentum, and angular</td>
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**Note:** MnTC Goal 3B refers to the Minnesota Transfer Curriculum Goal 3B, which includes coursework in physical science.
momentum. In addition, the topics of fluid mechanics and mechanical waves are covered. Laboratory is included. Co-requisite: MATH 1210

PHYS 1220  
General Physics II  
MnTC Goal 3B  
The second course of a general education physics sequence for students interested in liberal arts studies, or in the fields of physical science or engineering. This course focuses on thermodynamics, electricity, magnetism, and optics. Laboratory is included. Prerequisite: PHYS 1210

**POLITICAL SCIENCE (POLS)**

POLS 1310  
Introduction to Political Science  
MnTC Goals 5, 9  
A general introduction to the theory and practice of government and its relationship to society. Specific concepts that are of general usefulness rather than facts pertaining to particular countries or governmental institutions are stressed.

POLS 1320  
American National Government  
MnTC Goals 5, 9  
An introduction to the basic structure and processes of American national government. Specific emphasis is placed on the historical background and contemporary inputs into the American political system, the structure of American national government and various outputs of the national government.

POLS 1330  
State and Local Government  
MnTC Goals 5, 9  
An introduction to the basic structure and processes of the American federal system. The principle concepts, processes and institution of American state and local government are explored. Emphasis is given to federalism, taxes and function of state and local governments in Minnesota.

POLS 1350  
International Relations  
MnTC Goals 5, 8  
An introduction to the concepts and practice of international relations. Special emphasis is placed on differing national systems, national interest and motivations, forms of interaction among countries, international institutions, the changing global economy, foreign policy formation, power politics, diplomacy, national security and war.

**PROFESSIONAL PHOTOGRAPHY TECHNOLOGY (PHOT)**

PHOT 1013  
Photoshop Lightroom  
3 Credits  
This course is designed to give the student an understanding of the application Photoshop Lightroom. Topics such as cataloging, image developing, library management and file output will be discussed.

PHOT 1014  
Introduction to Photographic Concepts  
4 Credits  
This course provides students an introduction to photographic concepts and principles, composition, design and lighting.

PHOT 1015  
Lightroom  
3 Credits  
The beginning of the course will teach students basic Macintosh computer skills. Using Lightroom, students will learn how to organize their photographs. Students will perform basic and advanced color edits on their photos. Lastly the students will utilize creative presets and export their photos in a variety of formats.

PHOT 1016  
Classic Portraiture  
3 Credits  
This beginning course in portraiture will help the student discover how to photograph an individual in a classic portrait studio setting. The emphasis will be on learning portrait studio equipment, posing, and lighting techniques. Students will get to bring in their own models to practice lighting patterns and posing, while enhancing their client communication.

PHOT 1017  
Introduction to Digital Cameras  
3 Credits  
This course is designed to give the student a thorough understanding of all types of digital cameras. Other topics covered in this course will be basic image manipulation, flash operation and exposure control with digital cameras. Several assignments will be given in relation to various cameras and topics of discussion.

PHOT 1019  
Digital Cameras and Photography Concepts I  
3 Credits  
Take control of your camera by learning how to operate it in different modes leading to more consistent and creative photos. The foundation of this course introduce the relationship between shutter speed, aperture and ISO and how to use them to your advantage. This course is designed to give the student an understanding of digital cameras and composition. Students will also analyze various photographs using the elements and principles of design to extend photographic vocabulary. Students will have access to digital cameras, lenses and accessories while enrolled in this course. An active student ID is required to check out equipment throughout the semester, at no charge to the student.

PHOT 1020  
Digital Cameras and Photography Concepts I  
3 Credits  
This course will focus on the advanced functions of a digital camera to enhance your creativity. Get the professional level results you’ve been looking for by maximizing image sharpness, consistent overall color tones, and the benefit of shooting in different file formats. Learn industry-standard, time saving techniques such as back button focusing, and autofocus modes. Prerequisite: PHOT 1019
PHOT 1024  
**Photoshop I**  
This course will give the student an introduction to the computer program, Adobe Photoshop. Topics covered in this course will include navigating Photoshop, using the tool palette, working with layers, making color corrections, and working with image sizing and resolution. Students will work with blending modes and overlays as well as perform basic portrait retouching. Color theory as it relates to photography will also be discussed. A basic computer class or equivalent experience is necessary to be successful in this course.

PHOT 1025  
**Digital Restoration**  
Restoring both black and white and color photos will be the focus of this course. All of the restoration work will be done using computers and Adobe Photoshop. Prerequisite: PHOT 1024 or equivalent.

PHOT 1027  
**Advanced Portrait Techniques**  
This course provides the student with advanced portrait work concentrating on the production of quality photography for the client. Skills and techniques to create a variety of styles of portrait photography will be examined. Flow posing, light modifier selection, and model variety will be a heavy concentration in this course. By being creative with lighting, camera settings, and lens selection you will be able to transform your photography. Prerequisite: PHOT 1016

PHOT 1028  
**Commercial Photography I**  
This course will give the student a comprehensive working knowledge of product photography. Topics covered in this class will be basic lighting, exposure control, operation of continuous and studio strobe lights. Students will photograph different shaped products, glassware, monochromatic setups, and self-illuminating products such as laptops and lamps. Prerequisites: PHOT 1019, PHOT 1024

PHOT 1039  
**Basic Photography**  
This course covers basic camera operation and lighting techniques. The student will use Adobe Photoshop for image correction.

PHOT 2030  
**Commercial Photography II**  
In this course students will expand their knowledge to more advanced lighting techniques. Students will photograph several food setups and learn special effect techniques for food photography. Other topics covered will be large product studio photography, the technique of focus stacking images, and creating a magazine cover from photography to design. Prerequisite: PHOT 1024

PHOT 2032  
**On-Location Portraiture**  
In this course students will find or create ideal lighting conditions outdoors using natural light, reflectors, and on-camera flash. Students will utilize flow posing in a variety of outdoor locations in nature and urban settings to satisfy client needs and expectations. The second half of the course will cover window lighting for sessions such as boudoir, business headshots, and newborn photography. Prerequisites: PHOT 1016, PHOT 1019

PHOT 2033  
**Wedding Photography**  
This course is for students interested in the fast-paced wedding photography industry. Students will examine the process of wedding photography beginning at booking a client all the way through delivering the final images and products. A mock wedding ceremony and reception are included in this course for the students to gain experience, as well develop their problem solving skills. Basic camera knowledge is necessary to be successful in this course. Prerequisites: PHOT 1019, PHOT 1027

PHOT 2034  
**Photoshop II**  
In this course students will learn advanced Photoshop skills including color correction, layer masking, text styling and layering techniques. Topics covered include basic skin retouching, modifying marketing templates, creating high dynamic range (HDR) images, and calibrating monitors. Students will apply photo effects and compositing skills to create a photographic montage. Prerequisite: PHOT 1024

PHOT 2035  
**Off-Camera Flash Photography**  
Learn to set yourself apart from other photographers in the industry by using off-camera flash. In this course we will explore advanced settings of a speedlight. Creative projects include setting up a speedlight studio, creative color gels, and how to create dramatic skies in portrait photography. Nikon and Canon speedlights will be available for checkout, free of charge, for students enrolled in this course. Basic camera knowledge is necessary to be successful in this course. Prerequisite: PHOT 1019

PHOT 2040  
**Video Production I**  
This course is designed to give the student a basic understanding of video production. Topics such as proper use of a DSLR/mirrorless camera in video mode, composition, video lighting techniques, post production, and audio techniques will be covered. Basic camera knowledge is necessary to be successful in this course. Prerequisite: PHOT 1019

PHOT 2041  
**Basic Photo Business Applications**  
This course will give the student a basic understanding of business software applications that are used in photography businesses. Students will setup and operate client management software, accounting software, in-person sales software, and productivity software.

PHOT 2042  
**Photographic Presentations**  
This course is designed to give the student an understanding of the various methods of image display through the use of an electronic portfolio, and physical display of images. Students will research photographic vendors for potential use in creating products, such as canvases, metal prints, and albums. Prerequisite: PHOT 1027

PHOT 2043  
**Video Editing and Motion Graphics**  
Now that you have the video footage, how do you put it all together? This course equips the students with all the post processing information they need to know to create a professional video with all the modern technology, including green screen extraction, audio enhancement, animated on-screen graphics, and other special effects. Impressively edited video is the new communication tool for social media, small businesses, and consumers.

PHOT 2044  
**Video Production II**  
This course is designed to give the student an advanced understanding of video production. Topics such as using a wireless lavaliar, capturing slow motion footage, using an electronic gimbal stabilizer, creating 360° video footage, using action cameras, capturing b-roll footage, and using a teleprompter and a clap-
perboard will be discussed. Footage will be edited using Adobe Premiere Pro. Prerequisites: PHOT 2040, PHOT 2043

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<tbody>
<tr>
<td>PHOT 2046</td>
<td>4 Credits</td>
<td>Portrait Portfolio</td>
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<td>This course is for the self-driven student who wants to explore and further develop their own style in their photography niche. It is a project based course that allows you to break the rules of classic portraiture, and expand your portfolio. Prerequisites: PHOT 1027</td>
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<tr>
<td>PHOT 2048</td>
<td>3 Credits</td>
<td>Photography Business Development</td>
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<td>In this course students will be introduced to networking opportunities to jump-start their business whether that is in a retail space or a home studio. Basics in business development such as tax id number, cost of doing business, assumed name form, pricing, taxes, markup and discounts will be covered. Students will create a personalized price list for their photography services. Other factors of operating a business will be discussed as well as tours of local photographers’ studios.</td>
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<tr>
<td>PHOT 2050</td>
<td>3 Credits</td>
<td>Real Estate Photography</td>
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<td>This course is designed to give students the skills needed to be successful in real estate photography. Topics include operating your DSLR/mirrorless camera in manual mode, using natural light and off-camera flash to create highly effective images, and developing a pricing strategy. Students will apply several post processing techniques included HDR and corrective lens distortion using Adobe Photoshop. Basic camera knowledge is necessary to be successful in this course. Prerequisites: PHOT 1019, PHOT 1024</td>
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<tr>
<td>PHOT 2051</td>
<td>3 Credits</td>
<td>High Volume Photography</td>
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<td>Learn to skills to photograph school pictures, church directories, sports photos and other quick turnaround types of photography sessions. In course students will learn the tools and techniques necessary to photography a high number of clients is a short amount of time all while staying organized and maintaining a consistent workflow. Indoor and outdoor lighting setups will be covered along with green screen photography. Post-processing and Memory Mate layout will also be covered. Basic camera knowledge is necessary to be successful in this course. Prerequisites: PHOT 1016, PHOT 1019, PHOT 1024</td>
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<tr>
<td>PHOT 2057</td>
<td>3 Credits</td>
<td>Internship and Client Simulation</td>
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<td>Students that choose to do an external internship in the photography field will be responsible for seeking out an internship site, making contact with the supervisor, and coordinating details revolving around job duties. Tasks may include editing, assisting the supervisor, photographing, packaging orders, and studio organization. Students that choose to do an internhip with a department at Ridgewater College will have the opportunity to professionally represent the Photography Department. Students doing the internship may be asked to create marketing materials, department head shots, promotional video, and photography to be used in advertising.</td>
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<tr>
<td>PHOT 2950</td>
<td>1-6 Credits</td>
<td>Special Projects/Topics</td>
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<td>This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be able to enroll in this course.</td>
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**Psychology (PSYC)**

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<tbody>
<tr>
<td>PSYC 1310</td>
<td>4 Credits</td>
<td>Introduction to Psychology</td>
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<td>MnTC Goals 5, 7 An introductory course in general psychology with emphasis on the scientific study of human behavior. This course is required before more advanced courses in psychology may be taken.</td>
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<tr>
<td>PSYC 1320</td>
<td>1 Credit</td>
<td>Laboratory in Introductory Psychology</td>
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<td>MnTC Goal 5 An experiential laboratory course in general psychology for all liberal arts students. The course will introduce the student to laboratory methods in psychology, the basic apparatus used to demonstrate important principles in scientific psychology, computers in psychology, and research methodology in the behavioral sciences. Prerequisite: PSYC 1310 or consent of instructor</td>
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<tr>
<td>PSYC 1650</td>
<td>3 Credits</td>
<td>Psychology of Women</td>
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<td>MnTC Goals 5, 9 This course is designed to study the subject of women in a sociocultural context. Psychological factors which shape the development and behavior of women in present society will be examined. Attitudes, biases and stereotypes will be explored in the light of present research. Prerequisite: PSYC 1310 or consent of instructor</td>
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<tr>
<td>PSYC 1680</td>
<td>2 Credits</td>
<td>Behavior Modification</td>
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<td>This course will acquaint the student with the basic principles of behavior modification. Practical application of these principles in securing the satisfactory adjustment of a client will be stressed.</td>
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<tr>
<td>PSYC 2000</td>
<td>3 Credits</td>
<td>Counseling Techniques</td>
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<td>This course is designed to provide students with a working model of counseling. It will equip them with practical working knowledge of those skills essential to facilitating the helping process in aiding individuals and families. Major emphasis will be the application of these skills in a laboratory approach. Prerequisite: PSYC 131</td>
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<tr>
<td>PSYC 2020</td>
<td>3 Credits</td>
<td>Group Process</td>
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<td>A study and experience of group process as it relates to the helping professions. Topics included are individuals in groups, nature of groups, group communication, growth groups, group leadership, and theory and practice of group counseling. Prerequisite: PSYC 2000</td>
<td></td>
</tr>
<tr>
<td>PSYC 2080</td>
<td>4 credits</td>
<td>Statistics for Social and Behavioral Sciences</td>
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<td>Students use basic mathematical and computerized procedures to analyze data in the social and behavioral sciences. Students use statistical software (e.g., SPSS, R, PSPP) to conduct descriptive and inferential data analyses. Students choose and apply statistical procedures to help to answer social and behavioral science research questions. Students read, interpret, and write American Psychological Association (APA) style results sections for social and behavioral science research. This course is dual listed with MATH 2080. Prerequisites: PSYC 1310 (grade of 2.0 or higher) AND completion of Math MnTC requirement (MATH 1120 or MATH 2010 or higher)</td>
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</tbody>
</table>
PSYC 2120
Psychology of Aging
MnTC Goals 5, 7
A study of the aging process as it impacts the psychology of the individual. The course will examine helping relationships which assist the adaptation of the individual to the demands of senescence. Prerequisite: PSYC 1310 or consent of instructor

PSYC 2310
Pharmacology
3 Credits
How drugs are made, used and abused, and their effect on the health of human beings.

PSYC 2470
International Study
1-3 Credits
This course is designed to provide credit for international study experiences. Course requirements may vary but will include pre-departure, on-site, and post-trip meetings and assignments.

PSYC 2630
Developmental Psychology
MnTC Goals 5, 9
An investigation of human development from conception to senescence. The course will examine growth, change, and decline in the areas of social, physical, intellectual, and emotional development. Various motivational, maturational, and social learning theories in developmental psychology will be examined. Prerequisite: PSYC 1310 or consent of instructor

PSYC 2750
Abnormal Psychology
MnTC Goals 5, 10
An introduction to the study of abnormal behavior. The course will examine the nature and causes of psychopathology, including consideration of diagnosis, classification and assessment of mental disorder. Clinical disorders, personality disorders, and therapeutic regimens will be surveyed as well as legal and ethical issues related to the helping professions. Prerequisite: PSYC 1310 or consent of instructor

PSYC 2800
Psychology of Adjustment
MnTC Goals 5, 9
A study of psychological foundations of adjustment. This is a seminar course with emphasis on various adjustment mechanisms and behavior patterns of individuals. Strategies useful in resolving maladjustment are examined. Prerequisite: PSYC 1310 or consent of instructor

PUBLIC HEALTH (PUBH)

PUBH 1050
Personal and Community Health
2 Credits
This course is offered as a face-to-face or online course. The course is designed to help students gain a better understanding of current health principles that affect the individual and community. The emphasis is on current health issues, nutrition, disease process, chemical use, family living and creating awareness in the health-educated person of the present and the future.

PUBH 1070
Nutrition (online)
3 Credits
This online course focuses on basic nutrients, their functions and sources. The student will examine nutrition in the healthy person at various age levels, interpret food labels, and study selected health problems related to diet. Concepts of therapeutic nutrition and special diets will be introduced. Current nutritional trends and controversies will be studied.

PUBH 1100
Drug Education in Contemporary Society
2 Credits
This course is designed to provide the students with a working knowledge about the use and misuse of tobacco, alcohol, drugs and narcotics. Emphasis in the course will be placed on pharmacology, psychology, sociology, medical complications, and legal aspects of drug use; adult and youth use of drugs; community action programs, drug help techniques, and sources of referral and rehabilitation. This course complies with the requirements of M.S.A. 126.05 for teacher certification in Minnesota.

READ (READ)

READ 0950
Pre-College Reading I
3 Credits
This is the first in a two-course sequence designed to prepare students for the demands of college-level reading. In a workshop setting, students will read at the literal level and discuss and respond to assigned works of various lengths. Students are placed in this course through assessment scores; students placing into this course will enroll in the full reading sequence, READ 0950 and READ 0999, starting in their first term. Prerequisite: Assessment placement scores (if applicable)

SCIENCE (SCI)

SCI 1050
Physical Science
MnTC Goal 3B
4 Credits
Basic concepts of physics and chemistry as related to natural science. Course content includes: laws of motion, wave effects, nuclear physics, energy, gas laws, chemical formulas and reactions, and acids and bases. A general education course for the nonscience major.

SCI 1060
Introduction to Forensic Science
MnTC Goal 3B
4 Credits
This course uses forensic science as the background for studying the general principles of chemistry and biology. Students will see the many areas of forensic science and how it and criminal investigation are aided through the theories of the chemical and biological sciences. Topics included are blood analysis, hair analysis, firearms and identification, fiber comparisons, paints, glass comparisons, soil comparisons, DNA analysis, and seminal fluid analysis. Upon completion of this course students should understand the potential value of forensic science and also the limitations. The principles and laboratory techniques of Fourier Transform - Infrared Spectroscopy (FT-IR), Polymerase Chain Reaction (PCR), Restriction Fragment Length Polymorphism (RFLP) and electrophoresis will also be covered in their relationships to forensic science.
Course Descriptions

Sociology (SOC)

SOC 1050   3 Credits
Introduction to Sociology
MnTC Goal 5, 7
An introduction into the realm of sociology introducing and familiarizing the student with basic sociology, terminology, concepts and theories including culture, personality, stratification, group behavior, conflict and basic social attitudes and approaches. Human interaction is viewed through the prisms of family, state, religion, education and economics.

SOC 1060   3 Credits
General Social Problems
MnTC Goals 5, 9
A survey course dealing with the nature of social problems within our current society. In addition to this, general trends and components of social disorganization are introduced. Such areas as drug and alcohol abuse, racial conflict, ecology, crime and delinquent behavior and human structure are examined.

SOC 1070   3 Credits
Marriage and Family Living
MnTC Goals 5, 7
An analysis of the theoretical and practical aspects of courtship, marriage and family. The course examines a number of topics impacting on the family and marriage such as stages of marriage growth, economics, values, interpersonal growth, communication, mixed marriages, human sexuality, reproduction, child rearing, forms of marriage today, divorce, love and infatuation, forms of marriage today, divorce, love and infatuation.

SOC 2105   3 Credits
Native American Studies
MnTC Goals 5, 7
This course examines Native American culture as it pertains to its past and present physical environment, traditions, socio-cultural and spiritual interactions. Focus will be primarily on Northern Plains Native American people. Past and present issues and concerns will be covered.

SOC 2250   3 Credits
Sociology of Gender
MnTC Goals 5, 7
This course is a sociological examination into the study of gender. As such, various sociological concepts, theories and methods will be included in the analysis of gender in society. Numerous intersecting topics related to gender will be covered including race, ethnicity, social class, work, politics and social change.

SOC 2400   3 Credits
Juvenile Delinquency
MnTC Goal 5
The basic principles of the juvenile system including definition of a delinquent child, custody of juvenile, maltreatment of minors, juvenile records, juvenile procedures, juvenile courts, and causes and treatment of juvenile delinquency.

SOC 2410   3 Credits
Criminology
MnTC Goals 5, 9
This course explores the dynamics, principles and theories of crime within our society. Specific attention is given to organized crime, crime prevention, crime control techniques, and the treatment and rehabilitation process.

SOC 2420   3 Credits
Racial and Cultural Minorities
MnTC Goals 5, 8
This course will deal with cultural and social notions of racial, ethnic and cultural minorities in our society. This course will deal with the structure of the basic institutions of family, state, education, economics and religion and the integration of these minority groups into these institutions.

SOC 2430   3 Credits
Sociology of Aging
MnTC Goals 5, 7
The course will deal with concepts of aging, social theories of aging, demographics, physical aspects, social relationships, retirement, income, housing, minorities, crime, health care, leisure, widowhood and other sociological and social implications of aging.

SOC 2440   3 Credits
Sociology of Death and Dying
MnTC Goals 5, 7
The course will focus on death and dying in American society. It will examine attitudes, process, the hospital and the dying patient, the hospice movement, helping professions and the terminally ill, social work, suicide, funerals, grief and bereavement, cross cultural perspectives and reactions.

SOC 2507  1-3 Credits
Topics in Sociology
MnTC Goals 5, 7
Topics courses will vary in subject and content.

SOC 2508  1-3 Credits
Topics in Sociology
MnTC Goals 5, 8
Topics courses will vary in subject and content.

SOC 2509  1-3 Credits
Topics in Sociology
MnTC Goals 5, 9
Topics courses will vary in subject and content.

SOC 2510  1-3 Credits
Topics in Sociology
MnTC Goals 5, 10
Topics courses will vary in subject and content.

Spanish (SPAN)

SPAN 1070   4 Credits
Beginning Spanish I
MnTC Goal 8
This is the first course in a two-semester sequence in Beginning Spanish. This course is designed to introduce students to the skills they will need to function in the language with Spanish speakers in the U.S. or other countries. Proficiency is the focus of the course, using reading, listening comprehension, short writing samples and oral interactions. This course is designed for beginning language students.

SPAN 1080   4 Credits
Beginning Spanish II
MnTC Goal 8
This is the second course in a two-semester sequence in Beginning Spanish.
This course is designed to help students to continue to develop the skills they need to function in the language with Spanish speakers in the U.S. or other countries. Proficiency is the focus of the course, using reading, listening comprehension, writing samples and oral interactions. Journals, videos and readings expose students to a range of the most-commonly used grammatical structures and vocabulary. Students are introduced to variations within Spanish-speaking countries and cultures. This course is designed for advanced-beginning language students. Prerequisite: SPAN 1070, one year of high school Spanish or consent of instructor.

**SPAN 2070**  
Intermediate Spanish I  
*MnTC Goal 6, 8*  
This is the first course in a two-semester sequence in Intermediate Spanish, designed to solidify students' oral and written proficiency in the language. Students are exposed to the diversity of the Spanish-speaking world through reading and listening comprehension, writing and speaking activities. Short compositions, presentations and guided discussions encourage them to think and respond critically to the influences in art, music, environment, current events, social structures, and history of the countries and cultures presented. Prerequisite: SPAN 1080 or two years of high school Spanish or consent of instructor.

**SPAN 2080**  
Intermediate Spanish II  
*MnTC Goal 6, 8*  
This is the second course in a two-semester sequence in Intermediate Spanish, designed to further solidify students' oral and written proficiency in the language. Students continue to be exposed to the diversity of the Spanish-speaking world through reading and listening comprehension, writing and speaking activities. Compositions, discussions and debates further engage students in critical thinking about the influences of art, music, politics, and current and future trends of the countries and cultures presented. Prerequisite: SPAN 2070 or three years of high school Spanish or consent of instructor.

**SPAN 2100**  
Culture of Costa Rica through Study and Immersion  
*MnTC Goal 6, 8*  
Taught entirely in Spanish, this course is part of the Costa Rica Study Abroad Program. The purpose of the course is to introduce students to the cultures of Central America and in particular Costa Rica. Course topics will be chosen from areas such as literature, music, films, religion, education, politics, economics, and the environment. Discussions will focus on cultural traditions as well as current events. Prerequisite: Enrollment in the Costa Rica Study Abroad program.

**SPAN 2950**  
Special Topics in Spanish  
*MnTC Goal 6, 8*  
This course is intended for students who wish to continue their study of Spanish language and culture by studying various topics. The topics will vary with each offering of the course, as determined by the Instructor. Therefore, students are able to take the course more than once for credit, as long as the topic has changed.

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**Theatre (THTR)**

**THTR 1400**  
Introduction to Theatre  
*MnTC Goal 6*  
A general survey of theatre, including aspects of its history, its function as a social force as well as an art form, and its components, such as plays, conventions, styles, acting, directing, and technical aspects.

**THTR 1410**  
Introduction to Film  
*MnTC Goal 6*  
This course is designed to introduce and accclimate students to film as a significant artistic, rhetorical and cultural medium. Course content focuses on film as an element of popular culture, as well as film genres, cinematic techniques and cinematic conventions.

**THTR 1420**  
Theatre Production and Stagecraft  
*MnTC Goal 6*  
The study of and actual practice in the technical aspects of theatre. A brief historical survey of scenic art and lighting as well as the practical methods currently employed in the staging of theatrical productions. Major projects with the main stage shows are required.

**THTR 1450**  
Participation in Theatre  
1 Credit  
Active participation in theatre productions. Enrollment by approval of department. Maximum 5 credits.

**THTR 1500**  
Beginning Acting  
*MnTC Goal 6*  
Acting theories, their backgrounds and applications, introduction to physical and vocal expression, development of poise and confidence. This course is not specifically designed for theatre majors, but for students in all fields who are interested in theatre.

**THTR 2500**  
Intermediate Acting  
*MnTC Goal 6*  
A continuation of Theatre 0150, continuing exploration of physical and vocal expression. Additional focus on classical acting techniques, character development, and auditioning skills. Prerequisite: THTR 1500.

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**Veterinary Technology (VNTE)**

**VNTE 1000**  
Introduction to Veterinary Science  
1 Credit  
This course is an orientation to the field of veterinary technology and emphasizes veterinary medical terminology. Additional topics include the introduction of students to the role of the veterinary technician in the field of veterinary medicine, professional attitudes, ethical responsibilities of veterinary personnel, employment opportunities and potential job duties.
Course Descriptions

VNTE 1016  3 Credits
Veterinary Nursing Procedures I
This course will introduce concepts of hospital record maintenance, history taking, animal restraint, syringe/needle identification and handling and basic nursing procedures. It will also introduce concepts of the necessary care of kennel animals. Techniques emphasized will include initial physical examination, bathing, grooming, nail trimming, dermatological examination, applications of medications for treatments of eyes, ears, and skin, and injection techniques. Husbandry techniques, kennel management and sanitation of animal facilities will also be emphasized for dogs and cats.

VNTE 1037  3 Credits
Anatomy and Physiology I
This course will prepare the student to be able to compare and identify anatomical structures and basic physiological body functions of domestic animals. Body systems discussed will include: histology, special sense organs, integumentary, skeletal, and muscular.

VNTE 1056  3 Credits
Laboratory Techniques I
This course will introduce the student to the clinical laboratory, microscopes, and other equipment, and basic laboratory procedures. Maintenance of the clinical laboratory will be emphasized. Techniques for the identification of external and internal parasites of domestic animals will be utilized.

VNTE 1117  3 Credits
Veterinary Nursing Procedures III
This course is a continuation of the nursing skills and techniques begun in Veterinary Nursing Procedures I. Techniques covered will include restraint, behavior, complete physical examination, wound management, and nursing care procedures for small animals. Emphasis will be placed on venipuncture, blood vessel catheterization, fluid therapy, bandaging and dental care procedures. Introductory topics will include first aid, CPR, ECG’s, toxicology, and oncology. Prerequisites: VNTE 1000, VNTE 1016, VNTE 1037

VNTE 1137  3 Credits
Anatomy and Physiology II
This course will prepare the student to be able to compare and identify anatomical structures and basic physiological body functions of domestic animals. Body systems discussed will include: cardiovascular, reproductive, renal, endocrine, nervous, and gastrointestinal. Prerequisites: VNTE 1000, VNTE 1037

VNTE 1147  3 Credits
Pharmacology
Topics include recognizing types and groups of drugs; labeling and packaging dispensed drugs; using weights and measures and calculating drug dosages; discussing inventory of controlled substances; differentiating between normal and abnormal responses to medications; explaining the appropriate routes and methods of drug administration; and differentiating between prescription drugs and over-the-counter drugs. Prerequisites: VNTE 1016, VNTE 1037

VNTE 1157  3 Credits
Laboratory Techniques II
This course is a continuation of the laboratory skills and techniques already begun. Techniques covered include further testing in hematology, urinalysis, blood chemistries, cytology, review of hematology and serology, and other laboratory skills utilized in veterinary hospitals. Prerequisites: VNTE 1000, VNTE 1037, VNTE 1056

VNTE 2210  3 Credits
Veterinary Clinical Skills I
This course includes a compilation of veterinary technology skills that encompass technical and didactic information focusing on a review of skills learned in previous semesters as well as service learning, animal care and management, career skills, laboratory techniques, clinical and applied pharmacology, and dentistry. Prerequisite: Successful completion of first 2 semesters VNTE coursework

VNTE 2218  1 Credit
Veterinary Large Animal Husbandry
This course is an introduction to large animal husbandry and is taken simultaneously with VNTE 2219. Topics covered in this course include: restraint and handling techniques, large animal behavior, and nursing care of large animals. Emphasis will include large animal nutrition, industry terminology, physical parameters, and large animal breeds. Prerequisites: CHEM 1010, VNTE 1117, VNTE 1137. Corequisite: VNTE 2219

VNTE 2219  2 Credits
Veterinary Nursing Procedures of Large Animals
This course is a continuation of the nursing skills and techniques begun in Veterinary Nursing Procedures I and II. This course is taken simultaneously with VNTE 2218. Techniques covered will include restraint and nursing care of large animals. Emphasis will include preventive medicine, large animal medical, surgical procedures, food safety, lameness, physical examinations, and necropsy procedures. Prerequisites: CHEM 1010, VNTE 1117, VNTE 1137. Corequisite: VNTE 2218

VNTE 2230  3 Credits
Radiographic and Imaging Techniques
This course includes the basic principles of the production of radiographs (X-rays), use of radiographic equipment and accessories, processing, identification, storage and legal records of radiographic films. Students will learn patient positioning and practice radiation safety. Prerequisites: CHEM 1010, VNTE 1137

VNTE 2246  3 Credits
Disease Processes
The study of small and large animal diseases, the body’s defense mechanisms, and control and management procedures for the more common important disease conditions of animals, and the public health significance of diseases that may be transmitted from animals to humans. Prerequisites: VNTE 1137, CHEM 101

VNTE 2310  3 Credits
Veterinary Clinical Skills II
This course includes a compilation of veterinary technology skills that encompasses technical and didactic information focusing on a review of skills learned in previous semesters as well as laboratory techniques, office and mentoring skills, advanced nutrition, animal care and management, toxicology, applied disease, and advanced topics in emergency and critical care. Prerequisite: Successful completion of first 3 semesters VNTE coursework

VNTE 2325  4 Credits
Veterinary Surgical Nursing and Anesthesia
This course will cover the use of anesthetics, anesthesia principles, patient monitoring, pre-surgery preparation and post surgical care of small animals, principles of surgery and sterilization, and surgical assisting. Dosage calculations will be reinforced and maintenance of anesthesia and surgical equipment will be introduced. Prerequisites: VNTE 1137, VNTE 1157, BIOL 2150, CHEM 1010

VNTE 2331  3 Credits
Veterinary Hospital Procedures
This course includes routine office procedures with emphasis on client and public relations and education, ethics in veterinary medicine, state and federal
regulations governing veterinary practices, and a hands-on laboratory covering all aspects of clinical patient care. Prerequisites: Successful completion of first 3 semesters VNTE coursework.

VNTE 2340 1 Credit
Clinical Proficiency
During this course, student’s capstone knowledge and clinical skills from all veterinary technology courses will be assessed for proficiency. Remediation of knowledge and skills will be included. The course will also help prepare students and graduates for the Veterinary Technician National Examination (VTNE). The certification examination dates, application process, test domains, and test structure will be explained. Psychology and strategy of taking a test of this magnitude will be covered. Intense review sessions of all materials from the veterinary technology curriculum with a focus on the nine domains of the VTNE will occur including mock examinations. Prerequisite: Successful completion of first 3 semesters VNTE coursework.

VNTE 2350 3 Credits
Avian, Exotic and Lab Animal Care
This course concentrates on the principles and practices of laboratory animal care. This course also includes topics on the care and management of common species of birds, reptiles, and exotic pets. Discussion will include the following: husbandry, common diseases, nursing procedures and preventative health care and handling techniques. VNTE 1117, VNTE 1137, CHEM 1010.

VNTE 2715 8 Credits
Veterinary Technology Internship
This course is a minimum of a twelve-week internship experience, averaging 35-40 hours per week for a total of approximately 450 hours. The internship will be within a veterinary clinic or hospital, laboratory, research facility, or zoological park. Students will observe, assist, and perform tasks as directed by supervisory personnel. Prerequisite: Successful completion of first 4 semesters of VNTE coursework.

VNTE 2811 1 Credit
Shelter Medicine
This course will introduce students to the role of the veterinary team at animal shelters and humane societies. Students will explore types of animal shelters, humane societies, animal welfare organizations, and issues associated with shelter medicine. This course will focus on technical skills of preventive shelter medicine and general animal health care. This course is not intended to introduce skills, but rather apply existing knowledge and explore the many facets of shelter medicine. Prerequisites: VNTE 1117, VNTE 1137, CHEM 1010 (may take concurrently).

VNTE 2821 1 Credit
Certification Exam Review
This course will help prepare students and graduates for the Veterinary Technician National Examination (VTNE). The certification examination dates, application process, test domains and test structure will be explained. Psychology and strategy of taking a test of this magnitude will be covered. Intense review sessions of all semester materials from the veterinary technology curriculum will occur including worksheets and mock examinations. Anticipating and getting test results, transferring scores, and acquiring certification details will also be covered.

VNTE 2825 1 Credit
Advanced Veterinary Behavior
This is a lab-based course that will introduce students to advanced veterinary behavioral procedures, equipment, and terminology. Activities will include discussion of drug use in veterinary behavioral procedures, veterinary behavior assessments, behavior treatment including counter-conditioning methods and observation of the human animal bond. Students will perform behavior observation, advanced behavioral treatments, training discussions with people that show dogs and become more familiar with how dogs and people interact together. Prerequisite: VNTE 1117.

VNTE 2830 2 Credits
Pet Grooming
This course will introduce students to the basic concepts of pet grooming. Topics of discussion include preparation of pets for grooming, equipment selection, equipment use & maintenance, bathing & drying, and basic grooming patterns. Students will have hands-on experience with each of the topics. Prerequisite: VNTE 1117.

VNTE 2950 1-6 Credits
Special Projects/Topics
This course provides an opportunity for a student to study topics delivered either on an individual or course basis. A student must show a special need to be able to enroll in this course.

WELDING (WELD)

WELD 1118 2 Credits
Agricultural Welding
This course teaches basic arc and oxyacetylene welding, basic welding and cutting. Brazing is included for non-fusion joining procedures.

WELD 1190 2 Credits
Fundamentals of Welding
The course introduces common welding processes used in industry today. Subjects covered include principles of joining methods, shielding gases, filler rods and wires, electrodes, power supplies, equipment and safety practices. Shop activities will be used to introduce the welding methods, equipment set-up and operation, welding procedures and safety expectations.

WELD 1201 2 Credits
Applied Mathematics for Welding Careers
This course is designed for students preparing for welding careers. Topics covered include numbers, decimals, fractions, percentages, ratios and proportions, area, volume, English and metric measurements, and basic algebra, geometry, and trigonometry.

WELD 1310 3 Credits
Prints, Symbols, Joint Designs
This course covers basic principles of component, assembly and fabrication prints with the primary focus applied to welding manufacturing operations. Topics covered include drawing formats, terms and components of drawings, dimensioning, view interpretations, assembly, welding symbols and joint configurations. Hand drawings will be made using basic views and scales.

WELD 1311 2 Credits
Prints, Symbols and Joint Designs 1
This course covers basic principles of component, assembly and fabrication prints applied to welding manufacturing operations. Topics covered include drawing formats, terms and components of drawings, dimensioning, view interpretations, assembly, welding symbols and joint configurations. Hand drawings will be made using basic views and scales. Prerequisite: WELD 1311.
WELD 1312
Welding Processes
The course introduces common welding processes used in industry today. Subjects covered include principles of joining methods, shielding gases, filler rods and wires, electrodes, power supplies, equipment and safety practices. Common industry codes are introduced to identify procedures, specifications and quality requirements. Detailed study will focus on the Oxy-fuel and Shielded Metal Arc Welding (SMAW) process. Shop exercises will be used to introduce the welding methods, equipment set-up and operation, welding procedures and safety expectations.

WELD 1314
Gas Weld, Braze, Cut Shop 1
This shop course introduces oxy-fuel welding, brazing, and cutting. Students will perform welding, brazing and cutting exercises using oxyacetylene and other oxy-fuel combinations using various torch sizes and types and filler. In addition, various cutting exercises are introduced. Emphasis is placed on torch and filler rod techniques as well as joint quality.

WELD 1316
Shielded Metal Arc Shop 1
This shop course introduces basic skills related to the Shielded Metal Arc Welding process inducing electrodes, joint configurations, and electrode/puddle control. Close attention is paid to machine set-up and welding technique focused on the flat welding position.

WELD 1319
Gas Tungsten Arc Welding Shop 1
This shop course covers the fundamental procedures used in Gas Tungsten Arc Welding (GTAW), and provides hands-on exercises with a basic of joint designs in aluminum and steel.

WELD 1320
Computer-Aided Manufacturing
This course introduces the student to applications of computer aided manufacturing. The student will learn basic functions of MasterCam software to operate equipment such as a CNC (Computer Numerical Control) mill, plasma cutting table, and robotic welder.

WELD 1321
Prints, Symbols and Joint Designs
This course covers assembly and fabrication prints applied to welding manufacturing operations. Topics covered include dimensioning, view interpretations, assembly, welding symbols and joint configurations.

WELD 1322
Welding Processes, Metals and Fabrication
This course expands on the Welding Processes course by focusing on gas metal arc welding, flux core arc welding, and gas tungsten arc welding. In addition, this course includes an overview of metals and how to weld them. Physical and mechanical properties of carbon steels, alloy steels, and cast irons, as applicable to the welder, are discussed. The shop/lab portion introduces students to each of the three welding processes and introduces basic concepts: related welding, layout, and fabrication techniques, machine set-up, and troubleshooting problems.

WELD 1324
Gas Welding, Brazing and Cutting Shop 2
This shop course covers advanced techniques used on oxy-fuel welding, brazing and cutting. Students will perform several welding, brazing and cutting exercises on sheet metal and other shapes. Emphasis is placed on mastery of welding, brazing and cutting skills in multiple positions.

WELD 1326
Shielded Metal Arc Welding Shop 2
This shop course covers horizontal, vertical, and overhead arc welding in accordance to AWS and ASME welding procedures. Common joints types in various thicknesses are welded with 6010 and 7018 electrodes. Some sheet metal is welded with 6013 or 6011 electrodes. Proficiency will be demonstrated by qualification welds in flat, horizontal, vertical and overhead positions. Prerequisite: WELD 1316

WELD 1327
Gas Metal Arc Welding Shop 1
This shop course provides an overview of the operation of gas metal arc welding (GMAW) equipment and introduces concepts including power supplies, shielding gases, short-arc and spray discharge, wire types and diameters, and welding in various positions. In addition, students will learn basic skills of the GMAW process.

WELD 1328
Gas Metal Arc Welding Shop 2
This shop course covers advanced procedures, techniques and skills necessary for proficient gas metal arc welding (GMAW) and flux cored arc welding (FCAW). Students will weld common joint configurations using procedures, materials and positions used in industry today.

WELD 1329
Gas Tungsten Arc Welding Shop 2
This shop course covers advanced procedures used in Gas Tungsten Arc Welding (GTAW), and provides hands-on exercises with a variety of joint designs, types of metals, thicknesses and joint positions used in industry.

WELD 2100
Introduction to Machining
This is a course for non-machine tool students. It is a course in basic machine tool operation of the lathe, vertical mill, and bench work. This is mostly hands-on training.

WELD 2101
Layout & Fabrication 1
This course is a study of fundamental sheet and plate layout techniques, allowances for forming, cutting, distortion, and warpage controls using fixturing. This course covers welding to close tolerances, layout methods for cylinders, and cones on pitch and square to rounds. Fabrication from drawing and prints are incorporated in this course using AWS and ASME specifications.

WELD 2103
Advanced GTAW Shop
This more advanced shop work reinforces the basics. It challenges the student to produce high quality weldments to specific tolerances. The degree of difficulty is elevated.

WELD 2105
Advanced GMAW and FCAW Shop
In this course, small projects are fabricated to precise tolerances. Multiple Gas Metal Arc welding (GMAW) processes are used to welding carbon steels, stainless steel, and aluminum utilizing both light gauge material and heavy plate. AWS and ASME welding standards and procedures will be used. Prerequisite: WELD 1328

WELD 2106
Metal Finishing Shop
This class will allow the students to use the different power tools and abrasives to grind and finish welds to various standards.
WELD 2111 2 Credits
Layout and Fabrication 2
This course will combine CAD software and blueprints to develop and fabricate various weldments to the high standards and close tolerances required by industry. Prerequisite: WELD 1311

WELD 2201 3 Credits
Pipe Layout and Fabrication
This course involves pipe layout procedures on saddles, laterals, manifold construction, reducers, and flanges. Short and templet methods are used to do the layout of each job. Each of the above jobs are fabricated and welded in the shop to gain cutting and use pipe fitting procedures in accordance to ASME or API standards. Prerequisite: WELD 1311

WELD 2203 1-4 Credits
Pipe Welding Shop
In this course, schedule 40 and 80 pipe will be prepared by cutting with a hand torch and machine beveled. Welding will be performed in four positions using various techniques, electrodes and processes. Students will learn the importance of proper preparation, fit-up and welding in accordance to AWS and ASME standards.

WELD 2204 1-4 Credits
Welding Qualification Shop
In this course, students will study the qualification requirements of welding codes and specifications. Primary emphasis will be placed on AWS, ASME and API welder qualifications tests and procedures with ferrous and nonferrous sheet, plate and pipe. Visual and destructive testing will be used to evaluate the performance qualifications.

WELD 2206 1-4 Credits
Welding Fabrication Shop
This course covers the phases of fabrication from design to fitup, welding and assembly as required for a specific fabrication project. The best welding process and practice will be used to complete the project. Students will sketch projects and then fabricate them using the various shop welding, cutting, and fabrication tools required.

WELD 2207 2 Credits
Welding Metallurgy and Qualifications
This course will deal with the many different codes welders may work with and study the properties of ferrous and non-ferrous metals.

WELD 2828 2 Credits
Multi Axis CAM and Robotic Weld
This course will develop skills in machine programming utilizing welding robotics, CNC plasma, shear, and CNC press brake. Students will coordinate the design, fabrication and welding of projects using automated equipment and processes.

WELD 2900 1-6 Credits
Internship
This course provides students with a work-based learning experience within the field of welding and is intended to integrate classroom experience with targeted on-the-job experiences. The specific worksite and the training plan for each student must have prior approval of the instructor. In addition to meeting the prerequisite requirements, students are expected to be in their final semester and be able to satisfy all graduation requirements.

WELD 2950 1-6 Credits
Special Projects/Topics
This course provides the opportunity for students to pursue topics and/or projects concentrating on concepts of current interest to Welding studies. The topics studied, and the projects chosen by the instructor and the students, will develop concepts that integrate and further develop skills and concepts essential to the Welding program.

WIRELESS COMMUNICATIONS (ELWC)

ELWC 2633 4 Credits
Wireless Communications Circuit Analysis
In-depth circuit operation and equipment troubleshooting are discussed. Standard wireless receiver, transmitter performance testing and alignment using communications test equipment are emphasized. Additionally, each student will build a radio receiver kit, which allows them to investigate the properties of radio communication first-hand. Prerequisite: ELEC 1412

ELWC 2634 4 Credits
Telecommunication Systems
Advanced system operation including cellular telephone protocol, PCS (personal communication systems) operation are covered. Remote control, telemetry, and microwave communication links are also presented. Lab work consists of in-depth troubleshooting and programming of advanced wireless products. Prerequisite: ELWC 2633

ELWC 2733 4 Credits
Radio Communication System Fundamentals
This course presents the scope of the wireless communications industry, including government regulations and types of user systems and equipment. Antenna and transmission line theory, antenna multi-coupling and combining systems are also studied. Theory and application of cavity filters, duplexer, circulators, and RF-hybrids are also covered.

ELWC 2734 4 Credits
Advanced Radio Communication Systems
Emphasis is on wireless telecommunication protocols. Advanced modulation techniques used by PCS, cellular, and mobile data carriers are studied. Remote transmitter site interface to the central office switching center is covered, along with analog and digital telephone systems. In addition, radio repeater systems, remote control, and trunked radio systems are studied. Prerequisite: ELWC 2733

ELWC 2844 1 Credit
Voice Over IP Fundamentals
This course focuses on the history of traditional POTS systems and the basic theories of Voice over IP design, planning, implementation, operation and troubleshooting. It covers a comprehensive overview of technologies, security, and design best practices. It also covers how traditional phone systems can interact with VoIP networks of the future. Prerequisite: CST 1700 (or for previous students ELEC 1712)
ELWC 2845 1 Credit
Radio and Voice over IP Network
Radio over IP networking will introduce the student to the basics of radio over IP and voice over networking. Basic theory of traditional phone lines (POTS), designing, planning, applications, operation and troubleshooting of a ROIP/VOIP network will be covered.

ELWC 2934 2 Credits
Wireless Technician Certification
People involved in the wireless industry are often required by employers to have a F.C.C. license or other industry certification. This course helps people study electronics theory, operating practices, and government regulations necessary to pass certification examinations.
Customized Training and Continuing Education

Customized Training and Continuing Education at Ridgewater College focuses on building long-term relationships with businesses and individuals. We play a significant role in central Minnesota's workforce development by helping organizations position themselves for the future.

Customized Training
A partnership with Ridgewater Customized Training provides access to:
- Customized courses and workshops designed to meet organizations’ specific needs for achieving performance improvement and accomplishing strategic plan objectives
- Proven, effective delivery systems and instructional methods
- Quality educational experiences with efficient pricing structures
- Broader access to college courses, programs, and workshops.

Continuing Education
Continuing Education identifies and provides individual and group lifelong learning opportunities. The objectives of continuing education at Ridgewater College include:
- Assisting adults in enhancing professional and personal development
- Providing courses that meet re-licensure requirements for occupational groups
- Responding to community needs, promoting interagency cooperation, and utilizing regional resources.

Certifications and Preparation
The Certifications & Preparation training offered through Ridgewater’s Customized Training and Continuing Education prepares people to meet certification and licensure requirements. Ridgewater is the region’s leader in preparing workers to be top-notch. Be among the best!

Visit the website to view scheduled courses in one of our specialty areas:
- Crane
- Health Care
- Customized Training and
- Manufacturing & Trades
- Personal Development
- Public Safety
- Transportation

Health Care
Ridgewater Customized Training and Continuing Education offers a variety of healthcare industry-specific courses. From our cutting-edge Simulation Centers, to women's health care, to alternative therapies, these courses are designed to instruct participants in the many facets of one of Minnesota's strongest industries. We also offer federal- and state-approved training courses for physicians, nurses, and other healthcare professionals.

Visit the website to view scheduled courses in one of our specialty areas:
- Emergency Medical Services/Pre-hospital
- EMT/First Responder
- CPR/First Aid
- Hospital/Medical Facilities
- Long-term and Home Health Care
- Mobile Simulation
- Veterinary

Management and Professional Development
Ridgewater College delivers a wide variety of classes aimed at helping businesses and employees thrive in the competitive world. Whether you are a business manager who wants to develop the skills of your workforce or you are an employee or job-seeker who recognizes the value of continuous improvement, we are here for you with a multitude of trainings and courses in Management and Professional Development.

Visit the website to view scheduled courses in one of our specialty areas:
- Leadership and Workforce Development
- Computer Training
- Human Resources
- Child Development
- Food Service
- Veterinary

Manufacturing and Trade
Ridgewater offers a wide spectrum of classes and training in the technical fields that are second to none. Whether your goal is to be more profitable in a global market or to enhance the safety of your local fabrication shop, Ridgewater is your resource for scheduled classes or customized training designed for you to address everything from welding to quality processes.

Visit the website to view scheduled courses in one of our specialty areas:
- Licensure
- Process Improvement
- Safety
- Technical Trades

Public Safety
Public safety is the key to safe, productive and efficient communities and workplaces. Ensuring that people are safe is what drives firefighters and EMTs to face life-and death situations and law enforcement officers to train for worst-case scenarios. Ridgewater College offers public safety and OSHA compliance trainings on a regular basis and also customizes onsite trainings specific to unique department, agency or community needs.

Visit the website to view scheduled courses in one of our specialty areas:
- Emergency Medical Services/Pre-hospital
- Fire
- Homeland Security
- Law Enforcement
- Motorcycle Safety
- OSHA
Transportation training is critical in today’s mobile world. Whether you are joy riding alone on your motorcycle or you’re transporting valuable resources such as school children or equipment, proper training can keep you and others who share the road safe and on time.

Visit the website to view scheduled courses in one of our specialty areas:
- Commercial/Industrial Driving
- Motorcycle Training

Online
Ridgewater has partnered with Ed2Go and Compliance Training Solutions to provide our regional businesses access to the convenience and flexibility of online training. These industry leaders offer proven, quality online courses in a cost and time-effective format. Browse through our extensive inventory of courses aimed at both professional and personal development.

Short-term Training Solutions
A wide variety of self-directed, self-paced, and short-term occupational and technical training courses. Powered by Compliance Training Solutions, these are tied to Ridgewater’s six training areas:
- Certifications
- Health Care
- Management and Professional Development
- Manufacturing and Trades
- Public Safety
- Transportation

Six-Week Training Solutions
These scheduled, structured training programs powered by Ed2Go take participants deeper into each subject area. Courses are available in the following categories:
- Accounting and Finance
- Business
- Computer Applications
- Design and Composition
- Health Care and Medical
- Language and Arts
- Law and Legal
- Personal Development
- Teaching and Education
- Web and Computer Programming
- Writing and Publishing

Also available directly through Ridgewater College are credit-based courses:
- Emergency Medical Technician
- Blended Online Training
- First Responder Blended
- Online Training
Instructors and Academic Credentials

Gregg Aamot  
BA Gustavus Adolphus College  
MA University of Minnesota, Minneapolis

Lindsay Ampe  
BA Upper Iowa University

Lori Anderson  
BACC Minnesota State University, Mankato  
MS Minnesota State University, Mankato

Jennifer Anderson  
BS University of North Dakota  
DOC University of Minnesota College of Veterinary Medicine

Theodore Anderson  
Certificate University of Wisconsin  
BA University of Wisconsin

Lillyam Arroyave  
MA University of Iowa

Marisa Asche  
Diploma Hutchinson & Willmar Regional Technical College

Walter Asmus  
Diploma Hutchinson Technical College  
BA Augsburg College

Robert Auch  
MSN University of Phoenix  
BSN Minnesota State University, Moorhead

Allen Balay  
BSC Michigan State University  
DOC Michigan State University

Jon Barka  
Diploma Ridgewater College

Randy Barka  
Diploma Ridgewater College

William Baumann  
AA Ridgewater College  
BS Minnesota State University, Mankato  
MS Iowa State University

John Benson  
AA Willmar Community College  
BS Augsburg College  
PHD Iowa State University

Ann Benson  
BA College of St. Catherine  
MS Minnesota State University, Moorhead

Jill Benson  
BA St. Cloud State University  
MA Iowa State University

Allen Benusa  
BS Bachelor of Science

Wendy Benusa  
AS Ridgewater College  
BS Minnesota State University, Mankato

Dawn Bjork-Pedersen  
AA Willmar Community College  
MS St. Cloud State University

Wesley Boberg  
Certificate Indiana State University  
BS Hofstra University  
MS Indiana State University

Lisa Bolle  
BA Gustavus Adolphus College  
MA College of St. Scholastic

Julie Bredeson  
AA Willmar Community College  
BA St. Cloud State University  
MA St. Cloud State University

Julie Buntjer  
AS Willmar Community College  
BS Graceland College

Jeanne Cleary  
AS Willmar Community College  
MA Bethel University  
BSN Bethel University

Richard Creveling  
BA Indiana University of Pennsylvania  
MA Minnesota State University, Mankato  
MS University of Vermont and State Agriculture  
EDD Argosy University
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<td>Randy Curtiss</td>
<td>BA Concordia College, Moorhead, MA University of North Dakota</td>
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<tr>
<td>Cheryl Danielson</td>
<td>Certificate College of St. Benedict, Diploma St. Cloud School of Nursing, BSN University of Nebraska Medical Center, MSN Regis University</td>
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<tr>
<td>Elisabeth Dusek</td>
<td>AA Willmar Community College, BS St. Cloud State University, MSC St. Cloud State University</td>
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<tr>
<td>Jason Eastling</td>
<td>Diploma Ridgewater College</td>
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<tr>
<td>Terrence Edwards</td>
<td>BS University of Wisconsin, River Falls, MM University of Illinois, MS University of Illinois</td>
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<tr>
<td>Linda Eggersgluess</td>
<td>Diploma Anoka-Ramsey Community College</td>
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<tr>
<td>Brian Ehlenbach</td>
<td>BA Southwest State University</td>
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<tr>
<td>Deron Erickson</td>
<td>BS North Dakota State University</td>
</tr>
<tr>
<td>Ronald Ferguson</td>
<td>BS North Dakota State University, MA Graduate School, PHD Graduate School</td>
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<tr>
<td>Curtis Fettig</td>
<td>AS Willmar Community College, BS University of Minnesota, Twin Cities</td>
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<tr>
<td>Paul Filzen</td>
<td>AS Willmar Community College, BS South Dakota State University</td>
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<td>Leland Floren</td>
<td>Diploma Canby Area Vocational-Technical Institute</td>
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<td>Angela French</td>
<td>MS Walden University</td>
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<td>Jonathan Friton</td>
<td>Diploma Hutchinson &amp; Willmar Regional Technical College, Willmar</td>
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<tr>
<td>Mary Gruis</td>
<td>AAS Ridgewater College, AA Willmar Community College, BA Augsburg College, MA St. Cloud State University</td>
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<td>Wade Gustafson</td>
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<td>Andrea Haglin</td>
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<tr>
<td>Kevin Halvorson</td>
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<tr>
<td>Jenna Hanson</td>
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<tr>
<td>Angela Hatlestad</td>
<td>AA Ridgewater College, BSC University of Minnesota, EDS University of Northern Colorado</td>
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<tr>
<td>Matthew Hegdahl</td>
<td>BA Southwest Minnesota State University, MFA University of Idaho, MA University of North Dakota</td>
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<tr>
<td>Douglas Heim</td>
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<tr>
<td>Brent Hillman</td>
<td>AAS Minnesota West</td>
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<td>Erik Hoff</td>
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<tr>
<td>Jodi Holleman</td>
<td>BA Minnesota State University, Moorhead</td>
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<tr>
<td>Beth Husman</td>
<td>AAS Ridgewater College, BS South Dakota State University</td>
</tr>
<tr>
<td>Mark Hyberger</td>
<td>Certificate Wisconsin School of Electronics, BS St. Cloud State University, MBA University of Minnesota</td>
</tr>
</tbody>
</table>
Katy Lundell-Stuhr  
BS South Dakota State University  
MD Northwestern Health Sciences University

Nathaniel Lungren  
AA Ridgewater College  
BS North Dakota State University  
MS North Dakota State University

Robert MacSwain  
AS Dunwoody  
BA University of Wisconsin - River Falls

Amy Maher  
BS South Dakota State University

Karen Marcus  
AAS Wayne County Community College  
BS Michigan State University

Alissa Martinka  
BA Augustana College  
MA University of St. Thomas

James Martinson  
Diploma Hutchinson & Willmar Regional Technical College

Lorri Matthys  
Certificate Ridgewater  
AAS Ridgewater College

Wade McDonald  
BA Minnesota State University Moorhead  
BFA Minnesota State University Moorhead

Pamela McDowell  
BSN University of Minnesota, Twin Cities  
MS University of Phoenix, Phoenix

Andrew Meyer  
Diploma Ridgewater College

Shawn Meyer  
AA Fergus Falls Community College  
BS University of Minnesota

Cherie Miller  
Diploma Hutchinson & Willmar Regional Technical College, Willmar  
Diploma Ridgewater College

Tolga Misirli  
BS University of Istanbul  
MSED Indiana University-Purdue University at Indianapolis  
PHD University of Istanbul

Tammy Jablonski  
Diploma Ridgewater College

Stacy Janicki  
BS University of Wisconsin, Oshkosh  
MA University of Kansas, Kansas City

Carissa Johnson  
BFA University of Minnesota, Duluth  
MA Minnesota State University, Mankato

Trevor Johnson  
AS Willmar Community College  
MAST Minnesota State University, Mankato  
BS University of Minnesota, Duluth  
MS Minnesota State University, Mankato

Angeline Kalhoff  
BA North Dakota State University

Margaret Karsten  
BA St. Cloud State University  
MA Arizona State University Main Campus

Beverly Knudsen  
AA Ridgewater College  
BA St. Cloud State University  
MA St. Cloud State University

Kevin Larison  
Diploma Detroit Lakes AVTI

Ben Larson  
AA Ridgewater College  
BSW Bemidji State University

Kyle Larson  
AS University of Minnesota Crookston  
BS Mankato State University

Darcy Lease-Gubrud  
MM University of Illinois at Urbana  
BA Clarke College

Douglas Lind  
BA Carleton College

Melissa Loehlein  
License St. Cloud Beauty College

Thomas Lorang  
AAS Minnesota West Community and Technical College  
BS South Dakota State University
David Moen  
Diploma Willmar Vo-Tech  
BA Concordia College at Moorhead

Sandra Muegge  
BA Oklahoma Baptist University  
MA University of South Florida

Shawn Mueske  
BA Southwest State University  
MA Minnesota State University, Mankato

Stacey Nass  
Certificate Willmar Area Vo-Tech

C Nelson  
BA University of Minnesota, Twin Cities  
MA University of Minnesota, Twin Cities

Darcy Nelson  
Diploma Hutchinson & Willmar Regional Technical College, Hutchinson  
AS Excelsior College  
AA Rochester Community & Technical College  
MSN Walden University

Marjorie Nilssen  
AA Willmar Community College  
BA College of St. Benedict  
MA St. Cloud State University  
5 YR St. Cloud State University

Andrew Nordin  
AA Willmar Community College  
AA Willmar Community College  
BFA St. Cloud State University  
MFA San Jose State University

Colleen Norgren  
Certificate Minnesota School of Business  
AS North Hennepin Community College  
BS St. Cloud State University

Deann Ober  
BS South Dakota State University  
MS Regis University

Carrie Ogdahl  
AA Willmar Community College  
BS Southwest Minnesota State University  
MS St. Cloud State University

Keith Olson  
Diploma St. Cloud Technical College

Roxanne Olson  
AAS Hutchinson & Willmar Regional Technical College, Willmar

Joseph Ostrowski  
BS University of Minnesota, Twin Cities  
PHD University of Colorado, Boulder

Paul Oswood  
BA St. Olaf College, Northfield  
MS Purdue University, West Lafayette

Wade Padmos  
Diploma Hutchinson Technical College  
BS St. Cloud State University

Lori Park-Smith  
BS University of South Dakota  
MA University of South Dakota

Amy Pawelk  
AAA Ridgewater College  
AAA Ridgewater College

Russel Peterson  
BS University of Minnesota, Twin Cities

Douglas Pierce  
BA Eastern Washington University  
MA Eastern New Mexico University  
MDIV North Park College and Theological Seminary

Jeff Polman  
Certificate Granite Falls A.V.T.I.

Jacob Pulsifer  
AA Willmar Community College  
BT Minnesota State University, Mankato  
MS Southwest Minnesota State University

Zachary Rada  
BS South Dakota State University

Malinda Rannow  
AAS Ridgewater College

Julie Reginek  
BS St. Cloud State University

Jill Rezac  
BS Minnesota State University, Mankato  
MBA Southwest Minnesota State University

Abby Rodelius  
Diploma Ridgewater College  
AAS Ridgewater College
Manfred Ronneberg  
BS St. Cloud State University  
MED University of Minnesota, Morris

Kelly Rue

Greg Ryder  
Diploma Ridgewater College

Cindy Salfer  
BS St. Cloud State University

Cody Sarsland  
Diploma Ridgewater College

James Schaeffer  
BA Weber State University  
JD William Mitchell College

Kami Schoenfeld  
BS South Dakota State University

Charles Schofield  
BS University of Wisconsin, Stevens Point  
MS University of Wisconsin, Stevens Point

Derik Schwanz  
AAS Ridgewater College  
MSM BS Capella University  
BS Minnesota State University, Mankato

Michael Sieve  
BA St Mary's University  
MS Northern Arizona University

Kari Slinden  
AA Ridgewater College  
BS North Dakota State University

Erica Smith  
AA Central Lakes Community College  
BS Minnesota Stata University-Moorhead

Robert Stommes  
BS University of Minnesota  
MED University of Minnesota

Melvern Taylor  
BS Bemidji State University  
BS Bemidji State University  
MS Bemidji State University  
MS Bemidji State University

Lisa Thielke  
Diploma Ridgewater College  
AS Ridgewater College  
BA Concordia College at Moorhead  
BSN Minnesota State University Moorhead  
MSN Minnesota State University Moorhead

Gregory Thorstad  
BA Hamline University  
MED University of Minnesota, Twin Cities

Todd Thorstad  
BA St. John's University Collegeville  
MS St. Cloud State University

Jerry Voelker  
Diploma Hutchinson & Willmar Regional Technical College, Hutchinson

Lisa Wagoner  
BA Concordia College, Moorhead  
MA St. Mary's University of Minnesota

Joseph Wambeke  
CEC Ridgewater College  
BS Valley City State University

Heidi Wieman  
BSN Minnesota State University, Moorhead

Jon Wood  
BES St. Cloud State University  
MS St. Cloud State University

Breann Wozniak  
BS Western Michigan University  
MS Minnesota State University, Mankato

Curtis Yoose  
AS Southwest Wisconsin Technical College

Ann Youngdahl  
BS Winona State University  
MS University of Wisconsin, LaCrosse
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