2016-2017 Course Catalog

Make your impact!

HUTCHINSON | WILLMAR | ONLINE
2 Century Avenue SE
Hutchinson, MN 55350
2101 15th Avenue NW
Willmar, MN 56201
www.ridgewater.edu

800-722-1151
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**President's Welcome**

It is my pleasure to welcome you to Ridgewater College. As part of the Minnesota State Colleges and Universities System, with campuses in Hutchinson and Willmar, Ridgewater College has been serving the citizens of Central Minnesota since 1961. Our mission is to provide quality educational opportunities for diverse student learners in an inclusive, supportive, and accessible environment. Our approach to achieving that mission is comprehensive and grounded in a long-standing tradition of academic excellence.

As the needs of our communities have changed, we have grown and adapted to meet those needs. We are adding to and updating our facilities, exploring new degree offerings and expanding our partnership efforts with business and industry—all in keeping with a commitment to continuous improvement in everything we do. Our faculty and staff are dedicated to helping you pursue and achieve your educational goals. Whether your goal is general education leading to a four-year degree, a specific occupational program leading to a job, or a customized training course to improve your job skills, I hope you will consider attending Ridgewater College.

This catalog is your guide to exploring what Ridgewater College can do for you, but I’d also encourage you to visit both of our campuses, talk to faculty and students, talk to counselors and advisors, tour the facilities and get a taste of life at Ridgewater College. There is no better way to get to know the faculty, staff and students of Ridgewater College than by spending some time on campus. On behalf of the entire Ridgewater College community, I wish you success as you pursue your educational goals and look forward to serving you.

Sincerely,

Dr. Douglas W. Allen
President

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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.ncahlc.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 nonharassment. 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.mnscu.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 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 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 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 full 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.mnscu.edu/board/policy/335.html) and Minnesota State Procedure 3.351 - “Credit for Prior Learning” (http://www.mnscu.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. A student may attempt a test-out of a particular course only once within a twelve-month period.
   b. 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.
   c. The test-out option is not available in all courses.
   d. 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.

   e. Students may not test out of a course in which they are enrolled past the fifth day of the term.

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](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
12. Universal Care Assistant

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

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 Student Services. 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.

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.
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.

State Work Study

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

Veterans 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.

Loans

Federal Perkins Loan

The Perkins Loan program may include cancellation provisions as follows:

- A grant shall be for a maximum of one course up to five credits. Required textbooks for the course are also covered.
- Alliss Grant awards shall be processed and coordinated with the College’s normal financial aid process, and may be used to meet remaining need after the student has received Pell and/or MN state grants.
- Alliss Grant awards shall be applied directly to student accounts along with other financial aid for the semester for which they are awarded.

Conditions for Reimbursement

- Tuition for one class, up to five credits for one semester (to exclude student association fee, application or record fee, special course fee, and student life fee).
- Required books and materials.
- Excludes students receiving financial aid or “free” credits (for example, faculty, administration, etc.).

Minnesota State Grant Program

Minnesota residents who have not completed the equivalent of four years of post-secondary education may be eligible for this grant program. Awards are based on financial need.

NOTE: The FAFSA must have been received by the processors within the first 30 calendar days from the beginning of each term to be considered for this grant.

State Indian Scholarship Program

This award is based on financial need. Requirements: one-fourth or more Indian ancestry, resident of Minnesota, member of recognized Indian tribe, high school graduate or have GED, ability to benefit from advanced education and approved by Minnesota Indian Scholarship Committee.

Veteran’s Educational Benefits

Certain veterans and their children are eligible for educational benefits under the GI BILL® and other laws. A child of a veteran who has been disabled, who has died in service or who has died of a service-related disability may be entitled to education benefits. These tax-free benefits vary depending upon the number of hours the student is enrolled and the number of dependents. For further information, contact the US Department of Veterans Affairs or the Veteran’s Service Officer in your area. Students receiving veteran’s benefits must contact the Admissions/Counseling Office at the time of acceptance.

a subsequent semester, the student must reapply and meet all eligibility criteria. Alliss Grants may be used for spring, summer or fall semesters.

- A grant shall be for a maximum of one course up to five credits. Required textbooks for the course are also covered.
- Alliss Grant awards shall be processed and coordinated with the College’s normal financial aid process, and may be used to meet remaining need after the student has received Pell and/or MN state grants.
- Alliss Grant awards shall be applied directly to student accounts along with other financial aid for the semester for which they are awarded.

11
**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.

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**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 $5,000-3rd 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 http://www.ridgewater.edu/future-students/paying-for-college/Pages/Paying-Tuition.aspx
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 cancelled 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 acknowledgement 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:

<table>
<thead>
<tr>
<th>Period</th>
<th>Refund Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st through 5th business day of the term</td>
<td>100%</td>
</tr>
<tr>
<td>6th through 10th business day of the term</td>
<td>75%</td>
</tr>
<tr>
<td>11th through 15th business day of the term</td>
<td>50%</td>
</tr>
<tr>
<td>16th through 20th business day of the term</td>
<td>25%</td>
</tr>
<tr>
<td>After 20th business day of the term</td>
<td>0%</td>
</tr>
</tbody>
</table>

For summer term and other terms at least three weeks but less than ten weeks in length:

<table>
<thead>
<tr>
<th>Period</th>
<th>Refund Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st through 5th business day of the term</td>
<td>100%</td>
</tr>
<tr>
<td>6th through 10th business day of the term</td>
<td>50%</td>
</tr>
<tr>
<td>After the 10th business day of the term</td>
<td>0%</td>
</tr>
</tbody>
</table>

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.mnscu.edu/board/policy/512.html](http://www.mnscu.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 Student Services. 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 student, staff and faculty member on our campuses.
2. **Recruitment**: to recruit students who reflect our communities’ diversity.

3. **Matriculation**: to admit, assess, advise and place students in classes that optimize their chances to achieve their educational goals.

4. **Retention**: to offer quality efforts and support services which encourage and empower students to complete their educational goals.

5. **Communities**: to participate in our communities to whatever extent possible to positively reflect on Ridgewater College and to encourage community participation and awareness in Ridgewater College.

Student Services are coordinated and supervised by Heidi Olson, Dean of Student Services. She can be reached at 320-222-5209 or heidi.olson@ridgewater.edu with any comments or concerns.

**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.

STUDENT SUCCESS OFFICE

Underrepresented students who wish to enhance their college experience can utilize the free services available through the Student Success Office. Student Success programs and offerings are funded through Minnesota State Access, Opportunity and Success funds. Services offered include:

- Learning communities
- Social and cultural activities
- Textbook and laptop computer loans
- Tours to Minnesota four-year colleges
- Workshops on academic and life skills
- Scholarship and financial aid application assistance
- Academic advising/referrals to other campus resources

Eligibility requirements for the Student Success Program are one of the following:

- A student of color
- A low-income student (PELL eligible)
- A first-generation student (parents have not attended college)
- An otherwise underrepresented student (i.e. international, veteran, PSEO, non-traditional)

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 with existing financial aid funds (grants, loans, agency or PSEO) or an existing payment plan for tuition and fees may 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 Mininex 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 select-ed 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.
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.

**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.

**Grading**

Ridgewater College operates on a semester system. After each semester, grade reports will be available on the web at [www.ridgewater.edu](http://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>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.67</td>
</tr>
<tr>
<td>D+</td>
<td>1.33</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>0.67</td>
</tr>
<tr>
<td>F (Failure)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**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.

**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:
**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.

**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/more-rc/Pages/college-policies.aspx and click on Grading System Policy.

**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. Except 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 reinstatement.

**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 2.50, 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 timeframe 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 ad-
dressed. The student must complete the Grade Appeal Form, which
requires the following:

- Identification of the course, section, instructor’s name, and grade
  received.
- A statement verifying that the student has sought an informal
  remedy by speaking with or otherwise contacting the instructor.
- A justification for the requested review, i.e., a statement of rea-
  sons as to why the student believes his/her grade was
  improperly assigned.
- Relevant information and documentation that supports the ap-
 peal (e.g., course papers, syllabus, class notes, etc., that support
  the justification).
- Any additional items that the student deems relevant to his/her
  appeal.
- The remedy sought.

2In cases in which the instructor is unavailable during this time, the student must speak
with the instructor as soon as the instructor is available.

The Step 1 Appeal is submitted to the instructor. The student should
retain a copy of these materials for his/her records. Within two weeks,
the instructor will respond to the student in writing.1 The instructor’s
response should include:

- A statement of the grading policy for the course.
- An explanation of how the student’s grade was assigned in the
course according to this policy.
- A reply to the justification given by the student in his/her formal
grade appeal.

- A reply to the student’s desired remedy, including a summary
  statement indicating:
  a. that the instructor has determined that a grade change is
  not warranted,
  b. that the instructor has determined that a grade change
  is warranted, with a statement of the new grade to be
  assigned to the student, or
  c. an alternative proposed remedy.

If the student is not satisfied with the response provided by the
instructor, s/he may proceed to Step 2.

**Step 2**

A written appeal will be submitted by the student to the Dean of
Instruction. The appeal is a formal request to the Dean that the
student’s specific concerns about the grade be completely addressed.
The student must complete the Grade Appeal Form, which requests
the following:

- Copies of all materials submitted to the instructor in Step 1.
- A justification for the requested review, i.e., a statement of rea-
  sons as to why the student believes the instructor’s reply to the
  Step 1 Appeal is incorrect.
- Relevant information and documentation that supports the
  appeal.
- Any additional items that the student deems relevant to his/her
  appeal.
- The remedy sought.

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 mate-
rials 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 require-
ment that instructors will accept the Dean’s recommendation.

1In 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.
General Information

**WRITTEN INTRASYSTEM AGREEMENTS:**

- For transfer of general education (Minnesota Transfer Curriculum) 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 paperwork 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 http://www.ridgewater.edu/more-rc/Pages/college-policies.aspx

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/morerc/Documents/Chapter_5_Administration/Data_PracticesPolicy.pdf (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 Carpentry, Auto Body, Auto Mechanics, Agriculture, Electrician, Machine Tool, Nondestructive Testing, and Welding, may require hazard-specific PPE.

Respirators are required for Auto Body students. Prior to use of respirator, Auto Body students are required to have completed a medical evaluation and a fit test of the approved respirator.

Any student failing to comply with personal protection (PPE) 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.

Title IX

It is the policy of the college not to discriminate on the basis of sex in its admissions, educational programs, activities, or employment policies as required by Title IX of the Educational Amendments of 1972. Inquiries regarding compliance with Title IX may be directed to the Equity Coordinator, Jay Morrison, at 320-222-8040. You may also contact the Director of the Office of Civil Rights, Department of Education, Washington, D.C.

Tobacco Use

Smoking in educational facilities in Minnesota is governed by the Clean Indoor Act, Sections 144.411 through 144.417. It prohibits smoking in those places of work where the close proximity of workers or the inadequacy of ventilation causes smoke pollution detrimental to the health and comfort of nonsmoking employees. It provides that “the proprietor or other person in charge of a public place shall make reasonable efforts to prevent smoking in the public place.” Ridge-water College recognizes that the use of tobacco products poses a hazard to the health of its students, employees and visitors. To protect the health of the college community and the public, Ridgewater College designates all buildings and college property as tobacco free. Tobacco use in vehicles and equipment owned or leased by the College is also prohibited. Tobacco use in private vehicles in college parking areas is permitted. To the extent possible, Ridgewater College will provide access to cessation programs to help students and employees who presently use tobacco products.

ENFORCEMENT: All Ridgewater College students and employees are expected to share the responsibility for informing others of this policy. Problems unresolved will be referred to the Director of Health and Safety and, if necessary, to higher administrative levels of the College.

EXCEPTIONS: This policy does not prohibit the lighting of tobacco by an adult in an otherwise tobacco-free area as part of a traditional Native American spiritual or cultural ceremony.

Student Life

Campus/Student Life Activities

Student life at Ridgewater College is designed to contribute and enhance the overall development of the individual student by expanding their education beyond the traditional classroom. Students who get involved outside of the classroom tend to do better in the classroom. Student life is intended to accomplish the following objectives:

• Teach and promote overall student development and success
• Provide growth in cultural awareness
• Integrate with and complement instructional programs
• Promote student and staff interaction
• Create awareness of individual differences
• Assist students in developing positive self-image and self-worth
• Increase student leadership training and opportunities
• Assist students in communicating with others
• Develop personal discipline as well as individual and group commitment, teamwork, and honor
• Assist in clarifying values and improve the physical and psychological well-being of students
• Promote the awareness and utilization of campus facilities
• Promote and disseminate information on student life programs
• Enhance the campus image in the community
• Promote local community identification with the college
• Promote student and community involvement

Student Center/Commons

Each campus facility may provide various entertainment, novelty programs and educational opportunities for students to enjoy throughout the year. It is equipped with television, pool tables, video games, and board games. It also provides a comfortable atmosphere for students to relax and visit between classes.
Student Senate

Student leadership is centered in the Student Senate which is elected at large from the student body. The senate sponsors campus activities that help to promote social, cultural, intellectual, legislative and recreational activities, and represents the student body on matters of policy through consultation with the college administration. Members of the Student Senates develop leadership skills through opportunities to practice decision making, team building, and problem solving. Interested students should contact the Student Senate Office on either campus.

Music

Opportunities exist for the student interested in music. Groups perform at various festivals as well as at special events on and off campus. Individualized instruction in voice and piano are also available. Students interested in participating in either of the choral groups should contact the choral director and/or Music Department.

Cultural Diversity

Ridgewater College is committed to providing diverse cultural experiences for its students that promote intercultural understanding through education. In addition to the multicultural opportunities that exist as a part of many of the classes at the college, the college participates in an annual diversity conference sponsored by the Minnesota State Colleges and Universities as well as sponsoring a multicultural week each spring. Students are welcomed and encouraged to attend this conference and any other educational forums focused on diversity during the year. Ridgewater’s goal is to increase our students’ understanding of individual and group differences, the traditions and values of other cultures, and thereby enhance their recognition of the interdependence of all nations and the impact of that globalization on the world.

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>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>Softball</td>
</tr>
<tr>
<td>Basketball</td>
<td>Basketball</td>
</tr>
<tr>
<td>Football</td>
<td>Volleyball</td>
</tr>
<tr>
<td>Wrestling</td>
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</tbody>
</table>

Campus Recreation

A variety of activities are also offered. Contact the Student Life Office for a list of activities offered each semester.
Programs of Study

Minnesota Transfer Curriculum and Degrees, Diplomas, Certificates

Minnesota Transfer Curriculum (MnTC)

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’s degrees, and their relation to the MnTC

Ridgewater College offers three degrees:

THE ASSOCIATE IN ARTS (AA) DEGREE. The AA is a transfer degree for which the MnTC was developed. The MnTC is the general education component (40 credits) of the AA Degree. All students seeking an AA Degree who entered Ridgewater College in Fall 1995 or later will take the MnTC as their general education core requirements.

THE ASSOCIATE IN SCIENCE (AS) DEGREE. AS programs are transfer degrees with courses approved by both Ridgewater College and 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 three 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
  Communication Studies 0101 - Intro to Communication (3)
  Communication Studies 0220 - Public Speaking (3)
  Communication Studies 0225 - Small Group Communication (3)
  English 0121 - College Composition I (3)
  English 0122 - College Composition II (3)
  Option 2: 9 credits/3 courses
  Must take 1 CMST and 2 ENGL
  Communication Studies 0121 - Intro to Communication (3)
  Communication Studies 0220 - Public Speaking (3)
  Communication Studies 0225 - Small Group Communication (3)
  English 0121 - College Composition I (3)
  English 0123 - Scientific & Technical Writing (3)

- Option 3: 8 credits/2 courses
  Communication Studies 0121 - Intro to Communication (3)
  Communication Studies 0220 - Public Speaking (3)
  Communication Studies 0225 - Small Group Communication (3)
  English 0130 - Honors Composition (5)

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
- Biology 0100 - Introduction to Biology (4) [10]
- Biology 0104 - Introduction to Human Genetics (4)
- Biology 0108 - Human Biology (4)
- Biology 0131 - Conserv. of Nat. Resources (3) [10]
- Biology 0141 - Environmental Science (4) [10]
- Biology 0151 - People, Sustainability, Environment (4) [10]
- Biology 0200 - General Biology I (5)
- Biology 0201 - General Biology II (5) [10]
- Biology 0210 - Human Anatomy (4)
- Biology 0211 - Human Physiology (4)
- Biology 0212 - Human Anatomy and Physiology I (4)
- Biology 0213 - Human Anatomy and Physiology II (4)
- Biology 0215 - Microbiology (4)
- Env Science 0131 - Conserv. of Natural Resources (3) [10]
- Env Science 0141 - Environmental Science (4) [10]
- Env Science 0151 - People, Sustainability, Environment (4) [10]

GROUP B
- Chemistry 0100 - Intro to Chemistry (4) [10]
- Chemistry 0101 - Survey of Chemistry (4) [10]
- Chemistry 0102 - General Chemistry I (4) [10]
- Chemistry 0103 - General Chemistry II (4)
- Chemistry 0151 - Principles of Chemistry I (5) [10]
- Chemistry 0152 - Principles of Chemistry II (5)
- Earth Science 0110 - Physical Geology (4) [10]
- Earth Science 0112 - Intro to Meteorology (4) [10]
- Earth Science 0113 - Intro to Astronomy (4)
- Earth Science 0114 - Natural Disasters (4) [10]
- Physics 0100 - Concepts in Physics (4)
- Physics 0101 - College Physics (4)
- Physics 0102 - College Physics (4)
- Physics 0121 - General Physics (5)
- Physics 0122 - General Physics (5)
- Science 0105 - Physical Science (4)
- Science 0106 - 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 0100 - Quantitative Reasoning (3)
Math 0109 - Elements of Algebra and Trig (4)
Math 0110 - Contemporary Concepts in Math (3)
Math 0112 - College Algebra (4)
Math 0116 - Trigonometry (3)
Math 0119 - Accelerated Pre-Calculus (4)
Math 0121 - Calculus I: Calc & Analytical Geometry (5)
Math 0122 - Calculus II: Calc & Analytical Geometry (5)
Math 0201 - Elementary Statistics (3)
Math 0207 - Statistics & Its Applications (4)
Math 0210 - Intro to Modern Mathematics I (3)
Math 0211 - Intro to Modern Mathematics II (3)
Math 0215 - Discrete Mathematics (4)
Math 0223 - Calc III: Calc & Analytical Geom (4)
Math 0233 - Linear Algebra & Differential Geom (4)
Philosophy 0110 - Logic and Critical Thinking (3)

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 [ ] )
Anthropology 0101 - Intro to Cultural Anthropology (3) [8]
Economics 0195 - Introduction to Economics (3) [9]
Economics 0206 - Principles of Micro-Economics (3) [10]
Economics 0207 - Principles of Macroeconomics (5) [8]
Economics 0208 - Intro to International Business/Econ (3) [8]
Geography 0140 - Intro to Geography (3) [8]
Geography 0141 - World Regional Geography (3) [8]
History 0101 - World History I (3) [8]
History 0102 - World History II (3) [8]
History 0111 - U.S. History I (3) [7]
History 0112 - U.S. History II (3) [7]
History 0250 - Minnesota History (3) [7]
History 0257 - Special Topics (1-3) [7]
History 0295 - Selected Topics in History (1-3)
Mass Comm 0150 - Intro to Mass Communications (3) [9]
Political Science 0131 - Intro to Political Science (3) [9]
Political Science 0132 - American National Government (3) [9]
Political Science 0133 - State & Local Government (3) [9]
Political Science 0135 - International Relations (3) [8]
Political Science 0295 - Special Topics (3) [8]
Psychology 0131 - Intro to Psychology (4) [7]
Psychology 0132 - Lab in Intro. Psychology (1)

Psychology 0165 - Psychology of Women (3) [9]
Psychology 0212 - Psychology of Aging (3) [7]
Psychology 0265 - Developmental Psychology (3) [9]
Psychology 0275 - Abnormal Psychology (3) [10]
Psychology 0280 - Psychology of Adjustment (3) [9]
Sociology 0105 - Intro to Sociology (3) [7]
Sociology 0106 - General Social Problems (3) [9]
Sociology 0107 - Marriage & Family Living (3) [7]
Sociology 0225 - Sociology of Gender (3) [7]
Sociology 0240 - Juvenile Delinquency (3)
Sociology 0241 - Criminology (3) [9]
Sociology 0242 - Racial & Cultural Minorities (3) [8]
Sociology 0243 - Sociology of Aging (3) [7]
Sociology 0244 - Sociology of Death and Dying (3) [7]
Sociology 0251 - Intro to Native American Studies (3) [7]
Sociology 0295 - Topics in Sociology (1-3)
Women's Studies 0165 - Psych of Women (3) [9]

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 0104 - Survey in Art (3) [7]
ART 0106 - History of Modern Art (3) [7]
ART 0107 - Women in Art (2) [7]
ART 0120 - Introduction to Art Studio (3)
ART 0125 - Art of Digital Photography (3)
ART 0130 - Printmaking I (3)
ART 0140 - Drawing (3)
ART 0144 - Watercolor (3)
ART 0226 - Elementary Art Education (3)
ART 0230 - Two Dimensional Design (3)
ART 0231 - Three Dimensional Design and Color (3)
ART 0260 - Ceramics (3)
ART 0261 - Painting (3)
Chinese 0120 - Chinese Culture (3) [8]
Communication Studies 0226 - Interpersonal Communication (3) [7]
Communication Studies 0228 - Argument & Reasoning (3) [9]
English 0150 - Introduction to Literature (3) [7]
English 0160 - The Short Story (3) [8]
English 0170 - Introduction to World Literature (3) [8]
English 0180 - Introduction to American Literature (3) [9]
English 0211 - Multicultural Literature (3) [7]
English 0220 - Creative Writing (1-3)
English 0232 - Fantasy, Fable & Science Fiction (3) [8]
English 0239 - Gender & Sexuality in Literature (3) [8]
English 0295 - Special Topics in Literature (3)
Global Studies 0101 - Intro to Global Studies (3) [8]
Global Studies 0201 - Global Studies Capstone (1) [8]
History 0210 - East Asian History (3) [8]
History 0222 - Modern European History (3) [8]
History 0267 - Special Topics (1-3) [7]
Humanities 0105 - The Human Adventure (3) [8]
Humanities 0110 - Leadership Development Studies (2) [9]
Mass Comm 0255 - Visual Communications (3) [7]
Music 0111 - Introduction to Music (3) [8]
Music 0121 - From Bach to Broadway (3) [8]
Music 0122 - Music of the U.S. (3) [7]
Music 0123 - Fundamentals of Music (3)
Music 0130 - Basic Musicianship I (4)
Music 0131 - Basic Musicianship II (4)
Music 0135 - Survey of Rock and Roll Music (3) [7]
Music 0140 - Music in World Cultures (3) [8]
Philosophy 0101 - Introduction to Philosophy (3) [9]
Philosophy 0102 - Introduction to Ethics (3) [9]
Spanish 0210 - Culture of Costa Rica through Study & Immersion (4) [6]
Theatre 0140 - Introduction to Theatre (3)
Theatre 0141 - Introduction to Film (3)
Theatre 0142 - Theatre Production & Stagecraft (3)
Theatre 0150 - Beginning Acting (3)
Theatre 0250 - Intermediate Acting (3)
Women's Studies 0107 - Women in Art (2) [7]

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 [ ]

ART 0104 - Survey in Art (3) [6]
ART 0106 - History of Modern Art (3) [6]
ART 0107 - Women in Art (2) [6]
Communication Studies 0223 - Listening (3)
Communication Studies 0226 - Interpersonal Communication (3) [6]
Communication Studies 0227 - Intercultural Communication (3)
Communication Studies 0240 - Gender and Communication (3)
English 0150 - Introduction to Literature (3) [6]
English 0211 - Multicultural Literature (3) [6]
English 0239 - Gender & Sexuality in Literature (3) [6]
History 0111 - U.S. History I (3) [5]
History 0112 - U.S. History II (3) [5]
History 0250 - Minnesota History (3) [5]
History 0257 - Special Topics (1-3) [5]
History 0267 - Special Topics (1-3) [6]
Mass Comm 0255 - Visual Communications (3) [6]
Music 0122 - Music of the U.S. (3) [6]
Music 0135 - Survey of Rock and Roll Music (3) [6]
Psychology 0131 - Intro to Psychology (4) [5]
Psychology 0212 - Psychology of Aging (3) [5]
Sociology 0105 - Intro to Sociology (3) [5]

Sociology 0107 - Marriage & Family Living (3) [5]
Sociology 0225 - Sociology of Gender (3) [5]
Sociology 0243 - Sociology of Aging (3) [5]
Sociology 0244 - Sociology of Death & Dying (3) [5]
Sociology 0251 - Intro to Native American Studies (3) [5]
Women's Studies 0107 - Women in Art (2) [6]

8. GLOBAL PERSPECTIVE
Goal: To increase students' understanding of the growing interde-
pendence 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 [ ]

Anthropology 0101 - Intro to Cultural Anthropology (3) [5]
Chinese 0101 - Beginning Chinese I (5)
Chinese 0102 - Beginning Chinese II (5)
Chinese 0120 - Chinese Culture (3) [6]
Communication Studies 0250 - Computer-Mediated
Communication (3)
Economics 0207 - Principles of Macro-Econ (3) [5]
Economics 0208 - Intro to International Business/Economy (3) [5]
English 0160 - The Short Story (3) [6]
English 0170 - Introduction to World Literature (3) [6]
English 0232 - Fantasy, Fable & Science Fiction (3) [6]
Geography 0140 - Introduction to Geography (3) [5]
Geography 0141 - World Regional Geography (3) [5]
Global Studies 0101 - Introduction to Global Studies (3) [6]
Global Studies 0201 - Global Studies Capstone (1) [6]
History 0101 - World History I (3) [5]
History 0102 - World History II (3) [5]
History 0210 - East Asian History (3) [6]
History 0222 - Modern European History (3) [6]
Humanities 0105 - The Human Adventure (3) [6]
Music 0111 - Introduction to Music (3) [6]
Music 0121 - From Bach to Broadway (3) [6]
Music 0140 - Music in World Cultures (3) [6]
Psychology 0131 - Intro to Psychology (4) [5]
Psychology 0212 - Psychology of Aging (3) [5]

Music 0122 - Music of the U.S. (3) [6]
Music 0135 - Survey of Rock and Roll Music (3) [6]
Psychology 0131 - Intro to Psychology (4) [5]
Psychology 0212 - Psychology of Aging (3) [5]
Sociology 0105 - Intro to Sociology (3) [5]

Political Science 0135 - International Relations (3) [5]
Political Science 0295 - Special Topics (3) [5]
Sociology 0242 - Racial & Cultural Minorities (3) [5]
Spanish 0107 - Beginning Spanish I (4)
Spanish 0108 - Beginning Spanish II (4)
Spanish 0207 - Intermediate Spanish (4)
Spanish 0208 - Intermediate Spanish (4)
Spanish 0210 - Culture of Costa Rica Through Study and
Immersion (4) [6]
Spanish 0295 - Special Topics in Spanish - Advanced Language (4)
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 [ ])
- Comm. Studies 0228 - Argument & Reasoning (3) [6]
- Economics 0190 - Personal Finance (3)
- Economics 0195 - Introduction to Economics (3) [5]
- English 0180 - Introduction to American Literature (3) [6]
- Humanities 010 - Leadership Development Studies (2) [6]
- Mass Comm 0150 - Intro to Mass Communications (3) [5]
- Philosophy 0101 - Introduction to Philosophy (3) [6]
- Philosophy 0102 - Introduction to Ethics (3) [6]
- Political Science 0131 - Intro to Political Science (3) [5]
- Political Science 0132 - American National Government (3) [5]
- Political Science 0133 - State & Local Government (3) [5]
- Psychology 0165 - Psychology of Women (3) [5]
- Psychology 0263 - Developmental Psychology (3) [5]
- Psychology 0280 - Psychology of Adjustment (3) [5]
- Sociology 0106 - General Social Problems (3) [5]
- Sociology 0241 - Criminology (3) [5]
- Women’s Studies 0165 - Psychology (3) [5, 9]

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 [ ])
- Biology 0100 - Introduction to Biology (4) [3]
- Biology 0131 - Conservation of Natural Resources (3) [3]
- Biology 0141 - Environmental Science (4) [3]
- Biology 0151 - People, Sustainability, Environment (4) [3]
- Biology 0201 - General Biology II (5) [3]
- Chemistry 0100 - Intro to Chemistry (4) [3]
- Chemistry 0101 - Survey of Chemistry (4) [3]
- Chemistry 0102 - General Chemistry I (4) [3]
- Chemistry 0151 - Principles of Chemistry I (5) [3]
- Earth Science 0110 - Physical Geology (4) [3]
- Earth Science 0112 - Intro to Meteorology (4) [3]
- Earth Science 0114 - Natural Disasters (4) [3]
- Economics 0206 - Principles of Micro-Economics (3) [5]
- Env. Science 0131 - Conservation of Natural Resources (3) [3]
- Env. Science 0141 - Environmental Science (4) [3]
- Env. Science 0151 - People, Sustainability, Environment (4) [3]
- Psychology 0275 - Abnormal Psychology (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 0105 - Personal and Community Health
   b. Public Health 0110 - Drug Education in Contemporary Society
   c. Physical Education 0220 - First Aid/CPR
   d. Public Health 0107 - Nutrition
   e. PE Activity Courses (0102-0140)

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 100 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 100 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
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## Career/Technical Programs

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<td>Windows Administrator</td>
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## Liberal Arts and General Education

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While many of these programs do not offer a degree option, they are specifically designed to provide students with a foundation for pursuit of a professional or graduate level degree.

- Pre-Accounting Information Systems
- Pre-Chiropractic
- Pre-Dentistry
- Pre-Engineering
- Pre-Law
- Pre-Medical Technology
- Pre-Medicine
- Pre-Nursing
- Pre-Occupational Therapy
- Pre-Optometry
- Pre-Pharmacy
- Pre-Physical Therapy
- Pre-Veterinary Medicine
## 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1800</td>
<td>Business Law</td>
<td>2</td>
</tr>
<tr>
<td>ACCT 1814</td>
<td>Payroll Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1815</td>
<td>Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1816</td>
<td>Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1831</td>
<td>Accounting Math &amp; Calculators</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1834</td>
<td>Computer Accounting Applications</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1837</td>
<td>Spreadsheet Concepts and Applications</td>
<td>3</td>
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<tr>
<td>ACCT 1842</td>
<td>Income Tax</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 2814</td>
<td>Cost Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 2821</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 2823</td>
<td>Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 2845</td>
<td>Auditing</td>
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</tr>
<tr>
<td>ACCT 2847</td>
<td>Fund/Non-Profit Accounting</td>
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<tr>
<td>GWS 1401</td>
<td>Employment Preparation</td>
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<td><strong>Total Credits</strong></td>
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**Electives Courses**

(choose at least one course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GSIS 1403</td>
<td>Professional Development Skills</td>
<td>3</td>
</tr>
<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
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<tr>
<td><strong>Total Credits</strong></td>
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**Elective Courses**

(choose at least one course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS 1012</td>
<td>Business Presentations</td>
<td>2</td>
</tr>
<tr>
<td>GSCM 1112</td>
<td>Applied Oral Communications</td>
<td>2</td>
</tr>
<tr>
<td>MSM 1205</td>
<td>Business Presentations</td>
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**Elective Courses**

(choose at least one course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ADS 1014</td>
<td>Written Business Communications</td>
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<tr>
<td>GSCM 1102</td>
<td>Applied Written Communications</td>
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<tr>
<td>GSCM 1103</td>
<td>Applied Written Communications (Willmar)</td>
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**Elective Courses**

(choose from remaining courses to meet 14-credit requirement)

<table>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACCT 2833</td>
<td>Database Concepts and Applications</td>
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</tr>
<tr>
<td>ADS 1007</td>
<td>Keyboard I</td>
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<tr>
<td>ADS 1014</td>
<td>Written Business Communications</td>
<td>2</td>
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<tr>
<td>ADS 1018</td>
<td>Personal Finance</td>
<td>2</td>
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<tr>
<td>ADS 1026</td>
<td>Database Microsoft Access</td>
<td>3</td>
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<tr>
<td>ADS 1027</td>
<td>Business Environment</td>
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<td>ADS 1042</td>
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<tr>
<td>ADS 1045</td>
<td>Computerized Accounting</td>
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### Accountant — AAS Degree

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACCT 1800</td>
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<td>ACCT 1815</td>
<td>Principles of Accounting I</td>
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<td>ACCT 1816</td>
<td>Principles of Accounting II</td>
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<td>ACCT 1831</td>
<td>Accounting Math &amp; Calculators</td>
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<tr>
<td>ACCT 1834</td>
<td>Computer Accounting Applications</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1837</td>
<td>Spreadsheet Concepts and Applications</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1842</td>
<td>Income Tax</td>
<td>4</td>
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<tr>
<td>ACCT 2814</td>
<td>Cost Accounting I</td>
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<tr>
<td>ACCT 2821</td>
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<td>ACCT 2823</td>
<td>Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 2845</td>
<td>Auditing</td>
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</tr>
<tr>
<td>ACCT 2847</td>
<td>Fund/Non-Profit Accounting</td>
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<td><strong>Total Credits</strong></td>
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**General Education Electives**

(choose one of the Math courses below)

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<tr>
<td>MATH 0112</td>
<td>College Algebra</td>
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<tr>
<td>MATH 0201</td>
<td>Elementary Statistics</td>
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<tr>
<td>MATH 0207</td>
<td>Statistics and Its Application</td>
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<td><strong>Total Credits</strong></td>
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**General Education Electives**

(choose one of the ECON courses below)

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ECON 0190</td>
<td>Personal Finance</td>
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</tr>
<tr>
<td>ECON 0206</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 0207</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
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</tbody>
</table>

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.

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 1857 Spreadsheet Concepts & Applications ...... 3
ACCT 1842 Income Tax .................................. 4
Total Credits: .............................................. 26

General Studies
GSWS 1401 Employment Prep & Retention .............. 1
GSMS 1102 Applied Written Communications .......... 2
-or-
GSCM 1103 Applied Written Communications .......... 3
(includes 1 credit of elective)
-or-
ADS 1014 Written Communications .................... 4
(includes 2 credits of electives)
Total Credits .............................................. 3

Elective Courses
(select 3 credits from the courses below)
ACCT 2833 Database Concepts & Applications .......... 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 1046 Computerized Accounting ..................... 1
ADS 2030 Word ........................................ 3
BUS 0106 Records Management .......................... 2
BUS 0208 Intro to International Business/Economics .... 3
ECON 0190 Personal Finance ............................. 3
GSCM 1103 Applied Written Communications (Willmar) 3
GSMS 1403 Professional Development Skills ............ 3
GSCM 1401 Computer Technology ....................... 1
GSWS 1422 Quality Management .......................... 2
GSWS 1432 Problem Solving/Decision Making ........... 2
GSWS 1442 Team Development ............................ 2
MSM 1205 Business Presentations ........................ 3
MSM 1212 Personal Finance ................................ 3
MSM 2100 Principles of Supervision ....................... 3
MSM 2203 Management Issues ............................ 3
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.

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 1857 Spreadsheet Concepts & Applications ...... 3
ACCT 1842 Income Tax .................................. 4
ACCT 2814 Cost Accounting I ............................ 4
ACCT 2821 Intermediate Accounting I .................... 4
ACCT 2847 Fund/Non-Profit Accounting ................. 3
GSWS 1401 Employment Preparation ..................... 1
Total Credits: .............................................. 38

Elective Courses
(choose at least one course)
GSMS 1403 Professional Developmental Skills .......... 3
GSMS 1502 Human Relations ............................. 2

Elective Courses
(choose at least one course)
ADS 1012 Business Presentations .......................... 2
GSCM 1102 Applied Oral Communications ............... 2
MSM 1205 Business Presentations ........................ 3

Elective Courses
(choose at least one course)
ADS 1014 Written Business Communications ............ 4
GSCM 1102 Applied Written Communications ............ 2
GSCM 1103 Applied Written Communications (Willmar) 3

Choose from remaining courses to meet 7 credits, if needed:
ACCT 2833 Database Concepts and Applications .......... 2
ADS 1007 Keyboarding I .................................. 2
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 0101 Business and the American Economy .......... 3
ECON 0190 Personal Finance ............................. 3
GSCM 1401 Computer Technology ....................... 1
MSM 1212 Personal Finance ................................ 3
MSM 2100 Principles of Supervision ....................... 3
MSM 2203 Management Issues ............................ 3
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 .......................... Credits
ADR 1005 Occupational/Service Learning .................. 3
ADR 1015 Activity Ideas .................................... 3
ADR 1155 Crisis Prevention/Intervention .................. 1
ADR 1180 Employment Readiness .......................... 1
ADR 1405 Activity Program Development .................. 2
ADR 1410 Community Agencies/Org. for Older Adults 2
ADR 1420 Activity Interventions ............................ 3
ADR 1501 Introduction to Activities and Aging Services 2
ADR 1502 Health and Social Issues in Aging ............. 2
ADR 1503 Activity Care Planning and Documentation .... 2
ADR 1504 Activity Calendar Planning/Program Delivery 2
ADR 1760 Introduction to Alzheimer’s Disease .......... 1
ADR 2900 Internship I .................. 5
CMST 0227 Intercultural Communications ................ 3
GSCM 1102 Applied Written Communications .......... 2
GSIS 1502 Human Relations ............................. 2
Total Credits: .................................. 36
Total Diploma Credits: ................................ 36

Activity Director — AAS Degree
Required Courses .......................... Credits
ADR 1005 Occupational/Service Learning .................. 3
ADR 1015 Activity Ideas .................................... 3
ADR 1155 Crisis Prevention/Intervention .................. 1
ADR 1180 Employment Readiness .......................... 1
ADR 1405 Activity Program Development .................. 2
ADR 1410 Community Agencies/Org. for Older Adults 2
ADR 1420 Activity Interventions ............................ 3
ADR 1501 Introduction to Activities and Aging Services 2
ADR 1502 Health and Social Issues in Aging ............. 2
ADR 1503 Activity Care Planning and Documentation .... 2
ADR 1504 Activity Calendar Planning/Program Delivery 2
ADR 1520 Intro to Activity Management .................. 1
ADR 1523 Communication Skills for Activity Managers 2
ADR 1524 Volunteer Management .......................... 2
ADR 1760 Introduction to Alzheimer’s Disease .......... 1
ADR 2900 Internship I .................. 4
ADR 2910 Internship II .................. 4
CMST 0227 Intercultural Communications ................ 3
GSIS 1502 Human Relations ............................. 2
Total Credits: .................................. 45

General Education Required Courses
CMST 0211 Introduction to Communication ................ 3
ENGL 0211 College Composition ............................ 3
Total Credits: .................................. 6

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 - Activity Professional - Basic MEPAP 1
ADR 1501 Intro to Activities and Aging Services .......... 2
ADR 1502 Health and Social Issues in Aging ............. 2
ADR 1503 Care Planning and Documentation .............. 2
ADR 1504 Activity Calendar Planning and Program Dev. 2
ADR 2900 Internship I .................. 2
Total Credits: .................................. 10

Certificate - Activity Professional - Management MEPAP 2
ADR 1520 Intro to Activity Management .................. 2
ADR 1522 Activity Department Management Skills .... 2
ADR 1523 Communication Skills for Activity Managers 2
ADR 1524 Volunteer Management .......................... 2
ADR 2900 Internship I .................. 2
Total Credits: .................................. 10

Certificate - Activity Aid
ADR 1005 Occupational Practicum .......................... 3
ADR 1010 Cultures in the Workplace ...................... 2
ADR 1015 Activity Ideas .................................... 3
ADR 1040 Introduction to Aging ............................ 3
ADR 1155 Crisis Prevention/Intervention .................. 1
ADR 1225 Disability Awareness ............................ 1
ADR 1420 Activity Intervention ............................. 3
ADR 2900 Internship I .................. 4
Total Credits: .................................. 20

Certificate - Health Support Specialist
ADR 1605 Introduction to the Health Support Specialist ... 3
ADR 1610 The Role of the HSS in Providing Meaningful Activities . 1
ADR 1615 Health Support Specialist in Memory Care ....... 1
ADR 1620 Health Support Specialist in Culinary Care ...... 1
ADR 1625 Health Support Specialist in Physiological Care . 1
ADR 1630 Health Support Specialist in Psychosocial Care . 1
ADR 1635 Health Support Specialist in Environmental Services 1
Total Credits: .................................. 9
ADMINISTRATIVE ASSISTANT

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 .................................................. Credits
ACCT 1812 Payroll Preparation ........................................ 2
ADS 1007 Keyboarding ................................................. 2
ADS 1012 Business Presentations .................................... 2
ADS 1014 Written Business Communications .................... 4
ADS 1020 Administrative Office Procedures .................... 4
ADS 1026 Access ....................................................... 3
ADS 1027 Business Environment .................................... 2
ADS 1040 Office Accounting Concepts ............................ 2
ADS 1042 PowerPoint ................................................ 3
ADS 1053 Excel ........................................................ 3
ADS 2010 Desktop Publishing ....................................... 2
ADS 2015 Introduction to Project Management .................... 2
ADS 2030 Word ...................................................... 3
ADS 2045 Advanced Word Processing ............................ 3
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 1800 Business Law ............................................ 2
ADS 1004 Statistical Typing ........................................... 1
ADS 1005 Skillbuilding ............................................... 1
ADS 1033 Word Processing - WordPerfect ....................... 2
ADS 1035 Web Page Design .......................................... 3
ADS 1045 Computerized Accounting Basics .................... 1
ADS 1300 Medical Terminology .................................... 2
ADS 1670 HTML ..................................................... 2
ADS 2090 Administrative Support Internship .................... 2-6*
MMDT 1021 HTML and the Web ................................... 2
Total Credits: ......................................................... 6

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

AAS Degree

Required Courses .................................................. Credits
ACCT 1812 Payroll Preparation ........................................ 2
ADS 1007 Keyboarding ................................................. 2
ADS 1012 Business Presentations .................................... 2
ADS 1014 Written Business Communications .................... 4
ADS 1020 Administrative Office Procedures .................... 4
ADS 1026 Access ....................................................... 3
ADS 1027 Business Environment .................................... 2
ADS 1040 Office Accounting Concepts ............................ 2
ADS 1042 PowerPoint ................................................ 3
ADS 1053 Excel ........................................................ 3
ADS 2010 Desktop Publishing ....................................... 2
ADS 2015 Introduction to Project Management .................... 2
ADS 2030 Word ...................................................... 3
ADS 2045 Advanced Word Processing ............................ 3
ENGL 0121 College Composition I ................................. 3
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 1800 Business Law ............................................ 2
ADS 1004 Statistical Typing ........................................... 1
ADS 1005 Skillbuilding ............................................... 1
ADS 1033 Word Processing - WordPerfect ....................... 2
ADS 1035 Web Page Design .......................................... 3
ADS 1045 Computerized Accounting Basics .................... 1
ADS 1300 Medical Terminology .................................... 2
ADS 1670 HTML ..................................................... 2
ADS 2090 Administrative Support Internship .................... 2-6*
MMDT 1021 HTML and the Web ................................... 2
Total Credits: ......................................................... 6

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

General Education Required Course
ENGL 0121 College Composition I ................................ 3
Total Credits: ......................................................... 3

General Education Electives
Choose one course from the following three options:
CMST 0121 Introduction to Communication ...................... 3
CMST 0225 Small Group Communication ........................ 3
CMST 0226 Interpersonal Communications .................... 3
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

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

Ridgewater College offers a wide variety of agriculture programs including:
- Agri-Business
- Ag Education
- Agricultural and Industrial Biotechnology
- Agronomy Technology
- Dairy Management
- Farm Operation and Management
- GPS/GIS Technology for Agriculture

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 ...................................................... Credits
AGRI 1001 Ag Orientation ........................................... 2
AGRI 1201 Applied Mathematics for Agricultural Careers ........................................... 1
- or -
Math 0112 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 2800 Agriculture Internship (take twice) ................................ 6

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

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 .................................. 2
AGRI 2161 Planter Meter Certification .................................. 1
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 Customer 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 1730 Forage Production ............................................ 3
AGRI 1820 Animal Nutrition ............................................. 3

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
ACCT 1831 Accounting Math and Calculators ....................... 3
ACCT 1834 Computerized Accounting Applications ................ 3
ACCT 2814 Cost Accounting I .......................................... 4
ACCT 2815 Cost/Managerial Accounting ............................. 4

General Studies: Choose a total of 6 credits:
GSCM 1123 Applied Oral and Written Communications .......... 3
GSWS 1402 Employment Prep & Retention .......................... 2
GSWS 1451 First Aid/Safety .............................................. 1

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

Total Diploma Credits: .................................................... 72
## Programs of Study

### AAS Degree

<table>
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<th>Credits</th>
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<td>AGRI 2800</td>
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**Total Credits:** 36

### 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.

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<tr>
<td>WELD 1118</td>
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**Total Credits:** 18

### Highly suggested electives for Crop Emphasis:

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<td>AGRI 2201</td>
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### Highly suggested electives for Dairy Emphasis:

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<tr>
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### General Studies Required Courses

<table>
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<tr>
<td>GWS 1402</td>
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<td>GWS 1451</td>
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**Total Credits:** 3

### General Education Required Courses: Goal Area 1

Choose one ENGL course and one CMST course

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<td>CMST 0220</td>
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<td>ENGL 0121</td>
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<td>ENGL 0122</td>
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<tr>
<td>ENGL 0123</td>
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</table>

**Total Credits:** 6

### General Education Elective Courses

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:** 9

### Total AAS Degree Credits:

**Total AAS Degree Credits:** 72

### Highly suggested electives for Livestock Emphasis:

<table>
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<td>AGRI 1830</td>
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<td>AGRI 1840</td>
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<td>AGRI 1900</td>
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<tr>
<td>AGRI 2210</td>
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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 instructor Kim Lippert at 800-722-1151 or 320-222-5272. This program participates in Articulated College Credit partnerships. Refer to page 6.

General Education (40 credits required)
CMST 0121 Introduction to Communication 3
*CMST 0220 Public Speaking 3
ENGL 0121 College Composition I 3
ENGL 0122 College Composition II 3
ECON 0206 Principles of Micro Economics 3
MATH 0112 College Algebra 3

Choose one of the following:
BIOL 0100 Introduction to Biology 4
*BIOI 0200 General Biology I 5
CHEM 0102 General Chemistry I 4

Choose one of the following:
*PSYC 0131 Introduction to Psychology 4
SOC 015 Introduction to Sociology 3

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 0125 Farm Records & Business Analysis 3
AGRI 1650 Soils and Fertility Management 3
AGRI 0111 Soil and Fertility Management 3
AGRI 1660 Introduction to Agronomy 3
AGRI 0112 Principles of Agronomy 3
AGRI 1670 Integrated Pest Management 3
AGRI 1810 Introduction to Animal Science 3
AGRI 0126 Animal Science 3
AGRI 1820 Animal Nutrition 3
BIOL 0141 Environmental Science 4
BUS 0224 Financial Accounting 4

Total AS Degree Credits: 60

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.

AGRONOMY TECHNOLOGY
Willmar Campus
Diploma – 72 Credits

In agronomy centers across the Midwest, there is a serious shortage of qualified appicator 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 Agri-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
AGRI 1011 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 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 2800 Agriculture Internship (3 credits x 2) 6

Total Credits: 62

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 1730 Forage Production 3
AGRI 1760 Specialty Crops 2
AGRI 1761 Ag Water Management 2
AGRI 1773 GIS Problem Solving 3
AGRI 2135 Agricultural Electricity 2
AGRI 2800 Internship 3-6
WELD 118 Agricultural Welding 2
AGRI **** Any other course with the AGRI prefix

Total Credits: 4

General Studies Electives
GSCM 1123 Applied Oral & Written Communications 3
GWS 1402 Employment Preparation 2
GWS 1451 First Aid/Safety 1

Total Credits: 6

Total Diploma Credits: 72
# 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>
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<tbody>
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<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>
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<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>
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<tr>
<td>AVT 2630</td>
<td>Audio Networking</td>
<td>3</td>
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<tr>
<td>ELEC 1814</td>
<td>Electronics I</td>
<td>3</td>
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<tr>
<td>ELEC 1815</td>
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### Total Credits: 47

### Elective Courses

Select 11 credits from the courses below:

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<td>AVT 2360</td>
<td>Audio Technology Internship</td>
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<tr>
<td>AVT 2375</td>
<td>Computer Recording Techniques</td>
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</tr>
<tr>
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<td>Special Projects/Topics</td>
<td>1-6</td>
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### Required General Studies Courses

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### Elective General Studies Courses

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<td>GSWS 1422</td>
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<tr>
<td>GSWS 1451</td>
<td>First Aid/CPR</td>
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### Total Credits: 2

### Total Diploma Credits: 64

## AAS Degree

### Required Courses

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<td>AVT 1112</td>
<td>Intro to Console Operations</td>
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<td>Introduction to Acoustics</td>
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<td>Intro to Sound Reinforcement</td>
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<td>AVT 1420</td>
<td>Audio Transducers</td>
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<td>AVT 1507</td>
<td>Introduction to System Installation</td>
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<td>AVT 1531</td>
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<td>Introduction to Audio</td>
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<td>ELEC 1815</td>
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### Total Credits: 47

### Elective Courses

Select 3 credits from the courses below:

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<td>AVT 1015</td>
<td>Digital Video Production</td>
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<tr>
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<td>AVT 2375</td>
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<tr>
<td>AVT 2950</td>
<td>Special Projects/Topics</td>
<td>1-6</td>
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</tbody>
</table>

### 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: 3

### Goal 4: Math/Logical Reasoning
Choose at least one course: 3

### Goal 6: Humanities & Fine Arts
Choose at least one course: 3

### 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 ten (10) goal areas.

### Total Credits: 6

### Total General Education Credits: 15

### Total AAS Credits: 65
# 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

<table>
<thead>
<tr>
<th>Required Courses</th>
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<tr>
<td>ABOD 1002 Automotive Trades Skills</td>
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<tr>
<td>ABOD 111 Minor Body Repair Technology</td>
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<tr>
<td>ABOD 112 Welding Processes and Corrosion Procedures</td>
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<tr>
<td>ABOD 113 Vehicle Preparation</td>
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<tr>
<td>ABOD 114 Body and Glass Service</td>
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<td>ABOD 115 Automotive Refinishing</td>
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<td>ABOD 116 Refinishing Lab</td>
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<tr>
<td>ABOD 2131 Color Matching &amp; Blending Concepts</td>
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<tr>
<td>ABOD 2132 Collision &amp; Refinishing Estimating</td>
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<td>ABOD 2133 Collision Damage Replacement</td>
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<td>ABOD 2135 Wheel Alignment and Mechanical Systems</td>
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<td>ABOD 2145 Major Collision Repair Lab</td>
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<td>ABOD 2146 Skillbuilding Lab</td>
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<tr>
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<tr>
<td>GSWS 1413 Small Business Operation</td>
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### Electives

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

**Total Diploma Credits:** 66

### AAS Degree

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

**Total Credits:** 57

### Technical Elective Course

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

### Goal Area 1: Communications

Choose one course.

**Total Credits:** 3

### General Education Elective Courses

General education courses must be selected from at least three of the ten goal areas of the Minnesota Transfer curriculum. Courses can be taken from any of the ten goal areas.

**Total Credits:** 12

**Total AAS Degree Credits:** 72

# AUTO BODY SPECIALTY TECHNICIAN

**Willmar Campus**

**Certificate — 30 Credits**

Ridgewater College also offers two-year Auto Body graduates and other qualifying individuals an opportunity to take their knowledge base and skills to the next level. To qualify for the advanced one-year program, students must be a graduate of a two-year Auto Body Technology program with a minimum 2.0 grade point average OR have four years of documented work experience. Auto Body Specialty Technician students have the opportunity to enhance/upgrade their technical skills in the following areas: specialty vehicle repair and refinishing, advanced estimating, advanced major collision, human resource management, welding, production painting and color matching, collision shop internship, and repair administration.

### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABOD 2901 Shop Operations I</td>
<td>3</td>
</tr>
<tr>
<td>ABOD 2902 Auto Body Specialty II</td>
<td>6</td>
</tr>
<tr>
<td>ABOD 2904 Auto Body Specialty II</td>
<td>6</td>
</tr>
<tr>
<td>ABOD 2906 Shop Operations II</td>
<td>3</td>
</tr>
<tr>
<td>ABOD 2907 Auto Body Specialty III</td>
<td>5</td>
</tr>
<tr>
<td>ABOD 2908 Auto Body Specialty IV</td>
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<tr>
<td>ABOD 2909 Auto Body Specialty Internship</td>
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</tbody>
</table>

**Total Program Credits:** 30
# AUTOMATION AND ROBOTICS SYSTEMS TECHNOLOGY

**Hutchinson Campus**

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

The Automation and Robotics 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.

## Diploma Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMSE 1514</td>
<td>Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMSE 1518</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>CMSE 1522</td>
<td>Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMSE 1526</td>
<td>Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CST 1025</td>
<td>Networking Basics</td>
<td>2</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>
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<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 1221</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 2105</td>
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<td>3</td>
</tr>
<tr>
<td>ENGT 2203</td>
<td>Control Systems II</td>
<td>3</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
<td>2</td>
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</table>

**Total Credits:** **64**

## Elective Courses (select 4 credits from the courses below)

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CST 1510</td>
<td>System Diagnostics</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 1502</td>
<td>CAD I</td>
<td>2</td>
</tr>
<tr>
<td>DRFT 2504</td>
<td>Electronic/Electrical Drawings</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 1816</td>
<td>Electronics 3</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1505</td>
<td>Predictive Maintenance</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 2900</td>
<td>Internship</td>
<td>1-5*</td>
</tr>
<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>
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**Total Credits:** **56**

## General Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>GSMS 1102</td>
<td>Applied Written Communications</td>
<td>2</td>
</tr>
<tr>
<td>GSMS 1222</td>
<td>Applied Elementary Algebra</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits:** **4**

**Total Diploma Credits:** **64**

---

## AAS Degree

### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMSE 1514</td>
<td>Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMSE 1518</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>CMSE 1522</td>
<td>Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMSE 1526</td>
<td>Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CST 1025</td>
<td>Networking Basics</td>
<td>2</td>
</tr>
<tr>
<td>CST 1794</td>
<td>Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>CST 1620</td>
<td>C# Programming</td>
<td>4</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 1221</td>
<td>Process Controls</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 2203</td>
<td>Control Systems II</td>
<td>3</td>
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</table>

**Total Credits:** **51**

### Elective Courses (select 1 credit from the courses below)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1510</td>
<td>System Diagnostics</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 1502</td>
<td>CAD I</td>
<td>2</td>
</tr>
<tr>
<td>DRFT 2504</td>
<td>Electronic/Electrical Drawings</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 1816</td>
<td>AC Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1505</td>
<td>Predictive Maintenance</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 2105</td>
<td>Motion Control</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 2900</td>
<td>Internship</td>
<td>1-3*</td>
</tr>
<tr>
<td>ENGT 2950</td>
<td>Special Projects/Topics</td>
<td>1-3*</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
<td>2</td>
</tr>
<tr>
<td>WELD 1190</td>
<td>Welding for Non-Welding Majors</td>
<td>2</td>
</tr>
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**Total Credits:** **1**

### General Education Required Courses

Choose one of the following options:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CMST 0121</td>
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</tr>
<tr>
<td>ENGL 0121</td>
<td>College Composition I</td>
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**Total Credits:** **3**

### General Education Elective Courses

Choose one of the following options:

<table>
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<tr>
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<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Math 0109</td>
<td>Elements of Algebra &amp; Trigonometry</td>
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<tr>
<td>Math 0112</td>
<td>College Algebra</td>
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</tbody>
</table>

**Total Credits:** **4**

### 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**

**Total AAS Degree Credits:** **67**

*Credits for this course are variable. See your advisor about this course.*
Process Controls Technician Diploma

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1001</td>
<td>Solving Computer Problems</td>
<td>2</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>
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<tr>
<td>ELEC 1816</td>
<td>Electronics 3</td>
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<td>ENGT 1103</td>
<td>Mechanical Systems</td>
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<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 1221</td>
<td>Process Controls</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 2203</td>
<td>Control Systems II</td>
<td>3</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
<td>2</td>
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</table>

Total Credits: 51

Elective Courses

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1801</td>
<td>Visual Basic I</td>
<td>4</td>
</tr>
<tr>
<td>DRFT 1502</td>
<td>CAD I</td>
<td>3</td>
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<tr>
<td>DRFT 2504</td>
<td>Electronic/Electrical Drawings</td>
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<td>Fluid Power</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 1505</td>
<td>Predictive Maintenance</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 2105</td>
<td>Motion Control</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 2900</td>
<td>Internship</td>
<td>1.5</td>
</tr>
<tr>
<td>ENGT 2950</td>
<td>Special Projects/Topics</td>
<td>1.5</td>
</tr>
<tr>
<td>GSWS 1451</td>
<td>First Aid/Safety</td>
<td>1</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1100</td>
<td>Manufacturing Processes</td>
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</tr>
<tr>
<td>WELD 1190</td>
<td>Weld for Non-Welders</td>
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Total Credits: 8

General Studies Applied Required Courses

<table>
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<td>GSCM 1102</td>
<td>Applied Written Communications</td>
<td>2</td>
</tr>
<tr>
<td>GSMS 1222</td>
<td>Applied Elementary Algebra</td>
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</tr>
<tr>
<td>GSWS 1401</td>
<td>Employment Preparation</td>
<td>1</td>
</tr>
<tr>
<td>GSWS 1451</td>
<td>First Aid/Safety</td>
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</table>

Total Credits: 6

Total Diploma Credits: 51

Process Controls Technician AAS Degree

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1794</td>
<td>Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>CST 1801</td>
<td>Visual Basic I</td>
<td>4</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 1816</td>
<td>Electronics 3</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2424</td>
<td>Troubleshooting Techniques</td>
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<td>ENGT 1103</td>
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<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 1221</td>
<td>Process Controls</td>
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<td>Control Systems II</td>
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Total Credits: 37

Elective Courses

<table>
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<tbody>
<tr>
<td>CST 1001</td>
<td>Solving Computer Problems</td>
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</tr>
<tr>
<td>DRFT 1001</td>
<td>Principles of Engineering/Engineering Tech</td>
<td>1</td>
</tr>
<tr>
<td>DRFT 1500</td>
<td>Drafting Basics</td>
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</tr>
<tr>
<td>DRFT 1502</td>
<td>CAD I</td>
<td>3*</td>
</tr>
<tr>
<td>DRFT 2504</td>
<td>Electronic and Electrical Drawings</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 1301</td>
<td>Fluid Power</td>
<td>2</td>
</tr>
<tr>
<td>ENGT 1505</td>
<td>Predictive Maintenance</td>
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</tr>
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<td>ENGT 2950</td>
<td>Special Projects/Topics</td>
<td>1.5*</td>
</tr>
<tr>
<td>GSWS 1451</td>
<td>First Aid/CPR</td>
<td>1</td>
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<tr>
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<td>Fundamentals of Precision Manufacturing</td>
<td>2</td>
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<tr>
<td>NDT 1100</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>WELD 1190</td>
<td>Welding for Non-Welding Majors</td>
<td>2</td>
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</tbody>
</table>

Total Credits: 60

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGT 1203</td>
<td>Control Systems I</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1205</td>
<td>Electro Mechanical Devices</td>
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</tr>
<tr>
<td>ENGT 1211</td>
<td>Industrial Electricity</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 1230</td>
<td>Fundamentals of Machine Vision</td>
<td>3</td>
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<td>ENGT 1240</td>
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<td>ENGT 2950</td>
<td>Special Projects/Topics</td>
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</table>

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

<table>
<thead>
<tr>
<th>Required Courses</th>
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<tbody>
<tr>
<td>AUTO 1102 Automotive Trades Skills</td>
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<tr>
<td>AUTO 1104 Vehicle Maintenance</td>
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</tr>
<tr>
<td>AUTO 1114 Engine Repair and Diagnosis</td>
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<tr>
<td>AUTO 1134 Drivetrain and Axles</td>
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<tr>
<td>AUTO 1142 Suspension 1</td>
<td>2</td>
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<tr>
<td>AUTO 1152 Brakes 1</td>
<td>2</td>
</tr>
<tr>
<td>AUTO 1162 Electrical Systems 1</td>
<td>2</td>
</tr>
<tr>
<td>AUTO 1182 Engine Performance 1</td>
<td>2</td>
</tr>
<tr>
<td>AUTO 1202 Safety and Service Information</td>
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<tr>
<td>AUTO 1234 Manual Transmission</td>
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<td>AUTO 1364 Electrical Systems 2</td>
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Total Diploma Credits: 65

AAS Degree

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<tr>
<td>AUTO 1364 Electrical Systems 2</td>
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<td>AUTO 2352 Brakes 2</td>
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Technical Electives

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<td>AUTO 2174</td>
<td>Heating and Air Conditioning</td>
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Required General Studies Courses

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<td>GSWS 1462</td>
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Total Diploma Credits: 65

Total Credits: 72
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

<table>
<thead>
<tr>
<th>Course</th>
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<td>BIOL 0201</td>
<td>General Biology II</td>
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<td>CHEM 0151</td>
<td>Principles of Chemistry I</td>
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<td>CHEM 0152</td>
<td>Principles of Chemistry II</td>
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<td>CHEM 0261</td>
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Total Credits: 30

Elective Courses

(select 15 credits from the courses below)

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<tr>
<td>BIOL 0141</td>
<td>Environmental Science</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 0151</td>
<td>People, Sustainability, and the Environment</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 0210</td>
<td>Human Anatomy</td>
<td>4</td>
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<tr>
<td>BIOL 0211</td>
<td>Human Physiology</td>
<td>4</td>
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<tr>
<td>BIOL 0215</td>
<td>Microbiology</td>
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<td>BIOL 0220</td>
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<td>PHYS 0102</td>
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Total Credits: 15

Total AS Degree Credits: 60

CALIBRATION ENGINEERING TECHNOLOGY

Hutchinson Campus

Diploma/AAS Degree/Certificate — 64/60/23 credits

The Calibration Engineering Technology program encompasses a spectrum of technologies dealing with calibration and metrology. The program has a core of 24 credits that gives a solid base for many careers in the manufacturing field. Classes include electronics, computer controls, fluid power, and calibration, just to name a few. This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DRFT 1503</td>
<td>Interpreting Engineering Drawings</td>
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</tr>
<tr>
<td>ELEC 2424</td>
<td>Troubleshooting Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 2005</td>
<td>Electro Mechanical Devices</td>
<td>3</td>
</tr>
<tr>
<td>MSET 1803</td>
<td>Metrology Overview</td>
<td>2</td>
</tr>
<tr>
<td>MSET 1804</td>
<td>Introduction to Physical Metrology</td>
<td>2</td>
</tr>
<tr>
<td>MSET 1805</td>
<td>Intro to Dimensional Metrology</td>
<td>2</td>
</tr>
<tr>
<td>MSET 1806</td>
<td>Basic Electrical Metrology</td>
<td>3</td>
</tr>
<tr>
<td>MSET 1814</td>
<td>Basic Electronics</td>
<td>2</td>
</tr>
<tr>
<td>MSET 1815</td>
<td>DC Circuits</td>
<td>3</td>
</tr>
<tr>
<td>MSET 1816</td>
<td>AC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>MSET 1817</td>
<td>Transistor Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>MSET 2717</td>
<td>Hardness Testing/Surface Finish</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2718</td>
<td>CMM/Optical Comparator</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2724</td>
<td>Flow/Viscosity</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2763</td>
<td>Micrometer/Gage Blocks</td>
<td>2</td>
</tr>
<tr>
<td>MSET 2781</td>
<td>Force/Pressure Systems</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2783</td>
<td>Temperature/Humidity/Gas Measurement</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2785</td>
<td>Torque/Rotation</td>
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</tr>
<tr>
<td>MSET 2845</td>
<td>Advanced Transducers</td>
<td>2</td>
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<tr>
<td>MSET 2868</td>
<td>Optical Flats/Laser Interferometer</td>
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<tr>
<td>NDT 1100</td>
<td>Manufacturing Processes</td>
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Total Credits: 43

Elective Courses

(select 15 credits from the courses below)

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<tr>
<td>ELEC 2211</td>
<td>Digital Logic I</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 2212</td>
<td>Digital Logic Lab</td>
<td>1</td>
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<tr>
<td>ELEC 2612</td>
<td>Digital Logic II</td>
<td>4</td>
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<tr>
<td>MSET 1819</td>
<td>Advanced Transistor Circuits</td>
<td>2</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
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<tr>
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<td>Amplifier Analysis</td>
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<td>MSET 1823</td>
<td>Advanced Filter/Transducer Circuit Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MSET 2811</td>
<td>Introduction to Quality Control</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2870</td>
<td>Metrology Technology Internship</td>
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<tr>
<td>MSET 2950</td>
<td>Special Projects/Topics</td>
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**Elective Courses**

(Select 6 credits from the courses below)

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<td>GSCM 1102</td>
<td>Applied Written Communications</td>
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<td>GSCM 1112</td>
<td>Applied Oral Communications</td>
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<td>GSCM 1122</td>
<td>Applied Oral &amp; Written Communications</td>
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<tr>
<td>GSCM 1132</td>
<td>Applied Technical Writing</td>
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<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
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<td>GSIS 1602</td>
<td>Personal Financial Management</td>
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<tr>
<td>GWS1410</td>
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**Total Diploma Credits: 64**

**AAS Degree**

**Required Courses**

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<td>MSET 1804</td>
<td>Introduction to Physical Metrology</td>
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<td>MSET 1805</td>
<td>Introduction to Dimensional Metrology</td>
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<td>MSET 1806</td>
<td>Basic Electrical Metrology</td>
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<td>MSET 1814</td>
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<td>MSET 1815</td>
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<td>Force/Pressure Systems</td>
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<td>MSET 2785</td>
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**Electives**

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<tr>
<td>ELEC 2212</td>
<td>Digital Logic I Lab</td>
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<td>Digital Logic II</td>
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</tr>
<tr>
<td>MSET 1817</td>
<td>Transistor Fundamentals</td>
<td>3</td>
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<tr>
<td>MSET 1819</td>
<td>Advanced Transistor Circuits</td>
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<td>MSET 1823</td>
<td>Advanced Filter/Transducer Circuit Analysis</td>
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<td>MSET 2811</td>
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<td>MSET 2870</td>
<td>Metrology Technology Internship</td>
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<tr>
<td>MSET 2950</td>
<td>Special Projects/Topics</td>
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**General Education Required Courses**

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**General Education Electives (choose one)**

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**General Education Electives (choose one)**

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**General Education Electives (any goal area) 3**

**Total AAS Degree Credits: 60**

**Calibration Engineering Technology Certificate**

**Required Courses**

<table>
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<tr>
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<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>MSET 1803</td>
<td>Metrology Overview</td>
<td>2</td>
</tr>
<tr>
<td>MSET 1804</td>
<td>Introduction to Physical Metrology</td>
<td>2</td>
</tr>
<tr>
<td>MSET 1805</td>
<td>Introduction to Dimensional Metrology</td>
<td>2</td>
</tr>
<tr>
<td>MSET 1806</td>
<td>Basic Electrical Metrology</td>
<td>3</td>
</tr>
<tr>
<td>MSET 1814</td>
<td>Basic Electricity</td>
<td>2</td>
</tr>
<tr>
<td>MSET 1815</td>
<td>D.C. Circuits Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>MSET 1816</td>
<td>A.C. Directs</td>
<td>4</td>
</tr>
<tr>
<td>MSET 1817</td>
<td>Transistor Fundamentals</td>
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<td>Total Credits:</td>
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**Technical Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tr>
<td>ELEC 1612</td>
<td>Digital Logic II</td>
<td>4</td>
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<tr>
<td>ELEC 1818</td>
<td>Advanced DC Circuits</td>
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</tr>
<tr>
<td>MSET 1819</td>
<td>Advanced Transistor Circuits</td>
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<tr>
<td>MSET 1820</td>
<td>Amplifier Analysis</td>
<td>1</td>
</tr>
<tr>
<td>MSET 1823</td>
<td>Advanced Filter/Transducer Circuit Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MSET 2717</td>
<td>Hardness Testing/Surface Finish</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2718</td>
<td>CMM/Optical Comparator</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2724</td>
<td>Flow/Viscosity</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2763</td>
<td>Micrometer/Gage Blocks</td>
<td>2</td>
</tr>
<tr>
<td>MSET 2781</td>
<td>Force/Pressure Systems</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2783</td>
<td>Temperature/Humidity/Gas Measurement</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2785</td>
<td>Torque/Rotation</td>
<td>1</td>
</tr>
<tr>
<td>MSET 2811</td>
<td>Introduction to Quality Control</td>
<td>1</td>
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<tr>
<td>MSET 2845</td>
<td>Advanced Transducers</td>
<td>2</td>
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<tr>
<td>MSET 2868</td>
<td>Optical Flats and Laser Interferometer</td>
<td>2</td>
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<tr>
<td>MSET 2950</td>
<td>Special Projects/Topics</td>
<td>1-6</td>
</tr>
<tr>
<td>NDT 1100</td>
<td>Manufacturing Processes</td>
<td>2</td>
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<tr>
<td>Total Electives: 2</td>
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</table>

**Total Certificate Credits 23**
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.

Carpentry Diploma
Required Courses .................................................. Credits
CF 1100 Tool and Construction Safety .......................... 2
CF 1103 Principles of Carpentry 1 ................................ 2
CF 1106 Construction Drawings .................................. 2
CF 1109 Foundations & Concrete Lab 1 .......................... 1
CF 1112 Construction Lab 1 ......................................... 2
CF 1115 Construction Lab 2 ......................................... 2
CF 1118 Exterior Finish Lab 1 ...................................... 3
CF 1121 Exterior Finish Lab 2 ...................................... 2
CF 1202 Applied Math for Carpentry Careers .................. 2
CF 1203 Principles of Carpentry 2 ................................. 2
CF 1217 Construction Lab 3 ......................................... 3
CF 1229 Remodeling/Renovation Lab 1 .......................... 3
CF 1232 Custom Cabinet Construction Lab ........................ 3
CF 1235 Interior/Exterior Finish Lab 1 ............................ 4
GSWS 1451 First Aid/Safety ........................................ 1
Total Credits: ................................................................ 34

Advanced Carpentry Diploma
Required Courses .................................................. Credits
CF 1100 Tool and Construction Safety .......................... 2
CF 1103 Principles of Carpentry 1 ................................ 2
CF 1106 Construction Drawings .................................. 2
CF 1109 Foundations & Concrete Lab 1 .......................... 1
CF 1112 Construction Lab 1 ......................................... 2
CF 1115 Construction Lab 2 ......................................... 2
CF 1118 Exterior Finish Lab 1 ...................................... 3
CF 1121 Exterior Finish Lab 2 ...................................... 2
CF 1202 Applied Math for Carpentry Careers .................. 2
CF 1203 Principles of Carpentry 2 ................................. 2
CF 1217 Construction Lab 3 ......................................... 3
CF 1229 Remodeling/Renovation Lab 1 .......................... 3
CF 1232 Custom Cabinet Construction Lab ........................ 3
CF 1235 Interior/Exterior Finish Lab 1 ............................ 4
CF 2302 Construction Planning & Management 1 ............... 2
CF 2306 Architectural CAD ........................................ 2
CF 2309 Foundations and Concrete Lab 2 ........................ 2
CF 2315 Construction Lab 4 ......................................... 2
CF 2321 Exterior Finish Lab 3 ...................................... 2
CF 2402 Construction Planning & Management 2 ............... 2
CF 2422 Building & Energy Codes ................................. 2
CF 2435 Interior/Exterior Lab 2 .................................... 3
GSWS 1451 First Aid/Safety ........................................ 1
Total Credits: ................................................................ 62

Advanced Carpentry AAS Degree
Required Technical Courses ........................................ Credits
CF 1100 Tool and Construction Safety .......................... 2
CF 1103 Principles of Carpentry 1 ................................ 2
CF 1106 Construction Drawings .................................. 2
CF 1109 Foundations & Concrete Lab 1 .......................... 1
CF 1112 Construction Lab 1 ......................................... 2
CF 1115 Construction Lab 2 ......................................... 2
CF 1118 Exterior Finish Lab 1 ...................................... 3
CF 1121 Exterior Finish Lab 2 ...................................... 2
CF 1202 Applied Math for Carpentry Careers .................. 2
CF 1203 Principles of Carpentry 2 ................................. 2
CF 1217 Construction Lab 3 ......................................... 3
CF 1229 Remodeling/Renovation Lab 1 .......................... 3
CF 1232 Custom Cabinet Construction Lab ........................ 3
CF 1235 Interior/Exterior Finish Lab 1 ............................ 4
CF 2302 Construction Planning & Management 1 ............... 2
CF 2306 Architectural CAD ........................................ 2
CF 2309 Foundations and Concrete Lab 2 ........................ 2
CF 2315 Construction Lab 4 ......................................... 2
CF 2321 Exterior Finish Lab 3 ...................................... 2
CF 2402 Construction Planning & Management 2 ............... 2
CF 2422 Building & Energy Codes ................................. 2
CF 2435 Interior/Exterior Lab 2 .................................... 3
GSWS 1451 First Aid/Safety ........................................ 1
Total Technical Courses ............................................... 51

Elective Courses (5 credits required)
CF 1223 Intro to Green Construction Methods .................. 1
CF 2417 Construction Lab 5 ......................................... 1
CF 2429 Remodeling/Renovation Lab 2 .......................... 1
CF 2900 Internship .................................................. 1
Total Credits: ................................................................ 5
Total Diploma Credits: ............................................... 62

Elective Courses (5 credits required)
CF 1223 Intro to Green Construction Methods .................. 1
CF 2417 Construction Lab 5 ......................................... 1
CF 2429 Remodeling/Renovation Lab 2 .......................... 1
CF 2900 Internship .................................................. 1
Total Credits: ................................................................ 5
Total Diploma Credits: ............................................... 62

Advanced Carpentry AAS Degree
Required Technical Courses ........................................ Credits
CF 1100 Tool and Construction Safety .......................... 2
CF 1103 Principles of Carpentry 1 ................................ 2
CF 1106 Construction Drawings .................................. 2
CF 1109 Foundations & Concrete Lab 1 .......................... 1
CF 1112 Construction Lab 1 ......................................... 2
CF 1115 Construction Lab 2 ......................................... 2
CF 1118 Exterior Finish Lab 1 ...................................... 3
CF 1121 Exterior Finish Lab 2 ...................................... 2
CF 1202 Applied Math for Carpentry Careers .................. 2
CF 1203 Principles of Carpentry 2 ................................. 2
CF 1217 Construction Lab 3 ......................................... 3
CF 1229 Remodeling/Renovation Lab 1 .......................... 3
CF 1232 Custom Cabinet Construction Lab ........................ 3
CF 1235 Interior/Exterior Finish Lab 1 ............................ 4
CF 2302 Construction Planning & Management 1 ............... 2
CF 2306 Architectural CAD ........................................ 2
CF 2309 Foundations and Concrete Lab 2 ........................ 2
CF 2315 Construction Lab 4 ......................................... 2
CF 2321 Exterior Finish Lab 3 ...................................... 2
CF 2402 Construction Planning & Management 2 ............... 2
CF 2422 Building & Energy Codes ................................. 2
CF 2435 Interior/Exterior Lab 2 .................................... 3
GSWS 1451 First Aid/Safety ........................................ 1
Total Technical Courses ............................................... 51

Elective Courses (5 credits required)
CF 1223 Intro to Green Construction Methods .................. 1
CF 2417 Construction Lab 5 ......................................... 1
CF 2429 Remodeling/Renovation Lab 2 .......................... 1
CF 2900 Internship .................................................. 1
Total Credits: ................................................................ 5
Total Diploma Credits: ............................................... 62

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 a 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
HSER 0101 Introduction to Chemical Dependency ........................................... 3
HSER 0200 Counseling Techniques ........................................... 3
HSER 0201 Introduction to Case Management ........................................... 3
HSER 0202 Group Process ........................................... 3
HSER 0231 Pharmacology ........................................... 3
HSER 0234 Assessment and Intervention ........................................... 3
HSER 0290 Internship I and II ........................................... 12
Total Credits ....................................................... 30

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

Associate in Arts Degree

Goal Area 1: Communications - 9 credits required ........................................... Credits
CMST 0211 Intro to Communication ........................................... 3
ENGL 0121 College Comp I ........................................... 3
ENGL 0122 College Comp II ........................................... 3
- or -
CMST 0211 Intro to Communication ........................................... 3
ENGL 0121 College Comp I ........................................... 3
ENGL 0123 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 9 credits/2 disciplines - one from Group A and one from Group B.

Goal Area 4: Mathematics/Logical Reasoning - Minimum 9 credits/2 disciplines required. 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.

Goal Area 5: History and the Social/Behavioral Sciences - Minimum 9 credits/2 disciplines required. 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.

Goal Area 6: The Humanities and Fine Arts - Minimum 9 credits/2 disciplines required. 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.

Goal Area 7: Human Diversity
One course (courses may be cross-listed with Goals 3-6) The following course is a suggested course: PSYC 0131

Goal Area 8: Global Perspective
One course (courses may be cross-listed with Goals 3-6) The following course is a suggested course: SOC 0242

Goal Area 9: Ethical and Civic Responsibility
One course (courses may be cross-listed with Goals 3-6) CMST 0220 Public Speaking ........................................... 3

Goal Area 10: People and the Environment
One course (courses may be cross-listed with Goals 3-6) PSYC 0275 Abnormal Psychology ........................................... 3

Health and Wellness: Select a minimum of 2 credits
PE Activity Courses (0102-0140) ........................................... 1
PE 0220 First Aid/CPR ........................................... 2
PubH 0105 Personal and Community Health ........................................... 2
PubH 0107 Nutrition ........................................... 3
PubH 0110 Drug Education in Contemporary Society ........................................... 2
Total Credits: ....................................................... 2

Elective Courses

The following courses are suggested electives:
HSER 0101 Intro to the Study of Chemical Dependency ........................................... 3
HSER 0200 Counseling Techniques ........................................... 3
HSER 0201 Introduction to Case Management ........................................... 2
HSER 0202 Group Process ........................................... 3
HSER 0231 Pharmacology and Chemical Dependency ........................................... 3
HSER 0234 Assessment and Interviewing ........................................... 3
HSER 0290 Cooperative Education ........................................... 12

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CHEM 201</td>
<td>Principles of Chemistry I</td>
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<tr>
<td>CHEM 202</td>
<td>Organic Chemistry I</td>
<td>5</td>
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<tr>
<td>CHEM 203</td>
<td>Organic Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>MATH 201</td>
<td>Calculus I: Calculus and Analytic Geometry</td>
<td>5</td>
</tr>
<tr>
<td>MATH 202</td>
<td>Calculus II: Calculus and Analytic Geometry</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 201</td>
<td>General Physics</td>
<td>5</td>
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<tr>
<td>PHYS 202</td>
<td>General Physics</td>
<td>5</td>
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**Total Credits: 40**

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

The following courses are suggested general education courses.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CMST 101</td>
<td>Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>College Composition I</td>
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<tr>
<td>ENGL 102</td>
<td>College Composition II</td>
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</table>

**Total Credits: 20**

**Total AS Degree Credits: 60**

* Check with your transfer institution for possible alternate courses for Math 202, PHYS 201 and PHYS 202.

### COMPUTER AIDED DRAFTING AND DESIGN

**Willmar and Hutchinson Campuses and 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.

#### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>DRFT 2001</td>
<td>Drafting Basics</td>
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</tr>
<tr>
<td>DRFT 2002</td>
<td>CAD I</td>
<td>3</td>
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<tr>
<td>DRFT 2003</td>
<td>Interpreting Engineering Drawings</td>
<td>2</td>
</tr>
<tr>
<td>DRFT 2004</td>
<td>Technical Sketching</td>
<td>2</td>
</tr>
<tr>
<td>DRFT 2005</td>
<td>Drafting Math I</td>
<td>2</td>
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<tr>
<td>DRFT 2006</td>
<td>CAD II</td>
<td>3</td>
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<tr>
<td>DRFT 2007</td>
<td>Intersections and Developments</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 2008</td>
<td>Dimensioning Principles</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 2009</td>
<td>Design Drafting</td>
<td>3</td>
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<tr>
<td>DRFT 2010</td>
<td>Geometric Dimensioning and Tolerancing</td>
<td>3</td>
</tr>
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<td>DRFT 2011</td>
<td>Fixture Design and Tooling</td>
<td>2</td>
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<tr>
<td>DRFT 2012</td>
<td>Parametric Design I</td>
<td>3</td>
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<td>DRFT 2013</td>
<td>Electronic and Electrical Drawings</td>
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<tr>
<td>DRFT 2014</td>
<td>Computer Aided Manufacturing</td>
<td>2</td>
</tr>
<tr>
<td>DRFT 2015</td>
<td>Sheet Metal Design</td>
<td>2</td>
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<tr>
<td>DRFT 2016</td>
<td>Drafting Math II</td>
<td>2</td>
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<td>DRFT 2017</td>
<td>Design Drafting II</td>
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<tr>
<td>DRFT 2018</td>
<td>Technical References</td>
<td>2</td>
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<tr>
<td>DRFT 2019</td>
<td>Parametric Design II</td>
<td>3</td>
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<tr>
<td>DRFT 2020</td>
<td>Parametric Design III</td>
<td>3</td>
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**Total Credits: 52**

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

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<thead>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DRFT 1000</td>
<td>Principles of Engineering/Engineering Tech.</td>
<td>1</td>
</tr>
<tr>
<td>DRFT 1001</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>DRFT 1002</td>
<td>Internship</td>
<td>1-6</td>
</tr>
<tr>
<td>DRFT 1003</td>
<td>Special Projects/Topics</td>
<td>1-6</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
<td>2</td>
</tr>
<tr>
<td>WELD 1100</td>
<td>Welding for Non-Welders</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits: 6**

#### General Studies Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GSCM 1122</td>
<td>Oral and Written Communications</td>
<td>2</td>
</tr>
<tr>
<td>GSMS 1251</td>
<td>Applied Physics</td>
<td>1</td>
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</tbody>
</table>

**Total Credits: 3**

#### General Studies Elective Courses (select 3 credits)

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GSCM 1202</td>
<td>Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>GSIS 1602</td>
<td>Personal Finance Management</td>
<td>2</td>
</tr>
<tr>
<td>GSWS 1401</td>
<td>Employment Prep</td>
<td>1</td>
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</table>

**Total Credits: 3**

**Total Diploma Credits: 64**
AAS Degree

Required Courses .............................................. Credits
DRFT 1500 Drafting Basics ........................................ 2
DRFT 1502 CAD I .................................................. 3
DRFT 1503 Interpreting Engineering Drawings ................. 2
DRFT 1504 Technical Sketching .................................. 2
DRFT 1510 CAD II .................................................. 3
DRFT 1511 Intersections and Developments ................. 2
DRFT 1512 Dimensioning Principles ............................ 3
DRFT 2500 Design Drafting I ..................................... 4
DRFT 2501 Geometric Dimensioning and Tolerancing ........ 3
DRFT 2502 Fixture Design and Tooling ........................ 2
DRFT 2503 Parametric Design I .................................. 3
DRFT 2504 Electronic and Electrical Drawings .............. 2
DRFT 2505 Computer Aided Manufacturing .................. 2
DRFT 2506 Sheet Metal Design .................................. 2
DRFT 2510 Design Drafting II ................................... 4
DRFT 2512 Technical References ................................ 2
DRFT 2513 Parametric Design II ................................ 3
DRFT 2515 Parametric Design III ................................ 3
Total Credits: .................................................... 48

Elective Courses (select 4 credits from the courses below)

DRFT 1001 Principles of Engineering/Engineering Tech ........ 1
DRFT 1506 Manufacturing Processes ............................ 2
DRFT 2500 Internship ............................................. 1-6
DRFT 2550 Special Projects/Topics ............................... 1-6
ENG 1103 Mechanical Systems ................................... 2
ENG 1301 Fluid Power ............................................. 2
GSWS 1451 First Aid/CPR ........................................ 1
MACK 1801 Fundamentals of Precision Manufacturing ....... 2
MACK 2811 CNC Programming and Set-up .................... 2
NDT 1100 Manufacturing Processes .............................. 2
WELD 1910 Welding for Non-Welding Majors ............... 2

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

Goal Area 1: Communications (choose one)
CMST 0121 Intro to Communication .............................. 3
ENGL 0121 College Composition ................................ 3

Goal Area 4: Mathematics/Logical Reasoning (choose one)
Math 0109 Elements of Algebra and Trigonometry ............ 4
Math 0112 College Algebra ........................................ 4

General Education Electives:
Select courses from at least 3 Goal Areas. See advisor.

ENGL 0121 Collect Composition I ................................. 3
CHEM 0101 Survey of Chemistry .................................. 4
CMST 0121 Intro to Communication .............................. 3
CMST 0225 Small Group Communication ....................... 3
ECON 0190 Personal Finance ...................................... 3
ECON 0195 Introduction to Economics ........................ 3
ENGL 0122 College Composition II .............................. 3
ENGL 0123 Technical & Scientific Communications ........ 3
MATH 0116 Trigonometry ......................................... 3
MATH 0201 Elementary Statistics ................................ 3
PHIL 0110 Logic and Critical Thinking ........................ 3
PSYC 0131 Introduction to Psychology ........................ 4
PHYS 0100 Concepts in Physics .................................. 4
PHYS 0101 College Physics ........................................ 4

Certificate Option: Computer Aided Technician

DRFT 1500 Drafting Basics ........................................ 2
DRFT 1502 CAD I .................................................. 3
DRFT 1503 Interpreting Engineering Drawings ................. 2
DRFT 1504 Technical Sketching .................................. 2
DRFT 1510 CAD II .................................................. 3
DRFT 1511 Intersections and Development ................. 2
DRFT 1512 Dimensioning Principles ............................ 3
DRFT 2501 Geometric Dimensioning and Tolerancing ........ 3
DRFT 2512 Technical References ................................ 2
DRFT 2513 Parametric Design II ................................ 3
DRFT 2515 Parametric Design III ................................ 3
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

Required Courses .................................................. Credits
CST 1021 HTML and the Web (or MMDT 1021) ................ 3
CST 1022 HTML II and Javascript (or MMDT 1022) ........ 3
CST 1025 Network Basics (or MMDT 1025) .................... 2
CST 1146 PHP Programming (or MMDT 1146) ................. 3
CST 1600 Relational Database Design .......................... 3
CST 1602 Advanced Databases .................................. 3
CST 1620 C# Programming ........................................ 4
CST 1640 Introduction to Java ..................................... 3
CST 1794 Introduction to Programming ......................... 3
CST 2146 Data Driven Web (or MMDT 2146) ................... 3
CST 2641 Introduction to Mobile Applications ................ 3
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
GSCM 1132 Applied Technical Writing ........................ 2
GSIS 1502 Human Relations ..................................... 2
GSWS 1401 Employment Preparation .......................... 1
Total Diploma Credits: .......................................... 50
AAS Degree

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1021</td>
<td>HTML and the Web (or MMDT 1021)</td>
</tr>
<tr>
<td>CST 1022</td>
<td>HTML II and Javascript (or MMDT 1022)</td>
</tr>
<tr>
<td>CST 1025</td>
<td>Network Basics (or MMDT 1025)</td>
</tr>
<tr>
<td>CST 1146</td>
<td>PHP Programming (or MMDT 1146)</td>
</tr>
<tr>
<td>CST 1600</td>
<td>Relational Database Design</td>
</tr>
<tr>
<td>CST 1602</td>
<td>Advanced Databases</td>
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<tr>
<td>CST 1620</td>
<td>C# Programming</td>
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<tr>
<td>CST 1640</td>
<td>Introduction to Java</td>
</tr>
<tr>
<td>CST 1794</td>
<td>Introduction to Programming</td>
</tr>
<tr>
<td>CST 2146</td>
<td>Data Driven Web (or MMDT 2146)</td>
</tr>
<tr>
<td>CST 2261</td>
<td>Advanced Java</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 6

Total Credits: 6

Elective Courses

(goal 5 credits from the courses below)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GSMS 1222</td>
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<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
</tr>
<tr>
<td>GSCM 1132</td>
<td>Applied Technical Writing</td>
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<tr>
<td>GSCM 1122</td>
<td>Oral and Written Communications</td>
</tr>
<tr>
<td>GSCM 1132</td>
<td>Applied Technical Writing</td>
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<td>GSCM 1122</td>
<td>Oral and Written Communications</td>
</tr>
<tr>
<td>GSCM 1112</td>
<td>Applied Oral Communications</td>
</tr>
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</table>

Total Credits: 38

Total Diploma Credits: 50

AAS Degree

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST 1025</td>
<td>Network Basics (or MMDT 1025)</td>
</tr>
<tr>
<td>CST 1026</td>
<td>TCP/IP Routing</td>
</tr>
<tr>
<td>CST 1072</td>
<td>Windows Workstation Support</td>
</tr>
<tr>
<td>CST 1261</td>
<td>Applications Support</td>
</tr>
<tr>
<td>CST 1510</td>
<td>System Diagnostics</td>
</tr>
<tr>
<td>CST 1511</td>
<td>Storage Media Diagnostics</td>
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<td>CST 1600</td>
<td>Relational Database Design</td>
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<tr>
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<td>Introduction to Programming</td>
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<td>Helpdesk Diagnostics (take twice)</td>
</tr>
<tr>
<td>CST 1861</td>
<td>Command Line and Registry</td>
</tr>
<tr>
<td>CST 2284</td>
<td>Network Security</td>
</tr>
<tr>
<td>CST 2504</td>
<td>A+ Certification Preparation</td>
</tr>
<tr>
<td>CST 2505</td>
<td>Introduction to Linux</td>
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<td>CST 2514</td>
<td>Printer Diagnostics</td>
</tr>
<tr>
<td>CST 2802</td>
<td>Helpdesk Management</td>
</tr>
<tr>
<td>CST 2802</td>
<td>Helpdesk Management (take twice)</td>
</tr>
<tr>
<td>CST 2895</td>
<td>Customer Service</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

Total Credits: 6

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.

Elective Courses

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

Total Credits: 11

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

Diploma

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CST 1025</td>
<td>Network Basics (or MMDT 1025)</td>
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<tr>
<td>CST 1026</td>
<td>TCP/IP Routing</td>
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<tr>
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<td>Windows Workstation Support</td>
</tr>
<tr>
<td>CST 1261</td>
<td>Applications Support</td>
</tr>
</tbody>
</table>
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.
ECON 0190  Personal Finance ................................................. 3
PHIL 0110  Logic & Critical Thinking ....................................... 3
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 Hours
COS 1403  Cosmetology Fundamentals .................................. 2 ... 64
COS 1405  Pre-Clinic Haircutting ........................................... 4 ... 0
COS 1407  Pre-Clinic Nail Care .................................................. 3 ... 80
COS 1409  Pre-Clinic Chemical Control ................................... 3 ... 80
COS 1411  Pre-Clinic Skin Care .................................................. 3 ... 80
COS 1413  Pre-Clinic Hair Color .................................................. 3 ... 80
COS 1415  Pre-Clinic Hair Design ............................................. 2 ... 64
COS 1417  Pre-Clinic Hair Care .................................................. 2 ... 48
COS 1418  Design Forum ......................................................... 2 ... 64
COS 1435  Minnesota Laws & Rules ......................................... 2 ... 64
COS 1500  Clinical .............................................................. 26 ... 736
COS 1519  Salon Success ........................................................ 1 ... 32

Electives: (choose one course)
COS 1461  Salon Fundamentals for Estheticians ........................................... 2 ... 64
COS 1500  Clinical .............................................................. 2 ... 64
Total Diploma Credits: ..................................................... 55 ... 1,552

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: Credits Hours
COS 1403  Cosmetology Fundamentals .................................. 2 ... 32
COS 1405  Pre-Clinic Haircutting ........................................... 4 ... 80
COS 1407  Pre-Clinic Nail Care .................................................. 3 ... 80
COS 1409  Pre-Clinic Chemical Control ................................... 3 ... 80
COS 1411  Pre-Clinic Skin Care .................................................. 3 ... 80
COS 1413  Pre-Clinic Hair Color .................................................. 3 ... 80
COS 1415  Pre-Clinic Hair Design ............................................. 2 ... 80
COS 1417  Pre-Clinic Hair Care .................................................. 2 ... 48
COS 1418  Design Forum ......................................................... 2 ... 64
COS 1435  Minnesota Laws & Rules ......................................... 2 ... 64
COS 1500  Clinical .............................................................. 23
COS 1519  Salon Success ........................................................ 1 ... 32

Electives: (choose one course)
COS 1461  Salon Fundamentals for Estheticians ........................................... 2 ... 64
COS 1500  Clinical .............................................................. 2 ... 64

General Education Electives
All students must complete a total of 15 credits taken from the following categories:
Goal Area 1: Communications ................................................. 3
Goal Area 4: Mathematics/Logical Reasoning ................................ 3-5
Goal Area 5: History & Social/Behavioral Sciences ...................... 3-4
Goal Area 6: The Humanities and Fine Arts ................................ 3-4
General Education Electives (see advisor) .................................. 0-3
Total Credits: ..................................................................... 15
Total AAS Degree Credits: .......................................................... 67

Certificate - Advanced Skin Care for Estheticians
Required Courses Credits
COS 2462  Advanced Esthetics I ................................................. 3
COS 2462  Advanced Esthetics II ................................................. 3
COS 2920  Advanced Esthetics Experiential Capstone .................. 3
Total Credits: ..................................................................... 9

Certificate - Estheology
Required Courses Credits
COS 1411  Pre-Clinic Skin Care ............................................. 3
COS 1501  Clinical .............................................................. 12
COS 1435  Minnesota Law and Rules ......................................... 2
COS 1461  Salon Fundamentals for Estheticians ........................................... 2
COS 1462  Salon Fundamentals for Estheticians ........................................... 2
COS 1519  Salon Success ....................................................... 1
Total Credits: ..................................................................... 22

Certificate - Advanced Esthetics
Required Courses Credits
COS 1411  Pre-Clinic Skin Care ............................................. 3
COS 1419  Salon Success I ..................................................... 1
COS 1501  Clinical .............................................................. 12
COS 1461  Salon Fundamentals for Estheticians ........................................... 2
COS 1519  Salon Success ....................................................... 1
COS 2462  Advanced Esthetics I ................................................. 3
COS 2462  Advanced Esthetics II ................................................. 3
COS 2920  Advanced Esthetics Experiential Capstone .................. 3
Total Credits: ..................................................................... 29

Certificate - Nail Care Technology
Required Courses Credits
COS 1407  Pre-Clinic Nail Care ................................................. 3
COS 1502  Clinical .............................................................. 6
COS 1435  Minnesota Laws and Rules ......................................... 2
COS 1519  Salon Success ....................................................... 1
COS 1460  Salon Fundamentals for Nail Technology ..................... 4
Total Credits: ..................................................................... 16

Programs of Study
**CYBER SECURITY SPECIALIST**

**Hutchinson and Willmar Campus**

**AAS Degree — 50/60 Credits**

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 ........................................... Credits**

| CST 1072 | Windows Workstation Support .................................................. 3 |
| CST 1611 | Web Server Administration ................................................... 3 |
| CST 1700 | CCNA R & S Introduction to Networks ........................................ 3 |
| CST 1701 | CCNA R & S Routing & Switching Essentials .................................. 3 |
| 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 2823 | Network Intrusion ................................................................. 3 |
| CST 2824 | Advanced Network Defense ....................................................... 3 |
| CST 2826 | Security Capstone ................................................................. 3 |
| CST 2840 | Wireless LAN Networking ......................................................... 2 |

**Total Elective Credits: 即将到来的 42**

**Elective Courses**

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

**Total Credits: 即将到来的 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 |
| ECON 190 | Personal Finance (Goal 9) ................................................. 3 |

**Total General Education Credits: 即将到来的 15**

**Total Program Credits: 即将到来的 60**

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**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**

| AGRI 1001 | Ag Orientation ................................................................. 2 |
| AGRI 1201 | Applied Mathematics in Ag Careers ........................................ 1 |
| or- |
| Math 0112 | College Algebra ................................................................. 4 |
| AGRI 1210 | Dairy Cattle Breeding and Reproduction .................................. 3 |
| AGRI 1211 | Artificial Insemination ....................................................... 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 1260 | Dairy Seminar I ................................................................. 1 |
| AGRI 1261 | Dairy Seminar II ................................................................. 1 |
| AGRI 1270 | Dairy Nutrition ................................................................. 3 |
| AGRI 1320 | Computers in Agriculture ..................................................... 3 |
| AGRI 1350 | Introduction to Ag Business .................................................. 2 |
| AGRI 1351 | Ag Business Procedures and Records .................................... 3 |
| AGRI 1352 | Ag Business Credit and Finance ............................................ 2 |
| AGRI 1353 | Ag Business Management and Marketing ................................ 3 |
| AGRI 1380 | Ag Sales and Service ........................................................... 3 |
| AGRI 1640 | Ag Commodity Marketing ....................................................... 3 |
| AGRI 1650 | Soils and Fertility Management .............................................. 3 |
| AGRI 1660 | Introduction to Agronomy ..................................................... 3 |
| AGRI 1820 | Animal Nutrition ................................................................. 3 |
| AGRI 2100 | Farm Shop Repair Skills ....................................................... 2 |
| AGRI 2800 | Internship (taken twice) ...................................................... 6 |

**Total Credits: 即将到来的 58**

**Technical Core Required for Farm Op Emphasis**

| AGRI 1201 | Applied Mathematics in Ag Careers ........................................ 1 |
| or- |
| Math 0112 | College Algebra ................................................................. 4 |
| AGRI 1210 | Dairy Cattle Breeding and Reproduction .................................. 3 |
| AGRI 1211 | Artificial Insemination ....................................................... 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 1260 | Dairy Seminar I ................................................................. 1 |
| AGRI 1261 | Dairy Seminar II ................................................................. 1 |
| AGRI 1270 | Dairy Nutrition ................................................................. 3 |
| AGRI 1320 | Computers in Agriculture ..................................................... 3 |
| AGRI 1350 | Introduction to Ag Business .................................................. 2 |
| AGRI 1351 | Ag Business Procedures and Records .................................... 3 |
| AGRI 1352 | Ag Business Credit and Finance ............................................ 2 |
| AGRI 1353 | Ag Business Management and Marketing ................................ 3 |
| AGRI 1380 | Ag Sales and Service ........................................................... 3 |
| AGRI 1640 | Ag Commodity Marketing ....................................................... 3 |
| AGRI 1650 | Soils and Fertility Management .............................................. 3 |
| AGRI 1660 | Introduction to Agronomy ..................................................... 3 |
| AGRI 1820 | Animal Nutrition ................................................................. 3 |
| AGRI 2100 | Farm Shop Repair Skills ....................................................... 2 |
| AGRI 2800 | Internship (taken twice) ...................................................... 6 |

**Total Credits: 即将到来的 58**

---

58
### Highly Suggested Elective Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 1242</td>
<td>Palpation &amp; Ultrasounding of Dairy Cattle</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1243</td>
<td>Embryo Transfer</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1244</td>
<td>Hoof Trimming</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1720</td>
<td>Corn and Soybean Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1730</td>
<td>Forage Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1761</td>
<td>Ag Water Management</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1771</td>
<td>Introduction to Precision Ag</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2151</td>
<td>Forage Harvesting and Fall Tillage</td>
<td>2</td>
</tr>
<tr>
<td>GSCL 1141</td>
<td>Spanish Conversation/Culture</td>
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### Other Elective Courses

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<tr>
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<th>Credits</th>
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<tr>
<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
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<tr>
<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</td>
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<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>WELD 1118</td>
<td>Agricultural Welding</td>
<td>2</td>
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**AGRI **** Choose any course with the AGRI prefix**

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

### General Studies Electives

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GSCM 1123</td>
<td>Applied Oral and Written Communications</td>
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</tr>
<tr>
<td>GSWS 1451</td>
<td>First Aid/Safety</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Credits: 4**

### Programs of Study

**Total Credits:** 68

**Farm Op Option - Required (58) + Electives (10)**

**Total Diploma Credits:** 72

### Dairy Management AAS Degree

**Technical Core Required for Ag Business Emphasis**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 1001</td>
<td>Ag Orientation</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 2011</td>
<td>Applied Mathematics in Ag Careers</td>
<td>1</td>
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</table>

-or-

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Math 0112</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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<td>Dairy Cattle Anatomy, Physiology &amp; Health</td>
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<tr>
<td>AGRI 1241</td>
<td>Cattle Health Lab</td>
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<tr>
<td>AGRI 1260</td>
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<td>AGRI 1262</td>
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<td>AGRI 1263</td>
<td>Computers in Agriculture</td>
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<td>Introduction to Ag Business</td>
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</tr>
<tr>
<td>AGRI 1551</td>
<td>Ag Business Procedures and Records</td>
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</tr>
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<td>Ag Business Credit and Finance</td>
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<td>AGRI 1580</td>
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<td>AGRI 1650</td>
<td>Soils and Fertility Management</td>
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<td>Introduction to Agronomy</td>
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<td>AGRI 1830</td>
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<td>Farm Shop Repair Skills</td>
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</tr>
<tr>
<td>AGRI 2800</td>
<td>Internship</td>
<td>3</td>
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</tbody>
</table>

**Total Credits:** 55

### Highly Suggested Elective Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRI 1242</td>
<td>Palpation &amp; Ultrasounding of Dairy Cattle</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1243</td>
<td>Embryo Transfer</td>
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<tr>
<td>AGRI 1244</td>
<td>Hoof Trimming</td>
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<tr>
<td>AGRI 1730</td>
<td>Forage Production</td>
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<tr>
<td>AGRI 1761</td>
<td>Ag Water Management</td>
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<tr>
<td>AGRI 1771</td>
<td>Introduction to Precision Ag</td>
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<td>AGRI 2151</td>
<td>Forage Harvesting and Fall Tillage</td>
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<tr>
<td>AGRI 2800</td>
<td>Internship</td>
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</table>

**Total Credits:** 55

### Other Elective Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
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<tr>
<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</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>WELD 1118</td>
<td>Agricultural Welding</td>
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</tr>
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</table>

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

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

### General Studies Electives

<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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</table>

**Total Credits:** 1

### General Education Required Courses

Choose one CMST and one ENGL course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CMST 0121</td>
<td>Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td>CMST 0220</td>
<td>Public Speaking</td>
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</tr>
<tr>
<td>CMST 0225</td>
<td>Small Group Communication</td>
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<tr>
<td>ENGL 0121</td>
<td>College Composition I</td>
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<tr>
<td>ENGL 0122</td>
<td>College Composition II</td>
<td>3</td>
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<tr>
<td>ENGL 0123</td>
<td>Scientific and Technical Writing</td>
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</tbody>
</table>

**Total Credits:** 6

### General Education Electives

General Education courses will be seetlce 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:** 9
DRAFTING AND DESIGN
See Computer Aided Drafting and Design on pages 54-55.

EARLY CHILDHOOD EDUCATION
Willmar and Hutchinson Campuses

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

Required Courses ............................................ Credits
ECED 1015 Activity Ideas .................................... 3
ECED 1110 Language Arts .................................... 3
ECED 1115 Special Education ................................ 3
ECED 1120 Child, Family and Community .............. 2
ECED 1125 Child Development .............................. 3
ECED 1610 Health in Early Childhood ..................... 3
ECED 1620 Foundations of Early Childhood .............. 3
ECED 1630 Practices/Assessments in Early Childhood .... 3
ECED 1631 Practices/Assessments in Early Childhood Lab 1
ECED 1640 Early Childhood Method and Curriculum Planning .... 3
ECED 1641 Early Childhood Methods and Curriculum Planning Lab 1
ECED 2900 Internship ...................................... 2
Total Credits: .................................................. 30

Goal Area 1: Communications
CMST 0121 Introduction to Communication ............... 3
ENGL 0121 College Composition ............................ 1
ENGL 0122 College Composition II .......................... 3
Total Credits .................................................. 9

Goal Area 3: Natural Sciences At least 1 lab science course
Total Credits: .................................................. 4

Goal Area 4: Mathematics/Logical Reasoning
Math 0112 College Algebra .................................. 4
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)
ART 0120 Art Structure ....................................... 3
ART 0226 Elementary Art Education ........................ 3
BIOL 0100 Introduction to Biology .......................... 4
ENVS 0141 Environmental Science .......................... 4
ESCI 0110 Physical Geology .................................. 4
ESCI 0112 Introduction to Meteorology ..................... 4
ESCI 0113 Introduction to Astronomy ........................ 4
ESCI 0114 Natural Disasters .................................. 4
GEOG 0140 Introduction to Geography ....................... 3
HIST 0111 United States History I ............................ 3
MATH 0210 Introduction to Modern Mathematics I ........ 3
MUSC 0123 Fundamentals of Music .......................... 3
PSYC 0131 Introduction to Psychology ....................... 4
PSYC 0263 Developmental Psychology ...................... 3
SOC 0107 Marriage and Family Living ....................... 3
SOC 0242 Racial and Cultural Minorities .................... 3
Total AS Degree Credits: ...................................... 60

Certificate - Early Childhood Education
ECED 1115 Special Education ................................ 3
ECED 1120 Child, Family, and Community ............... 2
ECED 1125 Child Development ................................ 3
ECED 1610 Health, Safety, and Nutrition in Early Childhood .... 3
ECED 1620 Foundations of Early Childhood ............... 3
ECED 2900 Internship ...................................... 2
Total AS Degree Credits: ...................................... 16

Certificate - Early Childhood Special Education
ECED 1105 Guiding Children’s Behavior ...................... 2
ECED 1115 Special Education ................................ 3
ECED 1410 Introduction to Autism Spectrum Disorder .... 2
ECED 1420 Bullying: An Educator’s Role .................... 1
ECED 1430 Assistive Technology in Early Childhood ........ 1
ECED 1440 Creating an Inclusive Early Childhood Environment .... 1
ECED 1510 Children’s Mental Health ........................ 2
ECED 1630 Practices and Assessments ....................... 3
ECED 2900 Internship ...................................... 2
GSWS 1451 First Aid/CPR .................................... 1
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

Required Courses .................................................. Credits
ECED 1410 Introduction to Autism ............................. 2
ECED 1420 Bullying and the Educator’s Role ................. 1
ECED 1430 Assistive Technology in Early Childhood ...... 1
EDA 1005 Occupational/Service Learning ................. 2
EDA 1010 Cultures in the Workplace ......................... 2
EDA 1015 Activity Ideas ........................................ 2
EDA 1065 Teaching Strategies ................................ 2
EDA 1075 Human Relations at Work ....................... 2
EDA 1105 Behavior Intervention .......................... 3
EDA 1110 Language Arts ...................................... 3
EDA 1115 Special Education .................................. 3
EDA 1125 Child Development I ............................ 3
EDA 1130 Child Development II .......................... 3
EDA 1150 Children’s Mental Health ...................... 2
EDA 1155 Crisis Intervention ................................. 1
EDA 1180 Employment Readiness ......................... 1
EDA 1185 Math Activities .................................... 3
EDA 2900 Internship I (variable 1-12 credits) ............ 4

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.
EDA 1020 Sign Language I .................................. 2
EDA 1025 Sign Language II ................................ 2
EDA 2950 Special Topics/Projects ......................... 1
UCA 1200 Basic Math Skills ................................ 1
UCA 1205 Basic Communication Skills .................. 1

General Studies Required Course

GSWS 1451 First Aid/Safety ................................ 1

Elective Courses (3 credits required)
GSCI 1302 Introduction to Computers .................... 2
GSCM 1102 Applied Written Communications .......... 2
GSCM 1122 Applied Oral Communications .............. 2
GSCM 1122 Applied Oral and Written Communications 2
GSIS 1602 Personal Financial Management 2 .......... 2
GSMS 1222 Applied Elementary Algebra ................ 2

Total General Studies Credits: ........................... 3

Total Diploma Credits: ........................................ 43

AAS Degree

Required Courses .................................................. Credits
ECED 1410 Introduction to Autism ............................. 2
ECED 1420 Bullying and the Educator’s Role ................. 1
ECED 1430 Assistive Technology in Early Childhood ...... 1
EDA 1005 Occupational/Service Learning ................. 2
EDA 1010 Cultures in the Workplace ......................... 2
EDA 1015 Activity Ideas ....................................... 2
EDA 1065 Teaching Strategies ................................ 2
EDA 1075 Human Relations at Work ....................... 2
EDA 1105 Behavior Intervention .......................... 3
EDA 1110 Language Arts ...................................... 3
EDA 1115 Special Education .................................. 3
EDA 1125 Child Development I ............................ 3
EDA 1130 Child Development II .......................... 3
EDA 1150 Children’s Mental Health ...................... 2
EDA 1155 Crisis Intervention ................................. 1
EDA 1180 Employment Readiness ......................... 1
EDA 1185 Math Activities .................................... 3
EDA 2900 Internship I ......................................... 4
EDA 2910 Internship II ........................................ 4
GSWS 1451 First Aid/Safety ................................ 1

Total Credits: .................................................. 45

Elective Courses

(These courses are not required but are recommended)
EDA 1020 Sign Language I .................................. 2
EDA 1025 Sign Language II ................................ 2
EDA 2800 Professional Development ..................... 1-5

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 .................................................. Credits
EDA 1110 Cultures in the Workplace ......................... 2
EDA 1015 Activity Ideas ....................................... 2
EDA 1065 Teaching Strategies ................................ 2
EDA 1075 Human Relations at Work ....................... 2
EDA 1105 Behavior Intervention .......................... 3
EDA 1110 Language Arts ...................................... 3
EDA 1115 Special Education .................................. 3
EDA 1125 Child Development I ............................ 3
EDA 1130 Child Development II .......................... 3
EDA 1150 Children’s Mental Health ...................... 2
EDA 1155 Crisis Intervention ................................. 1
EDA 1180 Employment Readiness ......................... 1
EDA 1185 Math Activities .................................... 3
EDA 2900 Internship I ......................................... 4
EDA 2910 Internship II ........................................ 4
GSWS 1451 First Aid/Safety ................................ 1

Enrollment in EDA 1110 and EDA 1185 is determined by placement tests.

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

Programs of Study

..............................................................

..............................................................
ELECTRICIAN
Willmar Campus
Diploma/AAS – 74/84 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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<th>Course</th>
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**AAS Degree**

**Required Courses**

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<td><strong>Total Credits:</strong></td>
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</table>

**Required General Studies**

Choose 6 credits from the following list:

- CMST 121 Introduction to Communications .................. 3
- GSCM 1122 Oral and Written Communications ............... 2
- GSIS 1502 Human Relations .................................. 2
- GSIS 1602 Personal Financial Management .................. 2
- GSWS 1401 Employment Preparation .......................... 1
- GSWS 1451 First Aid/OSHA 10 ................................ 1

**Total General Studies Credits** .................................. 6

**Total Diploma Credits**: ............................................ 74

**General Education Electives**

- Goal 1: Communications ........................................... 3
- Goal 4: Mathematical/Logical Reasoning ..................... 3
- Goal 5: History, Social and Behavioral Sciences .......... 3
- General Education Electives (any goal area) .............. 6

**Total General Education Electives** .................................. 15

**Total Program Credits**: ........................................... 84
# Programs of Study

## Electronics

**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 troubleshooting and analysis. Systems integration and networking are also studied. This multi-faceted approach to understanding the operation and troubleshooting of communication 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

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CST 1794  Introduction to Programming</td>
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</tr>
<tr>
<td>ELEC 1514  Semiconductors</td>
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<tr>
<td>ELEC 1602  Soldering and Cable Assembly</td>
<td>1</td>
</tr>
<tr>
<td>ELEC 1814  Electronics 1</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 1815  Electronics 2</td>
<td>3</td>
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<tr>
<td>ELEC 1816  Electronics 3</td>
<td>4</td>
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<tr>
<td>ELEC 1817  Transistor Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 1818  Advanced DC Circuits</td>
<td>1</td>
</tr>
<tr>
<td>ELEC 1819  Advanced Transistor Fundamentals</td>
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<tr>
<td>ELEC 2211  Digital Logic I</td>
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<td>ELEC 2212  Digital Logic Lab I</td>
<td>1</td>
</tr>
<tr>
<td>ELEC 2414  Solid State Application</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2424  Troubleshooting Techniques</td>
<td>3</td>
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<tr>
<td>ELEC 2524  Electronic Projects</td>
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<td>ELEC 2612  Digital Logic II</td>
<td>4</td>
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<tr>
<td>ENGT 2203  Control Systems I</td>
<td>3</td>
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<tr>
<td>ENGT 2211  Industrial Electricity</td>
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<td><strong>Total Credits</strong></td>
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### Elective Courses

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<tbody>
<tr>
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<td>CST 1700</td>
<td>CCNA R &amp; S Introduction to Networks</td>
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<td>ELEC 1204</td>
<td>Control System I Lab</td>
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<td>ELEC 2313</td>
<td>Introduction to RF Communications</td>
<td>2</td>
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<tr>
<td>ELEC 2614</td>
<td>Electronic Product Development/Marketing</td>
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<tr>
<td>ELEC 2624</td>
<td>Microcontrollers</td>
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<td>ELEC 2900</td>
<td>Internship</td>
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<td>ENGT 2203</td>
<td>Control Systems II</td>
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<td>ENGT 2950</td>
<td>Special Projects/Topics</td>
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### General Studies

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<tr>
<td>GSMS 1222</td>
<td>Applied Elementary Algebra</td>
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<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
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<td>CST 1794</td>
<td>Introduction to Programming</td>
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<td>ELEC 1602</td>
<td>Soldering and Cable Assembly</td>
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<td>Transistor Fundamentals</td>
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<td>ELEC 2414</td>
<td>Solid State Applications</td>
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<td>ELEC 2424</td>
<td>Troubleshooting Techniques</td>
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<td>ELEC 2524</td>
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<td>ELEC 2624</td>
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<td>ENGT 1211</td>
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### Electronics Technician — AAS Degree

#### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CST 1025</td>
<td>Networking Basics</td>
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<td>CST 1794</td>
<td>Introduction to Programming</td>
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</tr>
<tr>
<td>ELEC 1602</td>
<td>Soldering and Cable Assembly</td>
<td>1</td>
</tr>
<tr>
<td>ELEC 1814</td>
<td>Electronics 1</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 1815</td>
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<td>ELEC 1816</td>
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<tr>
<td>ELEC 1817</td>
<td>Transistor Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2414</td>
<td>Solid State Applications</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2424</td>
<td>Troubleshooting Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2524</td>
<td>Electronic Projects</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2624</td>
<td>Microcontrollers</td>
<td>2</td>
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<tr>
<td>ENGT 1203</td>
<td>Control Systems I</td>
<td>3</td>
</tr>
<tr>
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<td>Industrial Electricity</td>
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<td><strong>Total Credits</strong></td>
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### Elective Courses

<table>
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<th>Course Title</th>
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<tr>
<td>CST 1001</td>
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<tr>
<td>CST 1700</td>
<td>CCNA R &amp; S Introduction to Networks</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 1204</td>
<td>Control System I Lab</td>
<td>1</td>
</tr>
<tr>
<td>ELEC 2313</td>
<td>Introduction to RF Communications</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 2614</td>
<td>Electronic Product Development/Marketing</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 2624</td>
<td>Microcontrollers</td>
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<tr>
<td>ELEC 2900</td>
<td>Internship</td>
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<tr>
<td>ENGT 2203</td>
<td>Control Systems II</td>
<td>3</td>
</tr>
<tr>
<td>ENGT 2950</td>
<td>Special Projects/Topics</td>
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<tr>
<td>GWS 1451</td>
<td>First Aid/Safety</td>
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</table>
### Goal Area 1: Communications (choose 1)
- CMST 0121 Introduction to Communication .................................................. 3
- ENGL 0121 Critical Reading and Writing .................................................. 3

### Goal Area 3: Natural Sciences (choose 1)
- PHYS 0100 Concepts in Physics .................................................. 4
- PHYS 0101 College Physics .................................................. 4

### Goal Area 4: Mathematics/Logical Reasoning (choose 1)
- Math 0109 Elements of Algebra and Trigonometry .......................................... 4
- Math 0112 College Algebra .................................................. 4

### General Education Electives
See your advisor to select courses that fulfill this requirement.

- Total Credits: .................................................. 4
- Total AAS Degree Credits: .................................................. 60

### Wireless Communications Electronics — Diploma

<table>
<thead>
<tr>
<th>Course Code</th>
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<td>Semiconductors</td>
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<td>ELEC 1612</td>
<td>Digital Logic II</td>
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<tr>
<td>ELEC 1701</td>
<td>Beginning Router Configuration</td>
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<td>ELEC 1794</td>
<td>Introduction to Programming</td>
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<tr>
<td>ELEC 1815</td>
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<tr>
<td>ELEC 1817</td>
<td>Transistor Fundamentals</td>
<td>3</td>
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<tr>
<td>ELEC 1818</td>
<td>Advanced DC Circuits</td>
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<td>ELEC 2414</td>
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<tr>
<td>ELWC 2614</td>
<td>Electronic Product Development &amp; Mfg</td>
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<td>Wireless Communications Circuit Analysis</td>
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<td>ELWC 2634</td>
<td>Telecommunication Systems</td>
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<tr>
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<td>Radio Communication System Fundamentals</td>
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<td>ELWC 2844</td>
<td>Voice Over IP Fundamentals</td>
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<td>ELWC 2845</td>
<td>Radio and Voice over IP Network</td>
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<td>ELWC 2954</td>
<td>Wireless Technician Certification</td>
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<td>GSCM 1122</td>
<td>Applied Oral and Written Communications</td>
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<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
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<td>GSMS 1222</td>
<td>Applied Elementary Algebra</td>
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<tr>
<td>GSWS 1401</td>
<td>Employment Preparation</td>
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- Total Diploma Credits: .................................................. 70

### Wireless Communications Electronics — AAS Degree

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<td>ELEC 2414</td>
<td>Solid State Applications</td>
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<td>ELWC 2654</td>
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<td>ELWC 2733</td>
<td>Radio Communication Systems Fundamentals</td>
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<tr>
<td>ELWC 2734</td>
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- Total Credits: .................................................. 37

### Elective Courses

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<td>CST 1001</td>
<td>Solving Computer Problems</td>
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<td>CST 1025</td>
<td>Networking Basics</td>
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<td>CST 1701</td>
<td>Fundamentals of Networking</td>
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<td>CST 2840</td>
<td>Wireless LAN Networking</td>
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<td>CST 2845</td>
<td>VoIP Networking</td>
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<td>Semi-Conductors</td>
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<td>Introduction to RF Communications</td>
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<td>ELWC 2910</td>
<td>Wireless Internship</td>
<td>1-6</td>
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<td>GSWS 1451</td>
<td>First Aid/Safety</td>
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- Total Credits: .................................................. 8

### AAS — 60 Credits + 3 certificate options

### ESTHEOLOGY

Willmar Campus

<table>
<thead>
<tr>
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<tr>
<td>COS 1411</td>
<td>Pre-Clinic Skin Care</td>
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<tr>
<td>COS 1435</td>
<td>Minnesota Laws and Rules</td>
<td>2</td>
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<tr>
<td>COS 1461</td>
<td>Salon Fundamentals for Estheticians I</td>
<td>2</td>
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<td>COS 1462</td>
<td>Salon Fundamentals for Estheticians II</td>
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<tr>
<td>COS 1501</td>
<td>Clinical</td>
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<td>COS 1519</td>
<td>Salon Success</td>
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<tr>
<td>COS 2460</td>
<td>Advanced Esthetics I</td>
<td>3</td>
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<tr>
<td>COS 2462</td>
<td>Advanced Esthetics II</td>
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<tr>
<td>COS 2464</td>
<td>Spa and Alternative Therapies</td>
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<td>COS 2920</td>
<td>Adv. Esthetics Experiential Capstone</td>
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<tr>
<td>GSWS 1451</td>
<td>First Aid and CPR</td>
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- Total Credits: .................................................. 35
Elective Courses
ART 0104 Survey in Art ........................................... 3
ART 0120 Art Structure ........................................... 3
BIOL 0108 Human Biology ...................................... 4
BIOL 0210 Human Anatomy .................................... 4
BIOL 0211 Human Physiology ................................ 4
CHEM 0101 Survey of Chemistry .............................. 4
CMST 0121 Introduction to Communications ............. 3
CMST 0323 Listening .......................................... 3
CMST 0326 Interpersonal Communications ............... 3
ENGL 0121 College Composition I .......................... 3
GSIS 1502 Human Relations .................................. 2
MATH 0110 Contemporary Concepts in Math ............ 3
NURS 1617 Medical Terminology ................................ 1
PE 0122 Wellness and Fitness .................................. 3
PHIL 0110 Logic and Critical Thinking ........................ 3
PSYC 0131 Introduction to Psychology .................... 4
PSBH 0107 Nutrition ........................................... 3
SOC 0105 Introduction to Sociology .......................... 3
SOC 0106 General Social Problems .......................... 3
Total Credits ...................................................... 10

Required General Education
Choose at least one course from the following Goal Areas:
Goal 1: Communications
Goal 2: Mathematical/Logical Reasoning
Goal 3: History, Social & Behavioral Sciences
Goal 4: The Humanities and Fine Arts
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 12 credits of electives are selected from remaining general education courses or non-general education courses listed.
Total AAS Degree Credits .................................... 60

Certificate - Advanced Skin Care for Estheticians
Required Courses ........................................... Credits
COS 2460 Advanced Esthetics I ............................... 3
COS 2462 Advanced Esthetics II ............................... 3
COS 2920 Advanced Esthetics Experiential Capstone .... 3
Total Credits ...................................................... 9

Certificate - Estheology
Required Courses ........................................... Credits
COS 1411 Pre-Clinic Skin Care ................................ 3
COS 1510 Clinical .............................................. 12
COS 1435 Minnesota Law and Rules ........................ 2
COS 1461 Salon Fundamentals for Estheticians ........ 2
COS 1462 Salon Fundamentals for Estheticians ........ 2
COS 1519 Salon Success ....................................... 1
Total Credits ...................................................... 22

Certificate - Advanced Esthetics
Required Courses ........................................... Credits
COS 1411 Pre-Clinic Skin Care ................................ 3
COS 1419 Salon Success I ...................................... 1
COS 1501 Clinical .............................................. 12

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
Mike Mastey - Belgrade
Paul Filzen - Hutchinson
Kami Schoenfeld - Lac qui Parle/Chippewa County
Shawn Meyer - Litchfield
Robert Stommes - Melrose
Steve Zenk - 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>AGRI 1001</td>
<td>Ag Orientation</td>
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<tr>
<td>AGRI 1201</td>
<td>Applied Mathematics in Agricultural Careers</td>
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<tr>
<td>MATH 0112</td>
<td>College Algebra</td>
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<tr>
<td>AGRI 1520</td>
<td>Computers in Agriculture</td>
<td>3</td>
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<tr>
<td>AGRI 1540</td>
<td>Personnel Management for Ag Producers</td>
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<tr>
<td>AGRI 1621</td>
<td>Farm Management I</td>
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<tr>
<td>AGRI 1622</td>
<td>Farm Management II</td>
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<td>AGRI 1623</td>
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<td>AGRI 1624</td>
<td>Farm Management IV</td>
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<tr>
<td>AGRI 1640</td>
<td>Ag Commodity Marketing</td>
<td>3</td>
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<tr>
<td>AGRI 1650</td>
<td>Soils and Fertility Management</td>
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<tr>
<td>AGRI 1660</td>
<td>Introduction to Agronomy</td>
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<tr>
<td>AGRI 1771</td>
<td>Introduction to Precision Ag</td>
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<tr>
<td>AGRI 2100</td>
<td>Farm Shop Repair Skills</td>
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<td>AGRI 2800</td>
<td>Agriculture Internship (complete twice - 3 cr)</td>
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**Highly Suggested Electives for Crop Emphasis**

<table>
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<td>Integrated Pest Management</td>
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<tr>
<td>AGRI 1680</td>
<td>Crop Scouting Techniques</td>
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<td>AGRI 1681</td>
<td>Crop Scouting Techniques Lab</td>
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<td>AGRI 1700</td>
<td>Crop Protection Products</td>
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<tr>
<td>AGRI 1720</td>
<td>Corn &amp; Soybean Production</td>
<td>3</td>
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<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
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<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</td>
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<td>AGRI 1740</td>
<td>Specialty Crops</td>
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<td>AGRI 1716</td>
<td>Agricultural Water Management</td>
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<td>AGRI 1717</td>
<td>GIS for Agricultural Producers</td>
<td>2</td>
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<td>AGRI 1780</td>
<td>Grain Handling and Storage</td>
<td>2</td>
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<td>AGRI 2140</td>
<td>Ag Power Maintenance and Repair</td>
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<td>AGRI 2141</td>
<td>Ag Power Maintenance and Repair Lab</td>
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<td>AGRI 2150</td>
<td>Harvesting and Fall Tillage Equipment</td>
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<td>AGRI 2160</td>
<td>Planters and Spring Tillage</td>
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<td>Pesticide/Fertilizer Equipment</td>
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**Highly Suggested Electives for Livestock Emphasis**

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<td>Introductory Animal Science</td>
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<td>AGRI 1815</td>
<td>Meat Animal Reproduction</td>
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<tr>
<td>AGRI 1820</td>
<td>Animal Nutrition</td>
<td>3</td>
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<tr>
<td>AGRI 1830</td>
<td>Beef Cow Calf</td>
<td>2</td>
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<tr>
<td>AGRI 1840</td>
<td>Beef Feedlot</td>
<td>2</td>
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<tr>
<td>AGRI 1870</td>
<td>Swine Breeding and Farrowing</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1871</td>
<td>Swine Nursery and Finishing</td>
<td>3</td>
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<td>AGRI 1900</td>
<td>Sheep Management</td>
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**Highly Suggested Electives for Dairy Emphasis**

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<tr>
<td>AGRI 1210</td>
<td>Dairy Cattle Breeding &amp; Reproduction</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>
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<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>
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<tr>
<td>AGRI 1242</td>
<td>Palpation &amp; Ultrasounding of Dairy Cattle</td>
<td>1</td>
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<tr>
<td>AGRI 1244</td>
<td>Hoof Trimming</td>
<td>1</td>
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<tr>
<td>AGRI 1260</td>
<td>Dairy Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1261</td>
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<tr>
<td>AGRI 1270</td>
<td>Dairy Nutrition</td>
<td>3</td>
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<tr>
<td>AGRI 1730</td>
<td>Forage Production</td>
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**Other Technical Electives:**

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<td>AGRI 1721</td>
<td>Fall Agriculture Field Experience Lab</td>
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<td>AGRI 1722</td>
<td>Spring Agriculture Experience Lab</td>
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<tr>
<td>AGRI 2191</td>
<td>CDL - Preparation for Written Test</td>
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<td>AGRI 2192</td>
<td>CDL - Preparation for Road Test</td>
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<tr>
<td>WELD 118</td>
<td>Agricultural Welding</td>
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**General Studies: 4 credits required**

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<td>Spanish Conversation/Culture</td>
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<tr>
<td>GSWS 1451</td>
<td>First Aid/Safety</td>
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|             | **Total Credits**                                  | **72**  |

**AAS Degree**

**Technical Required Courses**

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<td>Ag Orientation</td>
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<td>AGRI 1201</td>
<td>Applied Mathematics in Agriculture Careers</td>
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<tr>
<td>MATH 0112</td>
<td>College Algebra</td>
<td>4</td>
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<td>AGRI 1520</td>
<td>Computers in Agriculture</td>
<td>3</td>
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<td>Personnel Management for Ag Producers</td>
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<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>
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<td>AGRI 1623</td>
<td>Farm Management III</td>
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<td>AGRI 1624</td>
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<td>AGRI 1650</td>
<td>Soils and Fertility Management</td>
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<td>AGRI 1660</td>
<td>Introduction to Agronomy</td>
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<tr>
<td>AGRI 1771</td>
<td>Introduction to Precision Ag</td>
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<tr>
<td>AGRI 2100</td>
<td>Farm Shop Repair Skills</td>
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<td>AGRI 2800</td>
<td>Agriculture Internship</td>
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<td>GSWS 1451</td>
<td>First Aid/Safety</td>
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**Highly Suggested Electives for Crop Emphasis**

<table>
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<td>AGRI 1670</td>
<td>Integrated Pest Management</td>
<td>3</td>
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<tr>
<td>AGRI 1680</td>
<td>Crop Scouting Techniques</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1700</td>
<td>Crop Protection Recommendations</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>
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<tr>
<td>AGRI 1761</td>
<td>Ag Water Management</td>
<td>2</td>
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<tr>
<td>AGRI 1780</td>
<td>Grain Handling and Storage</td>
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<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>2</td>
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<tr>
<td>AGRI 2240</td>
<td>Pesticide/Fertilizer Equipment</td>
<td>3</td>
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**Highly Suggested Electives for Livestock Emphasis**

<table>
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<tr>
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<th>Course Title</th>
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<tr>
<td>AGRI 1810</td>
<td>Introductory Animal Science</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1815</td>
<td>Meat Animal Reproduction</td>
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</tr>
<tr>
<td>AGRI 1820</td>
<td>Animal Nutrition</td>
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</tr>
<tr>
<td>AGRI 1830</td>
<td>Beef Cow Calf</td>
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<tr>
<td>AGRI 1840</td>
<td>Beef Feedlot</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1870</td>
<td>Swine Breeding and Farrowing</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1871</td>
<td>Swine Nursery and Finishing</td>
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**Highly Suggested Electives for Dairy Emphasis**

<table>
<thead>
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<td>Dairy Cattle Breeding &amp; Reproduction</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>
</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>
<tr>
<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>
</tr>
<tr>
<td>AGRI 1261</td>
<td>Dairy Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1270</td>
<td>Dairy Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1730</td>
<td>Forage Production</td>
<td>3</td>
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<tr>
<td>AGRI 1820</td>
<td>Animal Nutrition</td>
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</table>
### Highly Suggested Electives for Dairy Emphasis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>AGRI 1210</td>
<td>Dairy Cattle Breeding &amp; Reproduction</td>
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<td>AGRI 1220</td>
<td>Dairy Facilities and Equipment</td>
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<td>Raising Dairy Replacements</td>
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</tr>
<tr>
<td>AGRI 1240</td>
<td>Dairy Cattle Anatomy, Physiology &amp; Health</td>
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</tr>
<tr>
<td>AGRI 1241</td>
<td>Cattle Health Lab</td>
<td>2</td>
</tr>
<tr>
<td>AGRI 1260</td>
<td>Dairy Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1261</td>
<td>Dairy Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 1270</td>
<td>Dairy Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>AGRI 1730</td>
<td>Forage Production</td>
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<tr>
<td>AGRI 1820</td>
<td>Animal Nutrition</td>
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<tr>
<td>AGRI 2151</td>
<td>Forage Harvesting and Fall Tillage</td>
<td>2</td>
</tr>
<tr>
<td>GSCL 1141</td>
<td>Spanish Conversation/Culture</td>
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### 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 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 0121** Introduction to Communication ................................................. 3
- **CMST 0220** Public Speaking ................................................................. 3
- **CMST 0225** Small Group Communication ................................................... 3
- **ENGL 0121** College Composition I ......................................................... 3
- **ENGL 0122** College Composition II .......................................................... 3
- **ENGL 0123** Scientific and Technical Writing ............................................ 3

**Total Credits:** 6

### General Education Electives

Additional general education courses will be taken in the following areas of study: Communications, Humanities, Math/Natural Sciences and Social Studies to meet MN Transfer Curriculum requirements.

**Total Credits:** 9

**Total AAS Degree Credits:** 72

### GLOBAL STUDIES

**Hutchinson and Willmar Campuses**

**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 the world 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>GLST 0101</td>
<td>Introduction to Global Studies</td>
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<tr>
<td>GLST 0201</td>
<td>Global Studies Capstone</td>
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**Total Credits:** 4

**Language Electives (one course)**

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<td>CHIN 0101</td>
<td>Beginning Chinese I</td>
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<td>CHIN 102</td>
<td>Beginning Chinese II</td>
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<tr>
<td>CMST 0227</td>
<td>Intercultural Communications</td>
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### 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/sol 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>AGRI 1201</td>
<td>Applied Mathematics in Agricultural Careers</td>
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<td>MATH 0112</td>
<td>College Algebra</td>
<td>4</td>
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<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>
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<td>AGRI 1552</td>
<td>Agri-Business Credit and Finance</td>
<td>2</td>
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<td>AGRI 1553</td>
<td>Agri-Business Management &amp; Marketing</td>
<td>3</td>
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<td>AGRI 1580</td>
<td>Agricultural Sales and Service</td>
<td>3</td>
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<td>AGRI 1640</td>
<td>Ag Commodity Marketing</td>
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</tr>
<tr>
<td>AGRI 1650</td>
<td>Soils and Fertility Management</td>
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<td>AGRI 1660</td>
<td>Introduction to Agronomy</td>
<td>3</td>
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<td>AGRI 1720</td>
<td>Corn and Soybean Production</td>
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<td>AGRI 1770</td>
<td>GIS Applications</td>
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**Total Credits:** 3-5

**Goal 8: Global Perspective (2 courses)**

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<td>ANTH 0101</td>
<td>Introduction to Cultural Anthropology</td>
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<td>CHIN 1020</td>
<td>Chinese Culture</td>
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<td>CMST 0250</td>
<td>Computer-Mediated Communication</td>
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<td>ECON 0207</td>
<td>Principles of Macro-Economics</td>
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<td>ECON 0208</td>
<td>Intro to International Business/Economics</td>
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<td>ENGL 0170</td>
<td>Introduction to World Literature</td>
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<td>GEOG 0140</td>
<td>Introduction to Geography</td>
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<td>East Asian History</td>
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<td>HIST 0222</td>
<td>Western Civilization II</td>
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<td>MUSC 0121</td>
<td>From Bach to Broadway</td>
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<td>MUSC 0140</td>
<td>Music in World Cultures</td>
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<tr>
<td>POLS 0135</td>
<td>International Relations</td>
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<td>POLS 0295</td>
<td>Special Topics</td>
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**Total Credits:** 16

**Electives**

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<td>Environmental Science</td>
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<tr>
<td>BIOL/ENVS 0151</td>
<td>People, Sustainability &amp; the Environment</td>
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<tr>
<td>ESCI 0114</td>
<td>Natural Disasters</td>
<td>4</td>
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<tr>
<td>HIST 0295</td>
<td>Holocaust</td>
<td>2</td>
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<tr>
<td>HIST/BIOL/ENVS 0247</td>
<td>International Study</td>
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**Total Credits:** 13
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<td>Introduction to Precision Agriculture</td>
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<td>AGRI 1772</td>
<td>Remote Sensing/Image Analysis</td>
<td>2</td>
</tr>
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<td>AGRI 1773</td>
<td>GIS Problem Solving</td>
<td>3</td>
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<tr>
<td>AGRI 1774</td>
<td>Electronics Components/Troubleshooting</td>
<td>3</td>
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<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>
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</tr>
<tr>
<td>AGRI 2800</td>
<td>Internship (taken twice)</td>
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**Total Technical Core Credits**: 55

**Highly Suggested Electives**
- AGRI 1621 Farm Management I ........................................... 3
- AGRI 1670 Integrated Pest Management (IPM) .......................... 3
- AGRI 1680 Crop Scouting Techniques .................................... 2
- AGRI 1681 Crop Scouting Techniques Lab .................................. 1
- AGRI 1700 Crop Protection Recommendations ............................ 2
- AGRI 1761 Ag Water Management ........................................... 2
- AGRI 1780 Grain Handling and Storage .................................... 2
- AGRI 2161 Planter Meter Certification ................................... 1
- AGRI 2191 CDL - Preparation for Written Test ............................ 2
- AGRI 2192 CDL - Preparation for Road Test ............................... 1
- AGRI 2240 Pesticide/Fertilizer Equipment ................................ 3
- AGRI 2250 Basic Custom Application ..................................... 2

**Other Technical Electives**
- 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 2130 Small Engine Repair ............................................. 2
- AGRI 2135 Electricity ....................................................... 2
- AGRI 2260 Ag Energy/Alternative Fuels .................................. 3
- WELD 118 Agricultural Welding ............................................. 2

**Total Technical Elective Credits**: 11

**General Studies Electives**
- GSWS 1423 Applied Oral & Written Communications ....................... 3
- GSWS 1402 Employment Preparation .......................................... 2
- GSWS 1451 First Aid/Safety .................................................. 1

**Total General Studies Credits**: 6

**Total Diploma Credits**: 72

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**AAS Degree**

**Required Technical and General Studies Courses:**
- AGRI 1001 Ag Orientation ..................................................... 2
- AGRI 1520 Computers in Agriculture ........................................ 3
- AGRI 1530 Intro to Ag Business .............................................. 2
- AGRI 1531 Ag-Business Procedures and Records .......................... 3
- AGRI 1532 Ag-Business Credit and Finance ................................ 2
- AGRI 1533 Ag Sales and Service ............................................. 3
- AGRI 1535 Ag Sales & Service ................................................ 3
- AGRI 1640 Ag Commodity Marketing ......................................... 3
- AGRI 1650 Soils and Fertility Management ................................ 3
- AGRI 1660 Introduction to Agronomy ....................................... 3
- AGRI 1720 Corn & Soybean Production 3 .................................... 3
- AGRI 1720 GIS Applications .................................................. 3
- AGRI 1771 Introduction to Precision Agriculture ........................ 2
- AGRI 1772 Remote Sensing/Image Analysis ................................ 2
- AGRI 1773 GIS Problem Solving ............................................. 3
- AGRI 1774 Electronics Components/Troubleshooting .................... 3
- AGRI 2160 Planters and Spring Tillage .................................... 2
- AGRI 2210 Ag Industry Machinery Maintenance ........................... 3
- AGRI 2800 Internship ........................................................... 6

**Total Credits**: 57

**Highly Suggested Electives**
- 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 Scouting Recommendations ................................ 2
- AGRI 1761 Ag Water Management ............................................ 2
- AGRI 1780 Grain Handling and Storage .................................... 2
- AGRI 2161 Planter Meter Certification ................................... 1
- AGRI 2191 CDL - Prep for Written Test .................................... 2
- AGRI 2192 CDL - Prep for Road Test ........................................ 1
- AGRI 2240 Pesticide/Fertilizer Equipment ................................ 3
- AGRI 2250 Basic Custom Application ..................................... 2

**Other Technical Electives**
- AGRI 1622 Any course with the Agri prefix ............................... 3
- AGRI 1721 Fall Agriculture Field Experience Lab ....................... 1
- AGRI 1722 Spring Agriculture Experience Lab ............................ 1
- WELD 118 Agricultural Welding ............................................. 2

**Technical Electives**: 0

**General Education Elective Courses**
- Choose one CMST, one ENGL and one MATH course:
  - CMST 0220 Public Speaking .................................................. 3
  - CMST 0225 Small Group Communication .................................. 3
  - ENGL 0121 College Composition I ......................................... 3
  - ENGL 0122 College Composition II ...................................... 3
  - ENGL 0123 Scientific and Technical Writing ............................ 3
  - MATH 0201 Elementary Statistics ......................................... 3

**Total Credits**: 9

**Additional General Education Credits**: 6

**Total AAS Degree Credits**: 72

---

**Certificate - Precision Farming**

**Required Technical Courses**
- AGRI 1770 GIS Applications .................................................. 3
- AGRI 1771 Introduction to Precision Ag ..................................... 2
- AGRI 1772 Remote Sensing/Image Analysis ................................ 2
- AGRI 1773 GIS Problem Solving ............................................. 3
- AGRI 1774 Electronic Components and Troubleshooting ................ 3

**Suggested Electives**
- AGRI 1680 Crop Scouting Techniques ....................................... 2
- AGRI 1720 Corn and Soybean Production .................................. 3
- AGRI 1761 Ag Water Management ............................................ 2
- AGRI 1776 GIS for Agricultural Producers ................................ 3
- AGRI 2160 Planter and Spring Tillage ..................................... 2
- AGRI 2161 Planter Meter Certification ................................... 1
- GEOG 0140 Introduction to Geography .................................... 3
- MATH 0201 Elementary Statistics ......................................... 3

**Other Technical Electives**
- WELD 118 Agricultural Welding ............................................. 2
- Any other course with the AGRI prefix ..................................... 2

**Total Certificate Credits**: 19
**HEALTH INFORMATION TECHNICIAN**

**Willmar Campus**

**AAS 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 - anywhere 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 Minnesota Office of Higher Education. Graduates of this program are eligible to take a national registration exam allowing them to become a Registered Health Information Technician (RHIT).

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIMC 1100 Fundamentals of Health Information</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1110 Anatomy &amp; Physiology for HIT</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1115 Anatomy &amp; Physiology Applications for HIT</td>
<td>1</td>
</tr>
<tr>
<td>HIMC 1120 Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1140 Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1150 Legal Aspects of Health Information</td>
<td>2</td>
</tr>
<tr>
<td>HIMC 1250 Health Info. Tech Experiential Foundations</td>
<td>2</td>
</tr>
<tr>
<td>HIMC 1320 Reimbursement Methodologies</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1330 Electronic Health Records</td>
<td>2</td>
</tr>
<tr>
<td>HIMC 1340 Health Records Documentation</td>
<td>1</td>
</tr>
<tr>
<td>HIMC 1350 Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2001 CPT Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2003 ICD-09-CM Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2004 Advanced Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2006 ICD-10-PCS Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2020 HIT Review</td>
<td>1</td>
</tr>
<tr>
<td>HIMC 2040 Quality Management and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2240 Supervision of Health Information</td>
<td>2</td>
</tr>
<tr>
<td>HIMC 2250 Health Info. Tech Experiential Capstone</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2270 Computerized Health Information</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits:** 49

**Elective Course:**

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

**Required General Education Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMST 021 Introduction to Communications</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 021 College Composition I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 6

**General Education Electives**

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

**Total AAS Degree Credits:** 64

**HEALTH SCIENCE BROAD FIELD**

**Willmar Campus**

**AS Degree — 60 Credits**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0100 Introduction to Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 0210 Human Anatomy I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 0211 Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 0215 Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 0101 Survey of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CMST 0211 Introduction to Communications</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 0211 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>Math 0212 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Math 0201 Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 0102 Introduction to Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 0231 Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 0263 Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 0207 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>SOC 0105 Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

Based on intended major 11

**Total AS Electives:** 60

**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 option: Medical Transcriptionist (see page 81)

**Diploma**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>*ADS 1027 Keyboarding I</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1012 Business Presentations</td>
<td>2</td>
</tr>
<tr>
<td>*ADS 1041 Written Business Communications</td>
<td>4</td>
</tr>
<tr>
<td>ADS 1042 PowerPoint</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1110 Anatomy &amp; Physiology</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1120 Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1140 Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1310 Med. Transcription/Quality/Production Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1320 Medical Office Management</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1323 Electronic Health Records Technology</td>
<td>4</td>
</tr>
<tr>
<td>ADS 2030 Word</td>
<td>3</td>
</tr>
<tr>
<td>ADS 2320 Medical Insurance and Reimbursement</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1350 Pathophysiology</td>
<td>3</td>
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</table>

**Total Credits:** 39

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACCC 1800 Business Law</td>
<td>2</td>
</tr>
<tr>
<td>ACCC 1812 Payroll Preparation</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1004 Statistical Typing</td>
<td>1</td>
</tr>
<tr>
<td>ADS 1005 Skillbuilding</td>
<td>1</td>
</tr>
<tr>
<td>ADS 1027 Business Environment</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1035 Web Page Design</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1039 Introduction to the Internet</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1040 Office Accounting Concepts</td>
<td>2</td>
</tr>
</tbody>
</table>

* Enrollment determined by placement test.
### ADS 1045 Computerized Accounting Basics ........................................ 1
### ADS 1053 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 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

### General Studies
- **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

### AAS Degree

#### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td><em>ADS 1007</em></td>
<td>Keyboarding</td>
<td>2</td>
</tr>
<tr>
<td><em>ADS 1014</em></td>
<td>Written Business Communications</td>
<td>4</td>
</tr>
<tr>
<td>ADS 1042</td>
<td>PowerPoint</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1053</td>
<td>Excel</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1110</td>
<td>Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1120</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1140</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 Record Technology</td>
<td>4</td>
</tr>
<tr>
<td>ADS 2050</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>
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**Total Credits:** .................................................................................. 40

**Elective Courses**

<table>
<thead>
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<th>Course Code</th>
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<tbody>
<tr>
<td>ACCT 1800</td>
<td>Business Law</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1004</td>
<td>Statistical Typing</td>
<td>1</td>
</tr>
<tr>
<td>ADS 1005</td>
<td>Skillbuilding</td>
<td>1</td>
</tr>
<tr>
<td>ADS 1012</td>
<td>Business Presentations</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1026</td>
<td>Access</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1027</td>
<td>Business Environment</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1035</td>
<td>Web Page Design</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1039</td>
<td>Introduction to the Internet</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1040</td>
<td>Office Accounting Concepts</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1045</td>
<td>Computerized Accounting Basics</td>
<td>1</td>
</tr>
<tr>
<td>ADS 1312</td>
<td>Medical Transcription II</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1812</td>
<td>Payroll Preparation</td>
<td>2</td>
</tr>
<tr>
<td>ADS 2010</td>
<td>Desktop Publishing</td>
<td>2</td>
</tr>
<tr>
<td>ADS 2015</td>
<td>Introduction to Project Management</td>
<td>2</td>
</tr>
<tr>
<td>ADS 2045</td>
<td>Advanced Word Processing</td>
<td>3</td>
</tr>
<tr>
<td>ADS 2090</td>
<td>Administrative Support Internship</td>
<td>2-6</td>
</tr>
<tr>
<td>ADS 2312</td>
<td>Medical Transcription II</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1100</td>
<td>Fundamentals of Health Information</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 1150</td>
<td>Legal Aspects of Health Information</td>
<td>2</td>
</tr>
<tr>
<td>HIMC 2001</td>
<td>CPT Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2003</td>
<td>ICD-10-CM Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIMC 2006</td>
<td>ICD-10-PCS Coding</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2110</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
</tbody>
</table>

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

**General Studies Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSCI 1401</td>
<td>Computer Technology</td>
<td>1</td>
</tr>
<tr>
<td>GSIS 1403</td>
<td>Professional Development Skills</td>
<td>3</td>
</tr>
<tr>
<td>GSWS 1401</td>
<td>Employment Preparation</td>
<td>1</td>
</tr>
</tbody>
</table>

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

**General Education Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 0121</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 0131</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CMST 0121</td>
<td>Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td>CMST 0225</td>
<td>Small Group Communication</td>
<td>3</td>
</tr>
<tr>
<td>CMST 0226</td>
<td>Interpersonal Communication</td>
<td>3</td>
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**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

### HELPDESK CERTIFICATE

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course 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 1072</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 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>
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<tr>
<td>CST 2802</td>
<td>Helpdesk Management</td>
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<tr>
<td>CST 2895</td>
<td>Customer Service</td>
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**Total Credits:** .................................................................................. 30

### JAVA CERTIFICATE

<table>
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<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CST 1021</td>
<td>HTML and the Web (or MMDT 1021)</td>
<td>3</td>
</tr>
<tr>
<td>CST 1600</td>
<td>Relational Database Design</td>
<td>3</td>
</tr>
<tr>
<td>CST 1602</td>
<td>Advanced Databases</td>
<td>3</td>
</tr>
<tr>
<td>CST 1640</td>
<td>Introduction to Java</td>
<td>3</td>
</tr>
<tr>
<td>CST 2641</td>
<td>Introduction to Mobile Applications</td>
<td>3</td>
</tr>
<tr>
<td>CST 2642</td>
<td>Java Servlets</td>
<td>3</td>
</tr>
<tr>
<td>CST 2950</td>
<td>Special Topics</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits:** .................................................................................. 20
**LAW ENFORCEMENT PROGRAMS**

**Willmar Campus**

The law enforcement program provides three degree opportunities:
- Law Enforcement AAS or AA, and AA Corrections. These options meet the educational and career preparation needs of students, employers, and the community. The AAS and the AA Law Enforcement degrees are approved by the Minnesota Peace Officer Standard and Training Board (MN POST Board) to prepare students for eligibility to become licensed peace officers in the State of Minnesota. The AA corrections degree is designed to prepare students to enter into areas in the criminal justice career field other than a licensed police officer and/or develop the academic foundation to pursue further educational opportunities.

**CORRECTIONS EMPHASIS**

**Willmar Campus**

**AA Liberal Arts – 60 Credits**

This associate in arts degree program is designed for the individual who wants to work in the criminal justice system in some capacity other than as a licensed peace officer. This may include the areas of probation, parole, community corrections, corrections counseling, etc. Students will want to transfer their credits to pursue a four-year degree.

The following curriculum meets the requirements of the Minnesota Transfer Curriculum. Work with your academic advisor to select courses that will best suit your educational goals.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAWE 0105</td>
<td>Introduction to Corrections</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 0251</td>
<td>Psychology of Law Enforcement</td>
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<td><strong>Total Credits:</strong></td>
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**Elective Courses** (select 13 credits from the courses below)

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
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<td>LAWE 0103</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 0113</td>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 0151</td>
<td>Self-Defense: The PR-24</td>
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<tr>
<td>LAWE 0152</td>
<td>Self-Defense for the Peace Officer</td>
<td>1</td>
</tr>
<tr>
<td>LAWE 0223</td>
<td>Applied Writing: Law Enforcement</td>
<td>2</td>
</tr>
<tr>
<td>LAWE 0231</td>
<td>Law Enforcement Operations &amp; Procedure</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 0241</td>
<td>Criminal Investigations</td>
<td>2</td>
</tr>
<tr>
<td>LAWE 0242</td>
<td>Terrorism &amp; Homeland Defense</td>
<td>2</td>
</tr>
<tr>
<td>LAWE 0290</td>
<td>Cooperative Education</td>
<td>4-12</td>
</tr>
<tr>
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**General Education Required Courses**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CMST 0121</td>
<td>Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 0121</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 0122</td>
<td>College Composition II</td>
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</tr>
<tr>
<td>PSYC 0131</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>SOC 0240</td>
<td>Juvenile Delinquency</td>
<td>3</td>
</tr>
<tr>
<td>SOC 0242</td>
<td>Racial and Cultural Minorities</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits:</strong></td>
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<td><strong>19</strong></td>
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</table>

**Elective Courses** (Public Health/PE suggested courses)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>LAWE 0151</td>
<td>Self-Defense: The PR-24</td>
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</tr>
<tr>
<td>LAWE 0152</td>
<td>Self-Defense for the Peace Officer</td>
<td>1</td>
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<tr>
<td>PE 0114</td>
<td>Physical Agility</td>
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<tr>
<td><strong>Total Credits:</strong></td>
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<td><strong>2</strong></td>
</tr>
</tbody>
</table>

**Goal Area 3: Natural Sciences**

Choose one course from Group A and one from Group B

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

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

Choose any MnTC approval Goal 4 course (level 100 or more)

**Total Credits** ................................. 3

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

Choose three 3-credit Goal 6 approved courses

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

**General Education Elective**

Any MnTC approved course

**Total Credits:** ................................. 1

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

**PROFESSIONAL PEACE OFFICER**

**Willmar Campus (Available Online)**

**AAS - 67 Credits / AA Liberal Arts – 60 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 exam丘 andations, follows the objectives established by the POST board and has been certified by it. The program contains two tracks. The associate in applied science degree track is designed primarily for those who intend to seek employment after the completion of the two-year program. The associate in arts degree track is designed for students who intend to transfer to a four-year program, but also allows for immediate employment.

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

**Associate in Applied Science Degree**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>LAWE 0103</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 0113</td>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 0123</td>
<td>Traffic Law and Traffic Procedures</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 0201</td>
<td>Criminal Evidence and Procedure</td>
<td>2</td>
</tr>
<tr>
<td>LAWE 0223</td>
<td>Law Enforcement Communications</td>
<td>2</td>
</tr>
<tr>
<td>LAWE 0231</td>
<td>Law Enforcement Operations &amp; Procedures</td>
<td>3</td>
</tr>
<tr>
<td>LAWE 0241</td>
<td>Criminal Investigations</td>
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<td>LAWE 0243</td>
<td>Homeland Security</td>
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<td>LAWE 0245</td>
<td>Police Ethics and Leadership</td>
<td>3</td>
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<tr>
<td>LAWE 0251</td>
<td>Psychology of Law Enforcement</td>
<td>2</td>
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<tr>
<td>LAWE 0295</td>
<td>POST Seminar</td>
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<td>LAWE 1010</td>
<td>Law Enforcement Practicum</td>
<td>15</td>
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<tr>
<td>SOC 0240</td>
<td>Juvenile Delinquency</td>
<td>3</td>
</tr>
<tr>
<td>SOC 0241</td>
<td>Criminology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 0242</td>
<td>Racial and Cultural Minorities</td>
<td>3</td>
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<td><strong>Total Credits:</strong></td>
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**Elective Courses** (select 2 credits from the courses below)

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<tr>
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<th>Course Title</th>
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<tr>
<td>EMS 1016</td>
<td>Emergency Medical Technician - Basic</td>
<td>6</td>
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<tr>
<td>EMS 1033</td>
<td>First Responder</td>
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</tr>
<tr>
<td>EMS 2008</td>
<td>EMT Blended Learning</td>
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</table>

**Total Credits:** .................................
GENERAL EDUCATION REQUIRED COURSES
CMST 0121 Introduction to Communication .......................... 3
ENGL 0121 College Composition I .................................. 3
PSYC 0131 Introduction to Psychology .............................. 4
SOC 0105 Intro to Sociology ........................................... 3
SOC 107 Marriage and Family Living ................................ 3
Total Credits: .................................................................. 13

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

LEGAL ASSISTANT

Willmar and Hutchinson Campuses
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 .................................................. Credits
ACCT 1800 Business Law ........................................... 2
ADS 1012 Business Presentations ................................ 2
ADS 1014 Written Business Communications .............. 4
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 .............................................. 2
ADS 1026 Database Access .......................................... 3
ADS 1027 Business Environment ................................... 2
ADS 1032 Presentations: Microsoft PowerPoint ............... 1
ADS 1034 PowerPoint II ............................................. 1
ADS 1035 Web Page Design ......................................... 3
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 1061 Access I ..................................................... 1
ADS 1071 Access II .................................................... 1
ADS 1081 Access III ................................................... 1
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 Admin. Assistant Program Internship ........ 2
Total Credits: .................................................................. 6

Total Diploma Credits: .................................................. 48
AAS Degree

Required Courses ........................................... Credits
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: ................................................ 60

Elective Courses (select 5 credits from the courses below)
ACCT 1812  Payroll Preparation ............................ 2
ADS 1005  Skillbuilding ....................................... 1
ADS 1012  Business Presentations .......................... 2
ADS 1026  Database Microsoft Access ..................... 3
ADS 1027  Business Environment ............................ 2
ADS 1032  Presentations: Microsoft PowerPoint ........... 1-2
ADS 1034  PowerPoint II ....................................... 1
ADS 1035  Web Page Design ................................... 3
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 1061  Access I .............................................. 1
ADS 1071  Access II ............................................. 1
ADS 1081  Access III ........................................... 1
ADS 1500  Medical Terminology .............................. 2-3
ADS 2010  Desktop Publishing ................................ 2
ADS 2015  Introduction to Project Management ............ 2
ADS 2045  Advanced Word Processing ..................... 3
ADS 2200  Legal Admin. Assistant Program Internship ... 2-6
Total Credits: ................................................ 73

Goal Area 1: Communications
ENGL 0121  College Composition I .......................... 3

Goal Area 1: Communications
Choose one course from the following three options:
CMST 0121  Introduction to Communication ................ 3
CMST 0225  Small Group Communication .................... 3
CMST 0226  Interpersonal Communications ................. 3
Total Credits: ................................................ 9

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. Elective courses may be taken from any of the ten (10) goal areas.

Total Credits: ................................................. 9
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 wishes 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 ........................................... Credits
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 Transcription ................................ 3
Total Certificate Credits: .................................... 14

LIBERAL ARTS

Willmar and Hutchinson Campuses
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 can be used to complete the lower division requirements for the following popular areas of study:

Accounting  English  Nursing
Anthropology  History  Philosophy
Art  Human Services  Political Science
Biological Sciences  Journalism  Pre-Law
Business  Law Enforcement  Psychology
Communications  Library Science  Sociology
Computer Sciences  Mass Science  Speech
Economics  Mathematics  Theology
Education  Music  Theater Arts
Elementary Education

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 ........................ Credits
CMST 0121 Introduction to Communication ................................. 3
ENGL 0121 College Comp I .................................................... 3
ENGL 0122 College Comp II ................................................... 3

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 (022-040) .................................................... 1
PE 0220 First Aid/CPR ......................................................... 2
PUBH 0105 Personal and Community Health ............................. 2
PUBH 0107 Nutrition ............................................................. 3
PUBH 0109 Drug Education in Contemporary Society .................. 2
Total Credits: ................................................................. 2

Elective Courses-18 credits required
Total AA Liberal Arts Degree Credits: ........................................ 60

Certificate Options:
Chemical Dependency Counseling (page 51) - 30 credits
Communication Studies (page 54) - 16 credits
Global Studies (page 66) - 16 credits
Phys Ed. Teaching & Coaching (page 88) - 10 credits

Certificate - Physical Education Teaching and Coaching

Required Courses ................................................................. Credits
PE 0205 Prevention and Care of Athletic Injuries ........................... 2
PE 0215 Coaching Practicum .................................................. 2
PE 0220 First Aid/CPR .......................................................... 2
PE 0230 Introduction to Sport Psychology .................................. 2
Total Credits: ................................................................. 8

Elective Courses
PE 0210 Football Skills and Officiating ..................................... 2
PE 0211 Volleyball Skills and Officiating .................................... 2
PE 0212 Wrestling Skills and Officiating .................................... 2
PE 0213 Basketball Skills and Officiating ................................... 2
PE 0214 Softball and Baseball Skills and Officiating .................... 2
Total Elective Credits: ........................................................... 2
Total Certificate Credits: ....................................................... 10

LINUX ADMINISTRATOR Certificate

Required Courses ................................................................. Credits
CST 1025 Network Basics ..................................................... 2
CST 1026 TCP/IP Routing ...................................................... 1
CST 1611 Web Server Administration ......................................... 3
CST 1615 Introduction to Perl ................................................. 3
CST 1794 Introduction to Programming .................................... 3
CST 1802 Helpdesk Diagnostics ................................................ 1
CST 2505 Introduction to Linux .............................................. 3
CST 2608 Advanced Linux Administration .................................. 3
CST 2950 Special Projects/Topics .......................................... 1
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 machinist shapes 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 Numericaly Controlled (CNC) machines and CAD/CAM. This program participates in Articulated College Credit partnerships. Refer to page 6.

MACHINING TECHNICIAN DIPLOMA

Required Courses ................................................................. Credits
CMAE 1514 Safety Awareness .................................................. 2
CMAE 1518 Manufacturing Processes ....................................... 2
CMAE 1522 Quality Practices .................................................. 2
CMAE 1526 Maintenance Awareness ....................................... 2
MACT 1005 Blueprint Reading .................................................. 1
MACT 1508 Applied Math I ..................................................... 2
MACT 1801 Fundamentals of Precision Manufacturing ................. 2
MACT 1812 Fixture Design and Tooling .................................... 2
MACT 1831 Lathe Operations and Theory .................................. 3
MACT 1840 2-Axis CNC I ....................................................... 2
**CNC AAS Degree**

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CMAE 1514</td>
<td>Safety Awareness</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1518</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1522</td>
<td>Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526</td>
<td>Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>MACT 1005</td>
<td>Blueprint Reading</td>
<td>1</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
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</tr>
<tr>
<td>MACT 1812</td>
<td>Fixture Design and Tooling</td>
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</tr>
<tr>
<td>MACT 1831</td>
<td>Lathe Operations &amp; Theory</td>
<td>3</td>
</tr>
<tr>
<td>MACT 1840</td>
<td>2-Axis CNC I</td>
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</tr>
<tr>
<td>MACT 1842</td>
<td>2-Axis CNC II</td>
<td>2</td>
</tr>
<tr>
<td>MACT 2501</td>
<td>Geometric Dimensioning &amp; Tolerancing</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2503</td>
<td>Parametric Design</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2803</td>
<td>Precision Grinding I</td>
<td>2</td>
</tr>
<tr>
<td>MACT 2811</td>
<td>CNC Programming and Set-up Mill</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2813</td>
<td>CNC Vertical Machining Centers</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2815</td>
<td>CNC Programming and Set-up Lathe</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2826</td>
<td>Computer Assisted Machining I</td>
<td>3</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>
<td>3</td>
</tr>
<tr>
<td>MACT 2892</td>
<td>Advanced CNC I</td>
<td>3</td>
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<tr>
<td>MACT 2894</td>
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**Total Credits: 52**

**Elective Courses**

(choose one)

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<td>MACT 1005</td>
<td>Special Topics/Projects</td>
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</tr>
<tr>
<td>CMAE 1522</td>
<td>Quality Practices</td>
<td>2</td>
</tr>
</tbody>
</table>

**General Education Electives:**

Select 8 credits with recommendations from advisor. 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 (10) goal areas.

**Total Credits: 8**

**Total AAS Degree Credits: 67**

---

**Certificate - CNC Numerical Control Technician**

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
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<td>MACT 2813</td>
<td>CNC Vertical Machining Centers</td>
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<td>Computer Assisted Machining I</td>
<td>3</td>
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<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>
<td>3</td>
</tr>
<tr>
<td>MACT 2892</td>
<td>Advanced CNC I</td>
<td>3</td>
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<td>MACT 2894</td>
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</table>

**Total Certificate Credits: 18**

---

**CNC Diploma**

**Required Courses**

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<th>Course Title</th>
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<td>CMAE 1514</td>
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</tr>
<tr>
<td>CMAE 1518</td>
<td>Manufacturing Processes</td>
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<tr>
<td>CMAE 1522</td>
<td>Quality Practices</td>
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</tr>
<tr>
<td>CMAE 1526</td>
<td>Maintenance Awareness</td>
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</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
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</tr>
<tr>
<td>MACT 1831</td>
<td>Lathe Operations &amp; Theory</td>
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</tr>
<tr>
<td>MACT 1840</td>
<td>2-Axis CNC I</td>
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<tr>
<td>MACT 1842</td>
<td>2-Axis CNC II</td>
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</tr>
<tr>
<td>MACT 2501</td>
<td>Geometric Dimensioning &amp; Tolerancing</td>
<td>3</td>
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<tr>
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<td>Parametric Design</td>
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<tr>
<td>MACT 2803</td>
<td>Precision Grinding I</td>
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</tr>
<tr>
<td>MACT 2811</td>
<td>CNC Programming and Set-up Mill</td>
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<td>CNC Programming and Set-up Lathe</td>
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<tr>
<td>MACT 2892</td>
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<td>MACT 2894</td>
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**Total Credits: 57**

**Elective Courses**

(select 5 credits from the courses below)  

<table>
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<tbody>
<tr>
<td>DRFT 1001</td>
<td>Principles of Engineering/Engg. Technology</td>
<td>1</td>
</tr>
<tr>
<td>DRFT 1502</td>
<td>CAD I</td>
<td>3</td>
</tr>
<tr>
<td>GSIS 1502</td>
<td>Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>GSIS 1602</td>
<td>Personal Finance Management</td>
<td>2</td>
</tr>
<tr>
<td>MACT 2950</td>
<td>Special Topics/Projects</td>
<td>1-6</td>
</tr>
<tr>
<td>ONCR 0100</td>
<td>OnCourse</td>
<td>3</td>
</tr>
<tr>
<td>WELD 1190</td>
<td>Welding for Non-Welding Majors</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits: 5**

**Total Diploma Credits: 64**

---

**CNC Precision Manufacturing Technician**

**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 1518</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1522</td>
<td>Quality Practices</td>
<td>2</td>
</tr>
<tr>
<td>CMAE 1526</td>
<td>Maintenance Awareness</td>
<td>2</td>
</tr>
<tr>
<td>MACT 1801</td>
<td>Fundamentals of Precision Manufacturing</td>
<td>2</td>
</tr>
<tr>
<td>MACT 1831</td>
<td>Lathe Operations &amp; Theory</td>
<td>3</td>
</tr>
<tr>
<td>MACT 1840</td>
<td>2-Axis CNC I</td>
<td>2</td>
</tr>
<tr>
<td>MACT 1842</td>
<td>2-Axis CNC II</td>
<td>2</td>
</tr>
<tr>
<td>MACT 2501</td>
<td>Geometric Dimensioning &amp; Tolerancing</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2503</td>
<td>Parametric Design</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2508</td>
<td>Applied Math II</td>
<td>2</td>
</tr>
<tr>
<td>MACT 2803</td>
<td>Precision Grinding I</td>
<td>2</td>
</tr>
<tr>
<td>MACT 2811</td>
<td>CNC Programming and Set-up Mill</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2813</td>
<td>CNC Vertical Machining Centers</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2815</td>
<td>CNC Programming and Set-up Lathe</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2826</td>
<td>Computer Assisted Machining I</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2827</td>
<td>Computer Assisted Machining II</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2890</td>
<td>CNC Turning Centers</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2892</td>
<td>Advanced CNC I</td>
<td>3</td>
</tr>
<tr>
<td>MACT 2894</td>
<td>Advanced CNC II</td>
<td>3</td>
</tr>
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</table>

**Total Credits: 52**

**Elective Courses**

(Not required)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAE 1528</td>
<td>Career Success Skills</td>
<td>1</td>
</tr>
<tr>
<td>MACT 1005</td>
<td>Special Topics/Projects</td>
<td>1-6</td>
</tr>
</tbody>
</table>

**General Education Courses**

(15 credits required)

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMST 0121</td>
<td>Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 0121</td>
<td>College Composition I</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 0109</td>
<td>Elements of Algebra &amp; Trigonometry</td>
<td>4</td>
</tr>
<tr>
<td>Math 0112</td>
<td>College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

**General Education Electives:**

Select 8 credits with recommendations from advisor. 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 (10) goal areas.

**Total Credits: 8**

**Total AAS Degree Credits: 67**

---

**Programs of Study**
Mold Making Technician

Mold Making Technician Diploma

Required Courses                          Credits
CMAE 1514  Safety Awareness                2
CMAE 1518  Manufacturing Processes         2
CMAE 1522  Quality Practices               2
CMAE 1526  Maintenance Awareness           2
MACT 1005  Blueprint Reading               1
MACT 1508  Applied Math I                  2
MACT 1801  Fundamentals of Precision Manufacturing  2
MACT 1812  Fixture Design and Tooling      2
MACT 1831  Lathe Operations & Theory      3
MACT 1840  2-Axis CNC I                    2
MACT 1842  2-Axis CNC II                   3
MCT 2501  Geometric Dimensioning & Tolerancing 3
MCT 2503  Parametric Design                3
MCT 2508  Applied Math II                  2
MCT 2803  Precision Grinding I             2
MCT 2811  CNC Programming and Set-up       2
MCT 2813  CNC Vertical Machining Centers   3
MCT 2815  CNC Programming and Set-up Lathe 3
MCT 2826  Computer Assisted Machining I     3
MCT 2827  Computer Assisted Machining II    3
MCT 2870  Mold Making I                    2
MCT 2872  Mold Making II                   3
MCT 2874  Mold Making III                  4
MCT 2890  CNC Turning Centers              3
Total Credits:                            59

Elective Courses
(select 3 credits from the courses below)
CMAE 1528  Career Success Skills         1
DRFT 1001  Princ. of Engineering/Eng. Technology  1
DRFT 1502  CAD I                         3
ENGT 1103  Mechanical Systems             2
ENGT 1501  Fluid Power                   2
GSIS 1502  Human Relations                2
GSIS 1602  Personal Financial Management  2
MCT 2950  Special Topics/Projects         1-6
NDT 1100  Manufacturing Processes        2
ONCR 0100  On Course                     3
WELD 1900  Welding for Non-Welding Majors 2
Total Credits:                           3

General Studies Required Course
(select 2 credits from the courses below)
GSCM 1122  Oral and Written Communications 2
Total Credits:                           2
Total Diploma Credits:                   64

Mold Making AAS Degree

Required Courses                          Credits
CMAE 1514  Safety Awareness                2
CMAE 1518  Manufacturing Processes         2
CMAE 1522  Quality Practices               2
CMAE 1526  Maintenance Awareness           2
MCT 1005  Blueprint Reading                1
MCT 1801  Fundamentals of Precision Manufacturing 2
MCT 1812  Fixture Design and Tooling      2
MCT 1831  Lathe Operations & Theory      3
MACT 1840  2-Axis CNC I                    2
MACT 1842  2-Axis CNC II                   3
MACT 2501  Geometric Dimensions & Tolerancing 3
MACT 2503  Parametric Design               3
MACT 2803  Precision Grinding I            2
MACT 2811  CNC Programming and Set-up Mill 3
MACT 2813  CNC Vertical Machining Centers  3
MACT 2815  CNC Turning Centers             3
MACT 2826  Computer Assisted Machining I    3
MACT 2827  Computer Assisted Machining II   2
MACT 2870  Mold Making I                   2
MACT 2872  Mold Making II                  3
MACT 2874  Mold Making III                 4
MACT 2890  CNC Turning Centers             3
Total Credits:                           52

Goal Area 1: Communications (choose one)
CMST 0111  Introduction to Communication  3
ENGL 0121  College Composition I           3

Goal Area 4: Mathematics/Logical Reasoning (choose one)
Math 0109  Elements of Algebra & Trigonometry 4
Math 0112  College Algebra                  4

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 (10) goal areas.

General Education Electives:
CHEM 0101  Survey of Chemistry              4
CMST 0121  Introduction to Communication   3
CMST 0225  Small Group Communication      3
ECON 0190  Personal Finance                 3
ECON 0195  Introduction to Economics       3
ENGL 0211  College Composition I           3
ENGL 0212  College Composition II          3
ENGL 0213  Scientific and Technical Writing 3
MATH 0116  Trigonometry                    3
MATH 0201  Elementary Statistics           3
PHIL 0101  Logic and Critical Thinking     3
PSYC 0131  Introduction to Psychology      4
PHYS 0101  College Physics                  4
PHYS 0100  Concepts in Physics              4
Total Credits:                           15
Total AAS Degree Credits:                67

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                          Credits
MMDT 1002  Graphic Visualization         3
MMDT 1008  Introduction to Computer Graphics 3
MMDT 1010  Typography and Color Theory    3
MMDT 1021  HTML and the Web                3
MMDT 1051  Image Editing                   3
**Programs of Study**

**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 90 for related “Sales & Management Associate” Diploma.

### Diploma

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM 1101</td>
<td>Principles of Marketing</td>
</tr>
<tr>
<td>MSM 1103</td>
<td>Basic Sales Techniques</td>
</tr>
<tr>
<td>MSM 1205</td>
<td>Business Presentations</td>
</tr>
<tr>
<td>MSM 1212</td>
<td>Personal Finance</td>
</tr>
<tr>
<td>MSM 1220</td>
<td>Advertising and Promotion</td>
</tr>
<tr>
<td>MSM 2105</td>
<td>Computer Applications</td>
</tr>
<tr>
<td>MSM 2110</td>
<td>Principles of Supervision</td>
</tr>
<tr>
<td>MSM 2125</td>
<td>E-Commerce &amp; Social Media</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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<tbody>
<tr>
<td>MMDT 1001</td>
<td>Solving Computer Problems</td>
</tr>
<tr>
<td>MMDT 1041</td>
<td>Information Illustration</td>
</tr>
<tr>
<td>MMDT 1057</td>
<td>Electronic Publishing</td>
</tr>
<tr>
<td>MMDT 1112</td>
<td>Animation for Web Design I</td>
</tr>
<tr>
<td>MMDT 1114</td>
<td>Animation for Web Design II</td>
</tr>
<tr>
<td>MMDT 1144</td>
<td>Multimedia and the Web</td>
</tr>
<tr>
<td>MSM 1818</td>
<td>Internship I</td>
</tr>
<tr>
<td>MSM 1819</td>
<td>Internship II</td>
</tr>
<tr>
<td>MSM 2425</td>
<td>Independent Study</td>
</tr>
</tbody>
</table>

**Total Credits: 6**

#### General Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMST - Any goal 1 CMST course</td>
<td>3</td>
</tr>
<tr>
<td>ENGL - Any goal 1 ENGL course</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits: 6**

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) areas.

**Total Credits: 9**

**Total AAS Degree Credits: 60**

### AAS Degree

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM 1101</td>
<td>Principles of Marketing</td>
</tr>
<tr>
<td>MSM 1103</td>
<td>Basic Sales Techniques</td>
</tr>
<tr>
<td>MSM 1137</td>
<td>Business Math and Accounting</td>
</tr>
<tr>
<td>MSM 1205</td>
<td>Business Presentations</td>
</tr>
<tr>
<td>MSM 1212</td>
<td>Personal Finance</td>
</tr>
<tr>
<td>MSM 1220</td>
<td>Advertising and Promotion</td>
</tr>
<tr>
<td>MSM 1818</td>
<td>Internship I</td>
</tr>
<tr>
<td>MSM 1819</td>
<td>Internship II</td>
</tr>
<tr>
<td>MSM 2102</td>
<td>Professional Sales</td>
</tr>
<tr>
<td>MSM 2104</td>
<td>Marketing Trends</td>
</tr>
</tbody>
</table>

**Total Credits: 45**

#### Elective Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM 1150</td>
<td>Customer Service</td>
</tr>
<tr>
<td>MSM 1500</td>
<td>Professional/Leadership Development</td>
</tr>
<tr>
<td>MSM 2203</td>
<td>Management Issues</td>
</tr>
<tr>
<td>MSM 2207</td>
<td>Merchandise Management</td>
</tr>
<tr>
<td>MSM 2208</td>
<td>Sales Management</td>
</tr>
<tr>
<td>MSM 2425</td>
<td>Independent Study</td>
</tr>
<tr>
<td>MSM 2829</td>
<td>Marketing Research Fundamentals</td>
</tr>
</tbody>
</table>

**Total Credits: 2**

---

**Credits**

MSM 1101 Principles of Marketing 3  
MSM 1103 Basic Sales Techniques 3  
MSM 1137 Business Math and Accounting 3  
MSM 1205 Business Presentations 3  
MSM 1212 Personal Finance 3  
MSM 1220 Advertising and Promotion 3  
MSM 1818 Internship I 3  
MSM 1819 Internship II 3  
MSM 2102 Professional Sales 3  
MSM 2104 Marketing Trends 3  
MSM 2105 Computer Applications 3  
MSM 2110 Principles of Supervision 3  
MSM 2125 E Commerce 3  
MSM 2203 Management Issues 3  
MSM 2207 Merchandise Management 3  
MSM 2208 Sales Management 3  
MSM 2601 Management Job Skills 1  
MSM 2623 Entrepreneurship - Business Plan 3  
MSM 2833 International Business 3  
MSM 2829 Marketing Research Fundamentals 2  
MSM 1150 Customer Service 1  
MSM 1500 Professional/Leadership Development 1  
MSM 2623 Entrepreneurship - Business Plan 3  
MSM 2833 International Business 3  
MSM 2829 Marketing Research Fundamentals 2  
GSCL 1502 Introduction to Computers 2  
GSCL 1112 Applied Written Communications 2  
GSCL 1112 Applied Oral Communications 2  
GSMS 1200 Applied Mathematics 1  
GSMS 1202 Applied Mathematics 2  
GSCL 1502 Human Relations 2  
GSWS 1422 Quality Management 2  
GSWS 1432 Problem Solving/Decision Making 2  
GSWS 1442 Team Development 2  
GSWS 1451 First Aid/Safety 1  
TOTAL AAS CREDITS: 66  
TOTAL DIPLOMA CREDITS: 60
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 ........................... 2
MTHE 1208 Introduction to Pathology ............................. 2
MTHE 1211 Advanced Massage .................................... 2
MTHE 1212 Massage Therapy Anatomy & Kinesiology .......... 2
MTHE 1213 Business Practices/Communication II ................ 2
MTHE 1214 Spa Treatments ......................................... 2
MTHE 1220 Massage Therapy Certification Prep ................ 1
MTHE 1230 Clinical/Field Experience II ........................ 1
Total Credits: ......................................................... 30

Elective Courses (choose one of the following) ...................... Credits
GSCH 1122 Oral and Written Communications .................. 2
or Any MnTC Goal Area 1 or 7 course ............................ 3
Total Credits: ......................................................... 2
Total Diploma Credits: ................................................ 32

AAS Degree

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/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 .................................... 2
MTHE 1212 Massage Therapy Anatomy & Kinesiology .......... 3
MTHE 1213 Business Practices/Communication II ................ 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
ADS 1040 Office Accounting Concepts .......................... 2
ADS 1045 Computerized Accounting ............................. 1
BIOL 0108 Human Biology ......................................... 4
BIOL 0210 Human Anatomy ........................................ 4
BIOL 0211 Human Physiology ...................................... 4
BUS 0101 Business and the American Economy ................ 3
CHEM 0101 Survey of Chemistry .................................. 4
CMST 0211 Introduction to Communications .................... 3
CMST 0223 Listening ................................................ 3
CMST 0226 Interpersonal Communications ....................... 3
ECON 0190 Personal Finance ........................................ 3
ECON 0195 Introduction to Economics ............................ 3
ENTR 1000 Introduction to Small Business ....................... 2
ENTR 2823 Entrepreneurship - Business Plan .................... 3
GSCI 1301 Introduction to Computers ............................. 1
GSIS 1502 Human Relations ........................................ 2
MSM 1101 Principles of Marketing ................................ 3
MSM 1220 Advertising and Promotions .......................... 3
MTHE 1225 Field Experience ....................................... 1
MTHE 1501 Advanced Massage 2 ................................ 3
MTHE 2950 Special Projects/Topics ............................... 1-6
PSY 018 Introduction to Yoga ........................................ 1
PSYC 0131 Introduction to Psychology ............................. 4
PSYCH 0107 Nutrition ................................................ 3
SOC 0105 Introduction to Sociology ............................... 3
Total Credits: ......................................................... 15

General Education
Goal 1: Communications (choose at least 1 course) ............... 3
Goal 2: History, Social, Behavioral Sciences (choose at least 1) .. 3
Choose remaining credits from any goal area ........................ 9
Total Credits: ......................................................... 15
Total Program Credits: .............................................. 60
Programs of Study

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........................................................................ Credits
MEDA 1002 Applied Communications/Scribing I .................. 2
MEDA 1010 Anatomy and Physiology I ............................ 3
MEDA 1021 Disease Conditions ........................................ 3
MEDA 1102 Applied Communications/Scribing II ........... 2
MEDA 1110 Human Relations for Healthcare .................... 2
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 Laboratory Skills I ......................................... 1
MEDA 1326 Laboratory 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 ................ 1
MEDA 2032 Pharmacology ............................................. 3
MEDA 2100 Practicum ....................................................... 5
MEDA 2310 Laboratory Procedures I .................................. 1
MEDA 2320 Laboratory Procedures II .................................. 2

Total Diploma Credits .......................................................... 49

AAS Degree

Required Courses ........................................................................ Credits
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 ................ 1
MEDA 2032 Pharmacology ............................................. 3
MEDA 2100 Practicum ....................................................... 5
MEDA 2310 Laboratory Procedures I .................................. 1
MEDA 2320 Laboratory Procedures II .................................. 2

Total Credits ................................................................................. 45

General Education Courses (0 credits required)
MEDA 1102 Applied Communications/Scribing I ............ 2
MEDA 1102 Applied Communications/Scribing II ............ 2

Goal Area 1: Communications
Choose one of the following courses:
CMST 1321 Introduction to Communications .................. 3
ENGL 1121 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 1131 Introduction to Psychology ............................ 4
SOC 1105 Introduction to Sociology ................................. 3

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
MEDICAL CODING SPECIALIST

Hutchinson and Willmar Campus

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 1010 Business Communications ..................................... 3
HIMC 1100 Fundamentals of Health Information .......................... 3
HIMC 1110 Anatomy & Physiology for HIT ............................... 3
HIMC 1120 Medical Terminology I ........................................ 3
HIMC 1140 Pharmacology .................................................. 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-10-CM Coding .......................................... 3
HIMC 2004 Advanced Coding ............................................ 3
HIMC 2006 ICD-10-PCS Coding ......................................... 3
HIMC 2030 CCA Review .................................................. 1
HIMC 2040 Quality Management and Statistics ....................... 3
HIMC 2260 Medical Coding Specialist Experiential Capstone .......... 3

Total Credits: .......................................................... 45

Elective Courses (5 credits required)
GSCI 1002 Keyboarding/Word Processing ................................. 2
GSCI 1302 Introduction to Computers .................................. 2
GSCI 1401 Computer Technology ....................................... 1
GSIS 1502 Human Relations ............................................. 2
GWS 1401 Employment Preparation .................................... 1
GWS 1451 First Aid/CPR .................................................. 1

Total Credits: .......................................................... 5
Total Diploma Credits: .................................................. 50

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 and qualify for graduation.

MEDICAL TRANSCRIPTIONIST

Hutchinson and Willmar Campuses

Certificate — 30 Credits

Acceptance into this certificate program requires approval by program advisor.

Required Courses .................................................. Credits
ADS 1110 Anatomy and Physiology ..................................... 3
ADS 1120 Medical Terminology .......................................... 3
ADS 1140 Pharmacology in the Medical Office ....................... 3
ADS 1310 Medical Machine Transcription I-Qual/Production Mgmt. 3
ADS 1323 Electronic Health Record Technology ...................... 4
ADS 2030 Word ......................................................... 3
ADS 2312 Medical Machine Transcription II .......................... 3
ADS 2313 Medical Transcription III ................................... 3
HIMC 1350 Pathophysiology ............................................ 3

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

Technical Electives
ADS 1005 Skillbuilding ................................................... 1
ADS 1042 PowerPoint .................................................... 3
ADS 1053 Excel .......................................................... 3
ADS 2030 Medical Office Management ................................. 3
ADS 2090 Healthcare Administrative Assistant Internship .......... 2
ADS 2322 Medical Insurance and Reimbursement .................... 3
HIMC 1100 Fundamentals of Health Information ..................... 3
HIMC 1150 Legal Aspects of Health Information ...................... 2

Total Technical Electives ................................................ 2

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

MICROSOFT OFFICE SPECIALIST

Hutchinson and Willmar Campus

Certificate — 15 Credits

Required Courses .................................................. Credits
ADS 1026 Access ....................................................... 3
ADS 1042 PowerPoint ................................................... 3
ADS 1053 Excel .......................................................... 3
ADS 2030 Word ......................................................... 3

Total Credits .......................................................... 12

Electives
Any ADS course(s) ....................................................... 2

General Studies
GSCI 1401 Computer Technology ....................................... 1

Total Certificate Credits ................................................. 15
MOBILE APPLICATION
DEVELOPMENT
Hutchinson and Willmar Campus
AAS Degree — 60 Credits
Developing new applications and web sites for mobile platforms is experiencing tremendous growth as how people use the internet changes. This 2-year program is designed to teach students to develop mobile applications and web sites in a variety of operating systems including iOS, Android, and Windows as well as be flexible enough to add more operating systems as the market demands. In addition to the technical skills developed in the program, students will learn how to manage projects and market their services.

Required Courses ........................................... Credits
CST 1021 HTML and the Web (or MMDT 1021) .................. 3
CST 1022 HTML II and Javascript (or MMDT 1022) ............ 3
CST 1146 PHP Programming (or MMDT 1146) .................. 3
CST 1794 Introduction to Programming ............................ 3
CST 1600 Relational Database Design .............................. 3
CST 1640 Introduction to Java ..................................... 3
CST 2641 Introduction to Mobile Applications ...................... 3
CST 2643 Mobile App Development Using iOS .................... 3
CST 2644 Mobile App Development Using Android .............. 3
MMDT 1010 Typography and Color Theory ....................... 3
MMDT 1008 Introduction to Computer Graphics .................. 3
MMDT 112 Animation for Web Design I ........................... 3
MMDT 1142 Interface Design ...................................... 3

Total Credits: ................................................. 39

General Education Electives
As recommended by advisor ........................................ 6-7

General Education Required Courses
Goal 1: Choose any CMST course and any ENGL course ......... 6
Goal 4: Choose any Goal 4 MATH class ............................ 3-4

Total General Education Credits .................................. 15

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

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 78 for Marketing & Design AAS degree. This program participates in Articulated College Credit partnerships. Refer to page 6.

Diploma
Required Courses ........................................... Credits
AVT 113 Audio for Multimedia .................................... 2
MMDT 1002 Graphic Visualization ................................ 3
MMDT 1008 Introduction to Computer Graphics ................. 3
MMDT 1010 Typography and Color Theory ....................... 3
MMDT 1015 Digital Video Production ............................. 3
MMDT 1021 HTML and the Web (or CST 1021) ................. 3

MMDT 1031 Image Editing ....................................... 3
MMDT 1088 Basic Digital Photography ......................... 3
MMDT 1112 Animation for Web Design I ....................... 3
MMDT 1114 Animation for Web Design II ....................... 3
MMDT 1142 Interface Design .................................... 3
MMDT 1152 Business of Multimedia ............................. 3
MMDT 1180 Multimedia Portfolio ................................ 4

Total Credits: .................................................... 39

Elective Courses (select 6 credits from the courses below)
MMDT 1001 Solving Computer Problems (or CST 1001) ......... 2
MMDT 1041 Information Illustration ............................. 3
MMDT 1048 3D Computer Animation ........................... 3
MMDT 1057 Electronic Publishing ............................... 3
MMDT 1102 Image Visualization ................................ 2
MMDT 1135 Internship ......................................... 1-3
MMDT 1136 Advanced Digital Video ............................ 3
MMDT 1144 Multimedia and the Web I (or CST 1144) ......... 3
MMDT 2950 Special Topics ....................................... 1-3

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

Required General Studies (2 credits required)
Any 2-credit GSCM course ........................................ 2

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

Recommended General Studies Electives (3 credits)
GSIS 1602 Personal Financial Management ..................... 2
GSWS 1401 Employment Preparation ............................. 1
Or any other 3 credits General Studies courses

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

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

AAS Degree
Required Courses ........................................... Credits
AYT 113 Audio for Multimedia .................................... 2
MMDT 1002 Graphic Visualization ................................ 3
MMDT 1008 Introduction to Computer Graphics ................. 3
MMDT 1010 Typography and Color Theory ....................... 3
MMDT 1015 Digital Video Production ............................. 3
MMDT 1021 HTML and the Web (or CST 1021) ................. 3

MMDT 1031 Image Editing ....................................... 3
MMDT 1088 Basic Digital Photography ......................... 3
MMDT 1112 Animation for Web Design I ....................... 3
MMDT 1114 Animation for Web Design II ....................... 3
MMDT 1142 Interface Design .................................... 3
MMDT 1152 Business of Multimedia ............................. 3
MMDT 1180 Multimedia Portfolio ................................ 4

Total Credits: .................................................... 39

Elective Courses (select 5 credits from the courses below)
MMDT 1001 Solving Computer Problems (or CST 1001) ......... 2
MMDT 1041 Information Illustration ............................. 3
MMDT 1048 3D Computer Animation ........................... 3
MMDT 1057 Electronic Publishing ............................... 3
MMDT 1102 Image Visualization ................................ 2
MMDT 1135 Internship ......................................... 1-3
MMDT 1136 Advanced Digital Video ............................ 3
MMDT 1144 Multimedia and the Web I (or CST 1144) ......... 3
MMDT 2950 Special Topics ....................................... 1-3

Total Credits: .................................................... 5
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 1611  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 2276  Windows Server Advanced Services ..................... 3
CST 2277  Windows Server Install and Configure .................... 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 1112  Applied Oral Communications ............................ 2
GSCM 1122  Applied Oral and Written Communications ............ 2
GSCM 1132  Applied Technical Writing .................................. 2

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, iso-tote 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.
## Programs of Study

### NDT 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>GSCI 1312</td>
<td>Industry Computer Applications</td>
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<tr>
<td>GSWS 1401</td>
<td>Employment Preparation</td>
<td>1</td>
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<tr>
<td>NDT 1030</td>
<td>Basic Liquid Penetrant Inspection</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1040</td>
<td>Intro to Radiographic Inspection</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1050</td>
<td>Basic Radiographic Inspection I</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1051</td>
<td>Basic Radiographic Inspection II</td>
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<tr>
<td>NDT 1060</td>
<td>Intro to Ultrasonic Inspection</td>
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<tr>
<td>NDT 1070</td>
<td>Basic Ultrasonic Inspection I</td>
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<td>NDT 1071</td>
<td>Basic Ultrasonic Inspection II</td>
<td>2</td>
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<tr>
<td>NDT 1080</td>
<td>Basic Eddy Current Testing Inspection</td>
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<td>NDT 1090</td>
<td>Basic Magnetic Particle Inspection</td>
<td>2</td>
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<tr>
<td>NDT 1100</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1140</td>
<td>Basic Blueprint Reading</td>
<td>1</td>
</tr>
<tr>
<td>NDT 1501</td>
<td>Introduction to NDT</td>
<td>1</td>
</tr>
<tr>
<td>NDT 1510</td>
<td>Fundamentals of Metallurgy</td>
<td>1</td>
</tr>
<tr>
<td>NDT 1516</td>
<td>Intro to Codes &amp; Specifications</td>
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<tr>
<td>NDT 1517</td>
<td>Intro to Report Forms/Writing</td>
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<tr>
<td>NDT 1820</td>
<td>NDT Geometry and Trigonometry</td>
<td>3</td>
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<tr>
<td>NDT 2030</td>
<td>Advanced Liquid Penetrant Inspection</td>
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</tr>
<tr>
<td>NDT 2040</td>
<td>Isotope &amp; Radiation Safety</td>
<td>3</td>
</tr>
<tr>
<td>NDT 2049</td>
<td>Advanced Radiography I</td>
<td>1</td>
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<tr>
<td>NDT 2051</td>
<td>Advanced Radiography II</td>
<td>1</td>
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<tr>
<td>NDT 2052</td>
<td>Advanced Radiography III</td>
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<tr>
<td>NDT 2060</td>
<td>Advanced Ultrasonic Inspection I</td>
<td>2</td>
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<tr>
<td>NDT 2061</td>
<td>Advanced Ultrasonic Inspection II</td>
<td>2</td>
</tr>
<tr>
<td>NDT 2062</td>
<td>Advanced Ultrasonic Inspection III</td>
<td>2</td>
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<tr>
<td>NDT 2063</td>
<td>Advanced Ultrasonic Inspection IV</td>
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<tr>
<td>NDT 2074</td>
<td>Advanced Phased Array Ultrasonics</td>
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<tr>
<td>NDT 2080</td>
<td>Advanced Eddy Current Inspection I</td>
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<td>NDT 2081</td>
<td>Advanced Eddy Current Inspection II</td>
<td>2</td>
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<td>Advanced Magnetic Particle Inspection</td>
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<tr>
<td>NDT 2150</td>
<td>Infrared Inspection</td>
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<tr>
<td>NDT 2160</td>
<td>Applied NDT Physics</td>
<td>2</td>
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<tr>
<td>NDT 2170</td>
<td>Advanced Visual Inspection</td>
<td>2</td>
</tr>
<tr>
<td>NDT 2260</td>
<td>Composites I</td>
<td>1</td>
</tr>
<tr>
<td>NDT 2527</td>
<td>AWS Weld Evaluation</td>
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</tr>
<tr>
<td>WELD 1190</td>
<td>NDT Welding</td>
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</table>

**Total Credits:**  

### Elective Courses - these courses are not required but are recommended

<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>
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<tr>
<td>NDT 2240</td>
<td>Nondestructive Testing Internship</td>
<td>1-11</td>
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<tr>
<td>NDT 2250</td>
<td>Nondestructive Testing Internship</td>
<td>1-11</td>
</tr>
<tr>
<td>NDT 2950</td>
<td>Special Projects/Topics</td>
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</tr>
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</table>

**Total Diploma Credits:** 72

### NDT 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>NDT 1030</td>
<td>Basic Liquid Penetrant Inspection</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1040</td>
<td>Intro to Radiographic Inspection</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1050</td>
<td>Basic Radiographic Inspection I</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1051</td>
<td>Basic Radiographic Inspection II</td>
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<td>Intro to Ultrasonic Inspection</td>
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<td>Basic Ultrasonic Inspection I</td>
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<td>NDT 1071</td>
<td>Basic Ultrasonic Inspection II</td>
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<tr>
<td>NDT 1080</td>
<td>Basic Eddy Current Testing Inspection</td>
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<td>NDT 1090</td>
<td>Basic Magnetic Particle Inspection</td>
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<td>NDT 1100</td>
<td>Manufacturing Processes</td>
<td>2</td>
</tr>
<tr>
<td>NDT 1140</td>
<td>Basic Blueprint Reading</td>
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<td>NDT 1501</td>
<td>Introduction to NDT</td>
<td>1</td>
</tr>
<tr>
<td>NDT 1510</td>
<td>Fundamentals of Metallurgy</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 72

### Elective Courses

- **NDT 2030** Advanced Liquid Penetrant Inspection 1
- **NDT 2040** Isotope & Radiation Safety 3
- **NDT 2049** Advanced Radiography I 2
- **NDT 2051** Advanced Radiography II 3
- **NDT 2052** Computerized Radiography 2
- **NDT 2060** Advanced Ultrasonic Inspection I 5
- **NDT 2061** Advanced Ultrasonic Inspection II 2
- **NDT 2062** Advanced Ultrasonic Inspection III 2
- **NDT 2074** Advanced Phased Array Ultrasonics 2
- **NDT 2080** Advanced Eddy Current Inspection I 2
- **NDT 2081** Advanced Eddy Current Inspection II 2
- **NDT 2090** Advanced Magnetic Particle Inspection 1
- **NDT 2170** Advanced Visual Inspection 2
- **WELD 1190** NDT Welding 2

**Total Credits:** 57

### Elective Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>NDT 2063</td>
<td>Phased Array Ultrasonics</td>
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<tr>
<td>NDT 2110</td>
<td>Acoustic Emission Inspection</td>
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<td>NDT 2150</td>
<td>Infrared Inspection</td>
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<tr>
<td>NDT 2240</td>
<td>Nondestructive Testing Internship</td>
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<td>1-11</td>
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<tr>
<td>NDT 2260</td>
<td>Composites I</td>
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<td>NDT 2510</td>
<td>Leak Testing</td>
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<td>NDT 2527</td>
<td>AWS Weld Evaluation</td>
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<td>NDT 2950</td>
<td>Special Projects/Topics</td>
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</tbody>
</table>

**General Education Elective**

Choose 4 credits

**Total Credits:** 15

**Total AAS Degree Credits:** 72

### Advanced Ultrasonic Testing Technology Diploma

#### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Math 0109</td>
<td>Elements of Algebra &amp; Trigonometry</td>
<td>4</td>
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<tr>
<td>Math 0112</td>
<td>College Algebra</td>
<td>3</td>
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<tr>
<td>PHYS 0100</td>
<td>Concepts in Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 0101</td>
<td>College Physics</td>
<td>4</td>
</tr>
</tbody>
</table>

**General Education Elective**

Choose 4 credits

**Total Credits:** 72
Practical Nursing Admission Criteria:

- Attend nursing information session
- High school graduate or GED recipient
- Accepted as student at Ridgewater College
- Current registry as nursing assistant
- Meet ACCUPLACER testing requirements
- Medical Terminology (NURS 1617) or equivalent or pass competency test

NOTE: You must complete these requirements prior to applying for the Practical Nursing program. You must earn a “C” grade or better in all courses taken to meet admission criteria. You may take general education (non-Nursing) courses prior to acceptance in the Practical Nursing program. To schedule a time to take assessment tests (English, Reading, Math, and/or Medical Terminology) call:

**Hutchinson Campus**
Alicia Just 320-234-8593 or 800-722-1151

**Willmar Campus**
Jane Friedrich 320-222-5564 or 800-722-1151

**Practical Nursing Diploma**

**Required Courses:**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>NURS 1000</td>
<td>Foundations of Nursing</td>
<td>3</td>
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<tr>
<td>NURS 1050</td>
<td>Clinical Foundation</td>
<td>3</td>
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<tr>
<td>NURS 1075</td>
<td>Nursing Interventions</td>
<td>3</td>
</tr>
<tr>
<td>NURS 1200</td>
<td>Medication Administration I</td>
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<tr>
<td>NURS 1250</td>
<td>Medication Administration II</td>
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</tr>
<tr>
<td>NURS 1300</td>
<td>Nursing of Adults</td>
<td>4</td>
</tr>
<tr>
<td>NURS 1350</td>
<td>Clinical Applications</td>
<td>4</td>
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<tr>
<td>NURS 1400</td>
<td>Nursing Care of Women/Newborns/Children</td>
<td>2</td>
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<tr>
<td>NURS 1600</td>
<td>Psychosocial Nursing</td>
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<tr>
<td>NURS 1617</td>
<td>Medical Terminology</td>
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<tr>
<td>NURS 1700</td>
<td>Ethics in Nursing</td>
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<td><strong>Total Credits</strong></td>
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**Required General Education Courses**

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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 0210</td>
<td>Human Anatomy</td>
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<tr>
<td>CMST 0226</td>
<td>Interpersonal Communications</td>
<td>3</td>
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<tr>
<td>ENGL 0211</td>
<td>English Composition I</td>
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<tr>
<td>PSYC 0131</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td>14</td>
</tr>
</tbody>
</table>

**Associate Degree (AD) and Bachelor of Science (BS) Nursing Admission/Acceptance Policy**

- Each AD and BS Nursing collaborating college and university will use shared standards for evaluation and selection of candidates.
- Each AD and BS Nursing collaborating college and university will make program acceptance and admission decisions based on the terms and standards in this document.
- An applicant admitted to the AD and BS Nursing collaborating college will be considered dually admitted to the collaborating university.
- Each AD and BS Nursing collaborating college and university will adhere to common application deadline and acceptance decision notification dates to applicants.
- Students who are affirmed by the community college AD and BS Nursing program as having met progression standards will be assured progression into the upper division work for the baccalaureate degree.
The following criteria are required for application to an AD and BS Nursing collaborating college or university:

1. General admission to an AD and BS Nursing collaborating college or university.
2. Submission of official transcripts from all institutions attended.
3. A minimum grade point average (GPA) of 2.75 based on the first semester of the AD and BS Nursing curriculum plan.
   a. Official transcripts will be used to calculate GPA.
   b. The most recent course grade will be used for the GPA calculation, whether it is higher or lower than previous grades.
4. Each course of the AD and BS Nursing curriculum plan must have been achieved with a letter grade of C or better.
5. Identification of previous enrollment in a nursing program.
6. Full acceptance to the AD and BS Nursing collaborating college and university is dependent on successful completion of the second semester of the AD and BS Nursing curriculum plan, maintaining a minimum grade point average (GPA) of 2.75, including criteria in numbers 3 and 4 above.
7. All applicants are required to complete the most current Assessment Technologies Institute (ATI), standardized Test of Essential Academic Skills (TEAS) prior to application deadlines. (no max number of attempts)
8. Advanced standing applicants, Licensed Practical Nurses, must demonstrate:
   a. Licensed Practical Nurses (LPN) must maintain unencumbered licensure from any state in the United States.
9. Applicants must demonstrate English language proficiency via examination if (1) English is not their native language; and (2) the applicants have lived in the US fewer than 8 years at the time of application to the program. Applicants are exempt from taking an English proficiency exam if their native language is English or they have been in the US, as a nonnative English speaker, for more than 8 years.

Minimum scores in the following exams are required to demonstrate English language proficiency:

<table>
<thead>
<tr>
<th>Test</th>
<th>Minimum Satisfactory Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOEFL IBT</td>
<td>84 with a minimum speaking score of 26</td>
</tr>
<tr>
<td>TOEFL PBT</td>
<td>560</td>
</tr>
<tr>
<td>IELTS</td>
<td>Overall score of 6.5 with the minimum of 6.0 on all modules</td>
</tr>
<tr>
<td>MELAB</td>
<td>Total passing score of 81 and a speaking section of 3</td>
</tr>
<tr>
<td>Pearson Test of English Academic</td>
<td>Overall score of 55 with a minimum of 50 on all sub-scores</td>
</tr>
</tbody>
</table>

Evidence of having completed the following criteria must be submitted to the Associate Degree and Bachelor of Science Nursing collaborating college and university prior to the start of AD and BS nursing courses and must remain current throughout the program. Requirements include, but may not be limited to:

1. Documentation of current CPR Healthcare Provider.
2. Completion of current Minnesota Human Services Background Check:
   a. If an applicant has been arrested, charged or convicted of any criminal offense, he or she should investigate the impact that the charge or conviction may have on his or her chances of employment or licensure as a registered nurse and the student's chances to obtain federal, state and other higher education financial aid (by Minnesota Statute 135A. 157).
   b. If the applicant refuses, or is disqualified as a result of the background study, the applicant will be unable to successfully complete the requirements of the AD and BS Nursing program.
3. Completed health and immunization record, including proof of current immunizations and tuberculosis testing, and/or other requirements as defined by the clinical agency.

Timelines for application and notification of admission status are as follows:

1. Application timeline:
   a. Fall semester start: Application deadline is February 1
   b. Spring semester start: Application deadline is June 1
2. Notification to applicants by the college or university applicant applied to:
   a. Fall semester start:
      i. March 15 applicant notification of accept, deny or waitlist status
      ii. April 1 notification deadline by applicant to respond to the college or university to accept or deny admission to the program
   b. Spring semester start:
      i. July 15 applicant notification of accept, deny or waitlist status
      ii. August 1 notification deadline by applicant to respond to the college or university to accept or deny admission to the program
3. Application fees and/or deposit fees to accept admission to the Associate Degree and Bachelor of Science Nursing program are determined by each collaborating college or university.
4. Applications of students not accepted to AD and BS Nursing will remain on file through the next admission cycle. If a student chooses to reapply for the next admission cycle, the student must:
   a. Complete a new application form
   b. Update any materials needed to maintain currency of admission requirements
   c. Any successive applications will require the student to complete and submit all required information and documents as if applying to AD and BS Nursing for the first time.

Nursing AS Degree

Required Courses ................................................. Credits
NURS 2700  Foundations of Nursing-Health Promotion .................. 9
NURS 2750  Nutrition & the Role of the Prof. Nurse .................... 2
NURS 2800  Chronic and Palliative Care ............................... 7
NURS 2820  Pharmacology & Role of Professional Nurse ............... 3
NURS 2850  Applied Pathophysiology for Nursing I .................... 2
NURS 2900  Acute and Complex Care ................................. 7
NURS 2920  Applied Pathophysiology for Nursing II ................... 2
NURS 2950  Nursing Leadership I .................................... 3
Total Credits .............................................................. 35
Required General Education Courses:
BIOL 2010 Human Anatomy .............................................. 4
BIOL 2011 Human Physiology ............................................. 4
BIOL 2015 Microbiology .................................................. 4
CHEM 1011 Survey of Chemistry ....................................... 4
CMST 2226 Interpersonal Communications ......................... 3
ENGL 1011 English Composition I .................................... 3
ENGL 1012 English Composition II ..................................... 3
PHIL 1012 Introduction to Ethics ....................................... 3
PSYC 101 # Introduction to Psychology ................................ 4
PSYC 2013 Developmental Psychology ............................... 3
Total Credits ...................................................................... 35

Elective General Education Courses:
Select one Anthropology/Sociology course .............................. 3
Elective General Education course ........................................ 2
Credits .............................................................................. 5
Total Credits ...................................................................... 75

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.

Nursing AS Degree (for LPNs)

Advanced Standing Credit for LPN Coursework .......................... 5

Required Courses:
NURS 2720 Transition to the Role of Prof. Nurse ......................... 5
NURS 2750 Nutrition & Role of the Professional Nurse ................ 2
NURS 2800 Chronic and Palliative Care ................................ 7
NURS 2820 Pharmacology & the Role of Prof. Nurse .................... 3
NURS 2850 Applied Pathophysiology for Nursing I ..................... 2
NURS 2900 Acute and Complex Care ..................................... 7
NURS 2920 Applied Pathophysiology for Nursing II .................... 2
NURS 2950 Nursing Leadership I .......................................... 3
Total Credits ...................................................................... 35

Required General Education Courses:
BIOL 2010 Human Anatomy .............................................. 4
BIOL 2011 Human Physiology ............................................. 4
BIOL 2015 Microbiology .................................................. 4
CHEM 1011 Survey of Chemistry ....................................... 4
CMST 2226 Interpersonal Communications ......................... 3
ENGL 1011 English Composition I .................................... 3
ENGL 1012 English Composition II ..................................... 3
PHIL 1012 Introduction to Ethics ....................................... 3
PSYC 101 # Introduction to Psychology ................................ 4
PSYC 2013 Developmental Psychology ............................... 3
Total Credits ...................................................................... 35

Elective General Education Courses:
Select one Anthropology/Sociology course .............................. 3
Elective general education courses ........................................ 2
Credits .............................................................................. 5
Total Credits ...................................................................... 75

Students are eligible to take NCLEX-RN licensure exam. Students are prepared to move into the last 3 semesters of the BSN degree.

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.

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 .................................................. Credits
OSP 1000 Job Keeping Skills .............................................. 2
OSP 1100 Job Seeking Skills .............................................. 2
OSP 1200 Career Assessment and Planning ......................... 2
OSP 1750 Supervised Occupational Training I .................... 1-8
OSP 1850 Internship I ..................................................... 1-8
OSP 1900 Applied Job Search .......................................... 4-8
Required Credits ................................................................ 23

Technical Electives
GSCI 1301 Introduction to Computers .................................. 1
GSCI 1302 Introduction to Computers .................................. 2
GSCI 1312 Industry Computer Applications ......................... 1
GSCM 1122 Oral/Written Communications ......................... 2-3
GSCI 1462 Industry Skills ................................................ 2
NA 1612 Nursing Assistant ............................................... 3
OSP 1300 Consumer Skills ............................................... 2
OSP 1320 Communications ............................................... 2
OSP 1340 Personal Development ...................................... 2
OSP 1360 Relationships .................................................. 2
OSP 1390 Community and Leisure Resources ..................... 1
OSP 1400 Transition to Independent Living ....................... 2
OSP 1600 Topics in Occupational Skills ............................. 1
Total Technical Electives .................................................... 0-7

General Studies Courses
GSIS 1502 Human Relations ............................................. 2
GWS 1452 First Aid/Safety ............................................... 2
Total Required Credits .................................................... 4
Total Diploma Credits ..................................................... 32

Certificate
Required Courses
OSP 1000 Job Keeping Skills .............................................. 2
OSP 1100 Job Seeking Skills .............................................. 2
OSP 1750 Supervised Occupational Training I .................... 1-8

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.

PN and AD programs are approved by the Minnesota Board of Nursing.

Director of Nursing PN and AD programs:
C. Lynn Johnson, BSN, MSN, RN, PHN
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 ................................................. Credits
ADS 1007  Keyboarding I ............................................. 2
ADS 1012  Business Presentations .................................. 2
ADS 1014  Written Business Communications .................. 4
ADS 1020  Administrative Office Procedures .................... 4
ADS 1042  PowerPoint ................................................. 3
ADS 1053  Excel .......................................................... 3
ADS 2030  Word .......................................................... 3
GSCI 1401  Computer Technology .................................... 1
GSIS 1403  Professional Developmental Skills ................. 3
GSWS 1401  Employment Preparation ........................... 1
Total Credits: ............................................................ 26

Elective Courses (select 6 credits from the courses below)  
ADS 1004  Statistical Typing ......................................... 2
ADS 1005  Skillbuilding II ............................................. 1
ADS 1026  Database Microsoft Access ......................... 3
ADS 1027  Business Environment ................................... 3
ADS 1035  Web Page Design ......................................... 3
or
MMDT 1021  HTML and the Web ................................. 2
ADS 1039  Introduction to the Internet .............................. 2
ADS 1040  Office Accounting Concepts ............................ 2
ADS 1045  Computerized Accounting .............................. 1
ADS 1650  HTML ........................................................ 2
ADS 2010  Desktop Publishing ....................................... 2
ADS 2015  Introduction to Project Management .................. 2
ADS 2045  Advanced Word Processing ............................ 3
ADS 2090  Administrative Support Internship ................... 2-6
Total Credits: .......................................................... 6
Total Diploma Credits: ................................................. 32

PARAMEDIC
Willmar and Hutchinson Campuses
Diploma/AAS Degree – 42/64 Credits
When a 911 call alert 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 .................................................. Credits
EMSP 1502  Intro to Emergency Care ............................... 1
EMSP 1504  Anatomy and Physiology for the Paramedic ......... 2
EMSP 1506  Pharmacology for the Paramedic .................... 2
EMSP 1510  Ambulance Operations I ............................... 1
EMSP 1512  Ambulance Operations II ................................ 2
EMSP 1530  Patient Assessment .................................... 1
EMSP 1540  Shock and Trauma Care ............................... 3
EMSP 1552  Airway and Pulmonology ............................ 2
EMSP 1554  Cardiology ................................................. 4
EMSP 1560  Medical Emergencies .................................. 4
EMSP 1570  Special Populations ..................................... 3
EMSP 1580  Clinical ..................................................... 2
EMSP 1582  Clinical II ................................................ 3
EMSP 1590  Field Clinical I-BLS .................................... 1
EMSP 1592  Field Clinical II .......................................... 2
EMSP 1596  Field Clinical III/ Paramedic Capstone ............. 4
EMSP 1600  ACLS Provider ......................................... 1
EMSP 1602  PALS Provider .......................................... 1
Total Credits: .......................................................... 39

Elective Courses (select 3 credits from the courses below)  
GSCI 1122  Applied Oral & Written Communications .......... 2
GSCI 1132  Applied Technical Communications ............... 2
GSIS 1502  Human Relations ....................................... 2
GSCI 1201  Applied Mathematics ................................... 1
Any MNTC Goal Area 1, 3, 4, 5, or 7 course ........................ 3-4
Total Credits: .......................................................... 3
Total Diploma Credits: ................................................. 42

NOTE: EMS 1120 (7 credits) may be substituted for EMS 1116 and EMS 1118.
AAS Degree

Required Courses  ........................................  Credits
EMS 116  Emergency Medical Technician 1 ...................... 4
EMS 118  Emergency Medical Technician 2 ...................... 3
EMSP 1096  BLS Internship ................................. 2
EMSP 1502  Introduction to Emergency Care ................. 1
EMSP 1504  Anatomy and Physiology for the Paramedic .... 2
EMSP 1506  Pharmacology for the Paramedic ................. 2
EMSP 1510  Ambulance Operations I ......................... 1
EMSP 1512  Ambulance Operations II ......................... 2
EMSP 1530  Patient Assessment .............................. 1
EMSP 1540  Shock and Trauma Care ......................... 3
EMSP 1552  Airway and Pulmonology ......................... 2
EMSP 1554  Cardiology .................................. 4
EMSP 1560  Medical Emergencies ............................ 4
EMSP 1570  Special Populations ............................. 3
EMSP 1580  Clinical I .................................. 2
EMSP 1582  Clinical II .................................. 3
EMSP 1590  Field Clinical I-BLS ............................ 1
EMSP 1592  Field Clinical II ................................ 2
EMSP 1596  Field Clinical III and Paramedic Capstone .... 4
EMSP 1600  ACLS Provider ................................ 1
EMSP 1602  PALS Provider ................................ 1
Total Credits: ................................................. 48

General Education (16 credits required)

Choose at least one course from the following list
CMST 0121  College Composition I ............................ 3
CMST 0226  Interpersonal Communications .................. 3
ENGL 0121  College Composition I ............................ 3

Choose at least one course from the following list
BIOL 0108  Human Biology .................................. 4
BIOL 0210  Human Anatomy ................................ 4
BIOL 0211*  Human Physiology ............................... 4

Choose at least one course from the following list
*PSYC 0131  Introduction to Psychology ...................... 4
SOC 0105  Introduction to Sociology ........................ 3
SOC 0106  General Social Problems ......................... 3
SOC 0242  Racial and Cultural Minorities .................... 3
**PSYC 0263  Developmental Psychology .................... 3

General Education Electives
A minimum of 16 credits of General Education courses are required for this degree. General education elective courses may be selected from any MNTC goal area. Elective courses should be selected with recommendation from advisor.

NOTES:
* BIOL 0210 and CHEM 0101 or higher are prerequisites for BIOL 0211.
** PSYC 0131 is a prerequisite for PSYC 0263.
* EMS 1120 (7 credits) may be substituted for EMS 116 and EMS 118.

Total AAS Degree Credits: ........................................ 64

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PHLEBOTOMIST CERTIFICATE

Willmar Campus - 21 Credits

Required Courses  ........................................  Credits
MEDA 1002  Applied Communications/Scribing I .............. 2
MEDA 1010  Anatomy and Physiology I ...................... 3
MEDA 1102  Applied Communications/Scribing II ............. 2
MEDA 1110  Human Relations for Health Care ................ 3
MEDA 1113  Medical Terminology ............................ 3
MEDA 1225  Orientation to Medical Lab ...................... 3
MEDA 1324  Laboratory Skills ................................ 1
MEDA 1900  Phlebotomy Practicum ............................ 1
MEDA 2310  Laboratory Procedures I ........................ 1
Total Credits: ................................................. 21

Recommended Electives
MEDA 1021  Disease Conditions .............................. 3
MEDA 1326  Laboratory Skills II ............................. 1
Total Certificate Credits: ..................................... 21

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 3512.3100 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 0205  Prevention and Care of Athletic Injuries ............. 2
PE 0215  Coach Practicum .................................... 2
PE 0220  CPR/First aid ....................................... 2
PE 0230  Sport Psychology .................................... 2

Choose one of the following 2-credit courses:
PE 0210  Football Skills and Officiating ...................... 2
PE 0211  Volleyball Skills and Officiating ...................... 2
PE 0212  Wrestling Skills and Officiating ...................... 2
PE 0213  Basketball Skills and Officiating ..................... 2
PE 0214  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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSCH 1123</td>
<td>Oral and Written Communication</td>
<td>3</td>
</tr>
<tr>
<td>GSWS 1401</td>
<td>Employment Prep &amp; Retention</td>
<td>1</td>
</tr>
<tr>
<td>GSWS 1412</td>
<td>Small Business Operation</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 1014</td>
<td>Introduction to Photographic Concepts</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 1015</td>
<td>Photoshop Lightroom</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 1016</td>
<td>Portrait I</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 1017</td>
<td>Introduction to Digital Camera</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 1024</td>
<td>Photoshop I</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 1025</td>
<td>Digital Restoration</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 1027</td>
<td>Portrait II</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 1028</td>
<td>Commercial Photography I</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 2030</td>
<td>Commercial Photography II</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 2032</td>
<td>Environmental Portraiture</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 2033</td>
<td>Wedding Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 2034</td>
<td>Photoshop II</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 2035</td>
<td>On-Camera Flash Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 2040</td>
<td>Introduction to Video Production</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 2041</td>
<td>Basic Photo Business Applications</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 2042</td>
<td>Photographic Presentations</td>
<td>1</td>
</tr>
<tr>
<td>PHOT 2046</td>
<td>Portrait III</td>
<td>5</td>
</tr>
<tr>
<td>PHOT 2048</td>
<td>Studio Operations</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 2057</td>
<td>Supervised Occupational Experience</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 64

**Total Diploma Credits:** 64

### AAS Degree

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOT 1014</td>
<td>Introduction to Photographic Concepts</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 1015</td>
<td>Photoshop Lightroom</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 1016</td>
<td>Portrait I</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 1017</td>
<td>Introduction to Digital Camera</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 1024</td>
<td>Photoshop I</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 1027</td>
<td>Portrait II</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 2032</td>
<td>Environmental Portraiture</td>
<td>3</td>
</tr>
<tr>
<td>PHOT 2033</td>
<td>Wedding Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 2034</td>
<td>Photoshop II</td>
<td>4</td>
</tr>
<tr>
<td>PHOT 2035</td>
<td>On-Camera Flash Photography</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 2040</td>
<td>Introduction to Video Production</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 2041</td>
<td>Basic Photo Business Applications</td>
<td>2</td>
</tr>
<tr>
<td>PHOT 2042</td>
<td>Photographic Presentations</td>
<td>1</td>
</tr>
<tr>
<td>PHOT 2046</td>
<td>Portrait III</td>
<td>5</td>
</tr>
<tr>
<td>PHOT 2048</td>
<td>Studio Operations</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 45

**General Education Electives**

Take 2 classes from Goal Area 1 (1 English and 1 Communications class). . . 6

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM 1101</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1103</td>
<td>Basic Sales Techniques</td>
<td>3</td>
</tr>
<tr>
<td>MSM 147</td>
<td>Business Math and Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1401</td>
<td>Business Presentations</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1212</td>
<td>Personal Finance</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1220</td>
<td>Advertising and Promotion</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1816</td>
<td>Internship I</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1819</td>
<td>Internship II</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2158</td>
<td>E Commerce</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2833</td>
<td>International Business</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 30

**Elective Courses** (these courses are not required but are recommended)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM 1500</td>
<td>Professional/Leadership Development</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2102</td>
<td>Counselor Selling</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2425</td>
<td>Independent Study</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2823</td>
<td>Entrepreneurship - Business Plan</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2829</td>
<td>Marketing Research Fund</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits:** 30

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**Receptionist Certificate**

**Willmar and Hutchinson Campuses**

**Certificate - 24 credits**

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS 1007</td>
<td>Keyboarding I</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1008</td>
<td>Keyboarding II</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1010</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>ADS 1012</td>
<td>Business Presentations</td>
<td>2</td>
</tr>
<tr>
<td>ADS 1014</td>
<td>Written Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>ADS 2030</td>
<td>Word</td>
<td>3</td>
</tr>
<tr>
<td>GSCH 1302</td>
<td>Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>GSWS 1403</td>
<td>Employment Prep &amp; Retention</td>
<td>3</td>
</tr>
<tr>
<td>GSCH 0001</td>
<td>Basic Communications</td>
<td>2</td>
</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 the course. This course is in addition to program requirements and does 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 “Marketing & Sales Management.”

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM 1101</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1103</td>
<td>Basic Sales Techniques</td>
<td>3</td>
</tr>
<tr>
<td>MSM 137</td>
<td>Business Math and Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1401</td>
<td>Business Presentations</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1212</td>
<td>Personal Finance</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1220</td>
<td>Advertising and Promotion</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1816</td>
<td>Internship I</td>
<td>3</td>
</tr>
<tr>
<td>MSM 1819</td>
<td>Internship II</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2158</td>
<td>E Commerce</td>
<td>3</td>
</tr>
<tr>
<td>MSM 2833</td>
<td>International Business</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 30

**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 Credits:** 9

**Total AAS Degree Credits:** 60
Credits

Elective Courses (select 3 credits from the courses below)
GSCI 1302 Introduction to Computers ........................................2
GSIS 1502 Human Relations .......................................................2
GSCM 1102 Applied Written Communications ..........................2
GSCM 1112 Applied Oral Communications ..............................2
GSMS 1200 Applied Mathematics .............................................1
GSMS 1202 Applied Mathematics .............................................2
GSWS 1401 Employment Preparation .......................................1
GSWS 1422 Quality Management ............................................2
GSWS 1432 Problem Solving/Decision Making ..........................2
GSWS 1442 Team Development ...............................................2
GSWS 1451 First Aid/Safety .......................................................1
Total Credits: .................................................................6
Total Diploma Credits: .....................................................34

UNIVERSAL CARE ASSISTANT
Hutchinson Campus
Certificate — 16/26 credits
The Universal Care Assistant program is designed to educate special needs students who choose to work in a human service occupation area. During the 26-credit program, students learn necessary skills to work as in-home care providers with the elderly, young children, and persons with differing abilities. A majority of the credits are attained through hands-on experiences making it ideal for special needs learners seeking an employable skill.

26-Credit Certificate
Required Courses ......................................................... Credits
GSWS 1451 First Aid/Safety .................................................1
NA 1125 Assistant/Home Health Aide ....................................1
NA 1612 Long Term Care Nursing .......................................3
UCA 1005 Occupational/Service Learning ..........................2
UCA 1010 Cultures in the Workplace ...................................2
UCA 1015 Activity Ideas ....................................................2*
UCA 1040 Introduction to Aging .........................................2
UCA 1105 Behavior Intervention .........................................1
UCA 1115 Crisis Intervention ..............................................1
UCA 1180 Employment Readiness ......................................1
UCA 1210 Understanding Young Children ............................2
UCA 1225 Disability Awareness ...........................................1
UCA 2900 Internship I .......................................................6
Total Credits: .................................................................26

Elective Courses
(these courses are not required but are recommended)
EDA 1020 Sign Language I ..................................................2
EDA 1025 Sign Language II ................................................2
EDA 1150 Children’s Mental Health ......................................1
UCA 1200 Basic Math Skills ...............................................1
UCA 1205 Basic Communication Skills .................................1
UCA 2800 Professional Development ....................................3-5*
Total Diploma Credits: ..................................................26

16-Credit Certificate
Required Courses ......................................................... Credits
UCA 1005 Occupational/Service Learning ..........................2
UCA 1010 Cultures in the Workplace ..................................2
UCA 1115 Crisis Prevention/Intervention .............................1
UCA 1180 Employment Readiness ......................................1
UCA 1225 Disability Awareness ...........................................1
UCA 2900 Practicum/Internship ..........................................2
GSWS 1451 First Aid and Safety ..........................................1
Total Credits .................................................................10

Electives - Choose 6 credits from the courses below:
Recommended Option 1 (Elderly)
UCA 1015 Activity Ideas ....................................................1
UCA 1040 Introduction to Aging .........................................3
UCA 1105 Behavior Intervention .........................................2
Recommended Option 3 (Children)
UCA 1015 Activity ideas ....................................................2
UCA 1105 Behavior Intervention .........................................1
UCA 1210 Understanding Young Children ............................2
UCA 2900 Practicum/Internship ..........................................2

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

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.

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 1035  Anatomy/Physiology I .......................... 4
VNTE 1045  Pharmacology ................................... 2
VNTE 1055  Laboratory Techniques I .......................... 2
VNTE 1116  Veterinary Nursing Procedures II .................. 3
VNTE 1125  Kennel Management and Animal Care II .......... 1
VNTE 1135  Anatomy/Physiology II .......................... 2
VNTE 1146  Disease Processes I ............................. 2
VNTE 1155  Laboratory Techniques II ......................... 3
VNTE 2218  Veterinary Large Animal Husbandry .............. 1
VNTE 2219  Vet Nursing Procedures of Large Animals ......... 2
VNTE 2225  Kennel Management and Animal Care III .......... 1
VNTE 2230  Radiographic and Imaging Techniques ............. 3
VNTE 2245  Pharmacology II .................................. 1
VNTE 2255  Laboratory Techniques III ........................ 3
VNTE 2325  Veterinary Surgical Nursing and Anesthesia ....... 4
VNTE 2331  Veterinary Hospital Procedures .................... 3
VNTE 2332  Veterinary Hospital and Career Skills .............. 1
VNTE 2335  Veterinary Office Skills .......................... 1
VNTE 2345  Disease Processes II ............................... 1
VNTE 2350  Avian, Exotic and Lab Animal Care ................. 3
VNTE 2355  Laboratory Techniques IV ......................... 1
VNTE 2425  Kennel Management and Animal Care IV .......... 1
VNTE 2715  Internship ........................................ 8

Total Credits: ........................................... 57

Technical Elective Courses
VNTE 2811  Shelter Medicine ................................ 1
VNTE 2822  Certification Exam Review ......................... 1
VNTE 2825  Advanced Veterinary Behavior .................... 1
VNTE 2830  Pet Grooming ..................................... 2

Required General Education Courses
BIOL 0215  Microbiology ..................................... 4
CHEM 0101  Survey of Chemistry ............................... 4

Choose one of two options:
BIOL 0100  Introduction to Biology ............................ 4
BIOL 0200  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 PROGRAMMING

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 supports 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 1640  Introduction to Java ................................ 3
CST 1794  Introduction to Programming ......................... 3
CST 2426  Data Driven Web .................................. 3
CST 2641  Introduction to Mobile Applications ................. 3
MMDT 1008  Introduction to Computer Graphics ............... 3
MMDT 1010  Typography & Color Theory ....................... 3
MMDT 1021  HTML and the Web (or CST 1021) ............... 3
MMDT 1022  HTML II and Javascript (or CST 1022) .......... 3
MMDT 1051  Image Editing .................................... 3
MMDT 1142  Interface Design .................................. 3
MMDT 1144  Multimedia and the Web (or CST 1144) ......... 3
MMDT 1146  PHP Programming (or CST 1146) ............... 3

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

Elective Courses (select 9 credits from the courses below)
CST 1072  Windows Workstation Support .................. 3
CST 1602  Advanced Databases ................................ 3
CST 1615  Introduction to Perl ................................ 3
CST 1620  C Programming ................................... 4
CST 1700  CCNA R & S Introduction to Networks ............. 3
CST 1801  Visual Basic I ..................................... 4
CST 2505  Introduction to Linux ................................ 3
CST 2608  Linux Server Administration ....................... 3
CST 2642  Java Servlets ..................................... 3
CST 2643  Modern Mobile Applications ....................... 3
CST 2644  Emerging Mobile Applications ..................... 3
CST 2645  Databases for Developers .......................... 3
CST 2646  Software Project Management ..................... 3
MMDT 1001  Solving Computer Problems (or CST 1001) .... 2
MMDT 1025  Network Basics (or CST 1025) .................. 2
MMDT 1112  Animation for Web Design I .................... 3
MMDT 1114  Animation for Web Design II .................... 3
MMDT 1135  Internship ....................................... 3-5
MMDT 1150  Independent Studies ............................. 3-5

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

General Studies

Any 2-credit General Studies Communication (GSCM course) ........... 2

Recommended Electives (select a minimum of 3 credits)
GSIS 1602  Personal Financial Management .................. 2
GSWS 1401  Employment Preparation ........................... 1
Or any other 3 credits of General Studies courses .................. 3

Total General Studies Credits: ................................ 5
Total Diploma Credits: ........................................ 50
WELDING

Willmar and Hutchinson Campuses
Diploma/AAS Degree — 34/64/72 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
CMAE 1514 Safety Awareness ........................................... 2
CMAE 1518 Manufacturing Processes & Production ................. 2
CMAE 1522 Quality Practices ........................................... 2
CMAE 1526 Maintenance Awareness .................................. 2
WELD 1311 Prints, Symbols & Joint Designs 1 .................... 1
WELD 1312 Welding Processes ......................................... 2
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 ...................... 1
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

Elective Courses (0 credits required)
GSWS 1401 Employment Preparation and Retention .................. 1
WELD 1201 Applied Math ........................................... 1
WELD 2900 Welding Internship .................................... 1
Total Diploma Credits: .................................................. 34

Two-Year Diploma
Required Courses .................................................. Credits
CMAE 1514 Safety Awareness ........................................... 2
CMAE 1518 Manufacturing Processes & Production ................. 2
CMAE 1522 Quality Practices ........................................... 2
CMAE 1526 Maintenance Awareness .................................. 2
WELD 1311 Prints, Symbols & Joint Designs 1 .................... 1
WELD 1312 Welding Processes ......................................... 2
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 ...................... 1
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

Elective Courses (0 credits required)
GSWS 1401 Employment Preparation and Retention .................. 1
WELD 1201 Applied Math ........................................... 1
WELD 2900 Welding Internship .................................... 1
Total Diploma Credits: .................................................. 34

NOTE: At least one programming class is recommended.

AAS Degree

Required Courses .................................................. Credits
CST 1640 Introduction to Java ........................................ 3
CST 1794 Introduction to Programming ............................ 3
CST 2641 Introduction to Mobile Applications ....................... 3
MMDT 1008 Introduction to Computer Graphics .................... 3
MMDT 1010 Typography and Color Theory ......................... 3
MMDT 1021 HTML and the Web (or CST 1021) ..................... 3
MMDT 1022 HTML II and Javascript (or CST 1022) .............. 3
MMDT 1051 Image Editing ........................................... 3
MMDT 1142 Interface Design ......................................... 3
MMDT 1144 Multimedia and the Web (or CST 1144) ............... 3
MMDT 1146 PHP Programming (or CST 1146) ...................... 3
MMDT 2146 Data Driven Web (or CST 2146) ....................... 3
Total Credits: ...................................................... 36

Elective Courses (select 8 credits from the courses below)
CST 1072 Windows Workstation Support ............................ 3
CST 1602 Advanced Databases ...................................... 3
CST 1615 Introduction to Perl ........................................ 3
CST 1620 C# Programming .......................................... 4
CST 1700 CCNA R & S Introduction to Networks ................... 4
CST 1801 Visual Basic I ............................................. 4
CST 2505 Introduction to Linux ...................................... 3
CST 2608 Linux Server Administration .............................. 3
CST 2642 Java Servlets ............................................. 3
CST 2643 Modern Mobile Applications ........................... 3
CST 2644 Emerging Mobile Applications .......................... 3
CST 2645 Databases for Developers ............................... 3
CST 2646 Software Project Management .......................... 3
GSWS 1401 Employment Preparation ................................ 1
MMDT 1001 Solving Computer Problems (or CST 1001) ....... 2
MMDT 1025 Network Basics (or CST 1025) ....................... 2
MMDT 1112 Animation for Web Design I ......................... 3
MMDT 1114 Animation for Web Design II ......................... 3
MMDT 1135 Internship .............................................. 1-3
MMDT 2950 Special topics ........................................... 1-3
Total Credits: ...................................................... 8

General Education Electives
Goal 4 - Choose one option
Math 0109 Elements of Algebra & Trigonometry .................... 4
Math 1112 College Algebra ......................................... 4

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

General Education Electives
(select 12 credits from the courses below)
ENGL - Choose any Goal 1 ENGL course .......................... 3
CMST - Choose any Goal 1 CMST course ......................... 3

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

Total Credits: ..................................................... 12
Total AAS Degree Credits: ......................................... 60

NOTE: At least one programming class is recommended.
Programs of Study

WELD 2100 Introduction to Machining ........................................1
WELD 2101 Layout and Fabrication I ...........................................4
WELD 2103 Advanced Tungsten Arc Welding Shop ......................2
WELD 2105 Advanced GMAW/FCAW Shop ................................1
WELD 2106 Metal Finishing Shop ..............................................1
WELD 2111 Layout and Fabrication 2 ..........................................2
WELD 2201 Pipe Layout and Fabrication .....................................3
WELD 2203 Pipe Welding Shop ................................................1-4
WELD 2204 Welding Qualification Shop .....................................1-4
WELD 2206 Welding Fabrication Shop .......................................1-4
WELD 2207 Welding Metallurgy and Qualifications ....................2
WELD 2828 Multi-Axis CAM and Robotic Welding ....................2

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

Technical Electives
WELD 1201 Applied Math ....................................................1
WELD 2900 Internship .........................................................1-6

With advisor approval, WELD 2900 may be taken as part of the required 60 technical credits. Depending on the education scope of the internship, the number of credits completed in WELD 2203, WELD 2204, WELD 2206, and WELD 2900 may vary within the ranges listed.

General Studies (4 credits required)
GSIS 1602 Personal Finance ..................................................2
GSMS 1251 Applied Physics ....................................................1
GSWS 1401 Employment Preparation and Retention ...................1
GSWS 1451 First Aid/Safety ....................................................1

Required Credits .................................................................4
Total Diploma Credits .........................................................64

AAS Degree
Required Courses .............................................................Credits
CMAE 1514 Safety Awareness .................................................2
CMAE 1518 Manufacturing Processes & Production ....................2
CMAE 1522 Quality Practices ................................................2
CMAE 1526 Maintenance Awareness .....................................2
WELD 1311 Prints, Symbols & Joint Designs 1 ...........................1
WELD 1312 Welding Processes ...............................................2
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 ............................1
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 ...............................3
WELD 1328 Gas Metal Arc Welding Shop 2 ...............................3
WELD 1329 Gas Tungsten Arc Welding Shop 2 .........................2
WELD 2101 Layout & Fabrication I .........................................4
WELD 2103 Advanced Gas Tungsten Arc Welding Shop .............2
WELD 2105 Advanced GMAW/FCAW Shop ............................1
WELD 2106 Metal Finishing Shop ..........................................2
WELD 2111 Layout and Fabrication 2 .....................................2
WELD 2201 Pipe Layout and Fabrication .................................3
WELD 2203 Pipe Welding Shop .............................................1-4
WELD 2204 Welding Qualifications Shop .................................1-4
WELD 2206 Welding Fabrication Shop ...................................1-2
WELD 2207 Welding Metallurgy and Qualifications ....................2

Total Credits: ........................................................................57

Technical Elective
WELD 2900 Welding Internship ..............................................1-6

With advisor approval, WELD 2900 may be taken as part of the required 57 technical credits. With advisor approval and depending on the educational scope of the internship, the number of credits completed in WELD 2203, WELD 2204, WELD 2206, and WELD 2900 may vary within the ranges listed.

General Studies
Choose one course from the following two options:
CMST 1121 Introduction to Communication ............................3
ENGL 0121 College Composition 1 ........................................3

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

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

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

Certificate - Entry Level Welder
Required Courses .................................................................Credits
CMAE 1514 Safety Awareness .................................................2
WELD 1311 Prints, Symbols & Joint Designs I ............................1
WELD 1312 Welding Processes ...............................................2
WELD 1314 Gas Welding, Brazing & Cutting Shop 1 ...................1
WELD 1316 Shielded Metal Arc Welding Shop 1 .......................2
WELD 1320 Computer-Aided Manufacturing ............................1
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 ...............................3
WELD 1328 Gas Metal Arc Welding Shop 2 ...............................3
WELD 1329 Gas Tungsten Arc Welding Shop 2 .........................2
WELD 2101 Layout & Fabrication I .........................................4
WELD 2103 Advanced Gas Tungsten Arc Welding Shop .............2
WELD 2105 Advanced GMAW/FCAW Shop ............................1
WELD 2106 Metal Finishing Shop ..........................................2
WELD 2111 Layout and Fabrication 2 .....................................2
WELD 2201 Pipe Layout and Fabrication .................................3
WELD 2203 Pipe Welding Shop .............................................1-4
WELD 2204 Welding Qualifications Shop .................................1-4
WELD 2206 Welding Fabrication Shop ...................................1-2
WELD 2207 Welding Metallurgy and Qualifications ....................2

Total Required Electives ...........................................................2

Total Certificate Electives .......................................................16

WINDOWS ADMINISTRATOR
Willmar and Hutchinson Campuses
Certificate - 20 Credits

Required Courses .................................................................Credits
CST 1026 TCP/IP Routing ......................................................1
CST 1072 Windows Workstation Support ...............................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 2823 Network Intrusion ..................................................3

Total Certificate Credits ........................................................20
ACCT 1001 1 Credit
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 focus is on fundamental concepts of accounting for business or nonbusiness students.

ACCT 1002 1 Credit
Basic Accounting Concepts II
This course is a continuation of the study of basic financial accounting concepts as used in business and management. The content of the course includes the completion of an accounting cycle and financial statements.

ACCT 1800 2 Credits
Business Law
This is an introductory course in the principles of law as they apply to citizens and businesses.

ACCT 1812 2 Credits
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 3 Credits
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 4 Credits
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 4 Credits
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 0224

ACCT 1831 3 Credits
Accounting Math and Calculators
In this course students will apply math functions to the solution of business problems using a calculator.

ACCT 1834 3 Credits
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 0224 or consent of instructor

ACCT 1837 3 Credits
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 4 Credits
Income Tax
This course will cover an explanation and an interpretation the Internal Revenue Code for preparation of individual federal tax return.

ACCT 2814 4 Credits
Cost Accounting I
This course is an introduction to the principles and concepts used to account for materials, labor and factory overhead in a manufacturing entity using job order costing. It includes an introduction to the management implications of cost accounting.

ACCT 2821 4 Credits
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 4 Credits
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 2833 2 Credits
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 4 Credits
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)**

**ADR 1005**  
**Occupational/Service Learning**  
This course takes a hands-on approach to introducing the student to the Human Service Profession. The student will shadow and observe individuals who are employed in a variety of organizations, agencies, facilities or learning environments. Other learning experiences outside of the classroom include field trips and conferences/workshops.

**ADR 1010**  
**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**  
**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**  
**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**  
**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**  
**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**  
**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**  
**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**  
**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**  
**MEPAP Part 1: Basic Activity Program**  
The Basic Activity Program/MEPAP Part 1 is specifically designed and scheduled for those working in an activity program and who are seeking certification or training as an Activity Assistant or Activity Director. The Basic Activity Program consists of 4 credits of curriculum and practicum experience. Approved by the National Certification Council for Activity Professionals this program meets the education requirements of the modular education program, part one.

**ADR 1501**  
**Introduction to Activities and Aging Services**  
This course introduces the student to the history and background of the activity profession 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**  
**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**  
**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**  
**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.
MEPAP2: Activity Management Program

The course is divided into four one-credit segments. The first segment covers foundations of professionalism, ethics and leadership. The second segment covers administrative management and leadership skills. The third segment focuses on effective communication including listening skills, verbal/nonverbal communication, and oral and written communication. The final segment covers establishing and running an effective volunteer program. The course is approved by the National Certification Council for Activity Professionals and meets the education requirements of the modular education program, Part Two.

A. Role of Health Support Specialist in Psychosocial 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.

B. Role of Health Support Specialist in Culinary Care

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.

Advising: To register for this course, an approved contract from the facility must be presented to the academic advisor. This course is part of the MEPAP2: Activity Management Program.

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Advising: To register for this course, an approved contract from the facility must be presented to the academic advisor. This course is part of the MEPAP2: Activity Management Program.
through personal goal setting, error analysis, and intensive corrective practice. This course is designed to increase keyboarding speed and improve accuracy above the keyboard and the numeric keypad will be used. Prerequisite: ADS 1010 or accuplacer score of 85.5 or above.

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.

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.

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.

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.

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.

This course is designed to increase keyboarding speed and improve accuracy through personal goal setting, error analysis, and intensive corrective practice.

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.

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.

This course focuses on advanced word processing functions to format business correspondence, tables, reports with graphics, columns, and other design enhancements, as well as administrative and employment documents. Continued development of keyboarding skill and accuracy and proofreading skills are included.

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.

This course covers the development of oral business communication skills in the areas of voice usage, body language, listening, and preparing for a presentation. Students will make business presentations such as introductions, small group presentations, video conferencing, networking, and large group presentations using visual aids with an emphasis on using MS PowerPoint.

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. The student will also review concepts and applications of electronic communications in today’s marketplace. Prerequisite: ADS 1010 or accuplacer score of 85.5 or above.

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.

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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<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>
<td>2</td>
<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 1032</td>
<td>1</td>
<td>PowerPoint I/Presentation Graphics</td>
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<td>This course presents Microsoft PowerPoint, which is a software program that helps students organize and present information to an audience. The student will create audience handouts and speaker notes, and computer-based slide presentations. The student will build presentations using professionally designed templates and will be able to enhance the presentations with pictures and design tools.</td>
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<tr>
<td>ADS 1034</td>
<td>1</td>
<td>PowerPoint II/Presentation Graphics</td>
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<td>This course is a continuation of PowerPoint I and includes polishing and enhancing presentations. It is recommended that students have a basic knowledge of PowerPoint equivalent to the learning outcomes in ADS 1032 or have taken ADS 1032.</td>
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<tr>
<td>ADS 1035</td>
<td>3</td>
<td>Web Page Design</td>
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<td>This course focuses on designing and creating a web page. Using computer software such as Dreamweaver, students will learn how to set up a web page, and various elements used on web pages including graphics, typography, multimedia, text blocking, white space, and navigation links. Students will create tables, rollovers, images (both scanned and commercial) and frames. As a final project, students will design and create a web site.</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 the accounting cycle. This course provides a strong foundation for a student entering a business environment.</td>
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<tr>
<td>ADS 1042</td>
<td>3</td>
<td>PowerPoint</td>
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<td>This course covers the creation of professional-quality slide presentations. It covers Microsoft PowerPoint which is a software program that helps students organize and present information to an audience. The student will be able to create audience handouts, speaker notes, and computer-based slide presentations. The student will build presentations quickly using professionally designed templates and will be able to enhance the presentations with pictures, charts, sound and video. Prerequisite: Knowledge of Microsoft Windows.</td>
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<tr>
<td>ADS 1043</td>
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<td>PowerPoint III</td>
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<td>This course builds on the skills learned in PowerPoint I and II. Students will add complex sound, animation and graphics to presentations, in addition to setting up self-running presentations with a narrative. Students will also create various types of presentations including photo albums, banners, and posters. The student will create an original, comprehensive PowerPoint presentation as a capstone project for this course. Students will create and give their own presentations. It is recommended that students have knowledge of PowerPoint equivalent to the learning outcomes in ADS 1032 PowerPoint I and ADS 1034 PowerPoint II or have taken ADS 1032 PowerPoint I and ADS 1034 PowerPoint II.</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>
</tr>
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ADS 1061
Access I
This is the first course in a three-course sequence designed for students wishing to learn Microsoft Access database software in smaller increments over a longer period of time. These courses are only offered through the flex lab at the Willmar campus at the present time. Each course builds on the skills learned in the previous course. The first level will focus on creating databases and adding, changing, and deleting that data. The second level will cover skills related to sorting and retrieving data, and the third level will focus on customizing forms and reports.

ADS 1071
Access II
This is the second course in a three-course sequence designed for students wishing to learn Microsoft Access database software in smaller increments. These courses are only offered through the flex lab at the Willmar campus at the present time. Each course builds on the skills learned in the previous course. The first level will focus on creating databases and adding, changing, and deleting that data. The second level will cover skills related to sorting and retrieving data, and the third level will focus on customizing forms and reports. (The three-course sequence is ADS 1061, ADS 1071, and ADS 1081). It is recommended that students have a basic knowledge of Access equivalent to the learning outcomes in ADS 1061 or have taken ADS 1061.

ADS 1081
Access III
This is the third course in a three-course sequence designed for students wishing to learn Microsoft Access database software in smaller increments. These courses are only offered through the flex lab at the Willmar campus at the present time. Each course builds on the skills learned in the previous course. The first level will focus on creating databases and adding, changing, and deleting that data. The second level will cover skills related to sorting and retrieving data, and the third level will focus on customizing forms and reports. (The three-course sequence is ADS 1061, ADS 1071 and ADS 1081). It is recommended that students have a moderate knowledge of Access equivalent to the learning outcomes in ADS 1061 and ADS 1071 or have taken ADS 1061 and ADS 1071.

ADS 1110
Anatomy and Physiology
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.

ADS 1120
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.

ADS 1140
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. Prerequisite: HIMC 1110 or ADS 1110

ADS 1201
Civil Litigation and Criminal Law
This course covers the legal terminology, procedures, and documents used in the practice of civil litigation and criminal law.

ADS 1202
Corporate and Real Estate Law
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
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
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
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
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 0210 or equivalent

ADS 1310
Medical Transcription, Quality Management and Production
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 1312
Medical Transcription II
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 1320  
**Medical Office Management**  
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 1323  
**Electronic Health Record Technology**  
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. Student will be required to collect, maintain, manage, and utilize EHR functions for patient care, reimbursement, financial and administrative purposes. Student 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**  
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**  
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**  
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**  
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 1007

ADS 2045  
**Advanced Word Processing**  
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  
**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  
**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  
**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  
**Legal Administrative 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  
**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  
**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  
**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 0111 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 0112 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 0113 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 0125 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 0126 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 0127 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 0128 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 2 Credits
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 1 Credit
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 3 Credits
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 1 Credit
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 1 Credit
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 3 Credits
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 1 Credit
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 2 Credits
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 3 Credits
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 Ultrasound of Dairy Cattle Lab  
Principles of palpation and ultrasound of 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 herdsmen.

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 1284  
Dairy Seminar III  
Dairy professionals will present information on the latest technologies in the dairy industry.

AGRI 1285  
Dairy Seminar IV  
Dairy professionals will present information on the latest technologies in the dairy industry.

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  
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  
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  
This course provides an introduction to the business of agriculture, and 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  
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 agri-business procedure simulation is included using Agvance software.

AGRI 1552  
Ag Business Credit and Finance  
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  
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  
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  
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.
Course Descriptions

AGRI 1622  3 Credits
Farm Management II
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  3 Credits
Farm Management III
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  3 Credits
Farm Management IV
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  3 Credits
Farm Management V
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  1 Credit
Applied Farm Records
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  3 Credits
Ag Commodity Marketing
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  3 Credits
Soils and Fertility Management
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  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 1665  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 1670  3 Credits
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  2 Credits
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  1 Credit
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  2 Credits
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  3 Credits
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 0112, AGRI 1550, AGRI 1660, AGRI 1670, AGRI 1680

AGRI 1721  1 Credit
Fall Agriculture Field Experience Lab
An on-farm implementation of farming practices as it relates to field 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. Harvest, tillage, collection of plot data.
AGRI 1722 1 Credit
Spring Agriculture Field Experience Lab
An on-farm implementation of farming practices as it relates to field 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 ie. Planting, tillage, spraying, cultivating, plot layout.

AGRI 1730 3 Credits
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 2 Credits
Specialty Crops
This course covers the management practices for the production of sugar beets and edible beans. Planting, fertilization, pest control and harvest are covered.

AGRI 1761 2 Credits
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 0111 or AGRI 1650 (dualnumbered courses)

AGRI 1770 3 Credits
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 2 Credits
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 2 Credits
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 3 Credits
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 3 Credits
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 3 Credits
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 2 Credits
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 3 Credits
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 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 include 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 3 Credits
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 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, and methods of evaluating feedstuffs, and comparative study of digestive system of farm animals.

AGRI 1830 2 Credits
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 2 Credits
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.
Course Descriptions

AGRI 1850   2 Credits
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 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 1870   3 Credits
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   3 Credits
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   2 Credits
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   1 Credit
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   2 Credits
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 2130   2 Credits
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   2 Credits
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.

AGRI 2140   3 Credits
Ag Power Maintenance and Repair
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.

AGRI 2141   4 Credits
Agriculture Power Maintenance and Repair Lab
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.

AGRI 2150   2 Credits
Harvesting and Fall Tillage Equipment
Student will learn the proper operation, maintenance, repair and adjustments for fall field machinery with an emphasis on combines and fall tillage equipment.

AGRI 2151   2 Credits
Forage Harvesting/Fall Tillage
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.

AGRI 2160   2 Credits
Planters & Spring Tillage
This class will cover different types of tillage and planting systems. 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.

AGRI 2161   1 Credit
Planter Meter Certification
This course identifies the need for the operator to understand the importance of planter operation as it pertains to seed placement in the seed trench and seed-to-seed spacing. The students will identify types of planter metering systems used in today's planters. The planter meters that will be discussed are the finger, vacuum, and air pressure planting system. The students will identify, repair, calibrate, and test planter metering units. Areas of study include planter population, seed-to-seed spacing, this includes operating the planter meters on the test stand to determine the operation and calibration of the metering units.

AGRI 2180   2 Credits
Agricultural Machinery Management
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.

AGRI 2191   2 Credits
CDL - Preparation for Written Test
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
AGRI 2192  1 Credit
CDL - Preparation for Road Test
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. Prerequisite: AGRI 2191

AGRI 2200  2 Credits
Farm Building and Structures
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.

AGRI 2210  3 Credits
Ag Industry Machinery Maintenance
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.

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 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.

ANTHOPOLGY (ANTH)

ANTH 0101  3 Credits
Introduction to Cultural Anthropology
MnTC Goals 5, 6
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 0104  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 0106  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 0107  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 women’s movement as it relates to art and the contemporary woman artist.

ART 0120  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.
Course Descriptions

ART 0125  
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 0130  
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 0140  
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 0226  
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 0230  
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 0231  
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 0240  
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 0251  
Second Three Dimensional Design and Color  
MnTC Goal 6  
Second Three Dimensional 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 0260  
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 0261  
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 0297  
Independent Study  
MnTC Goal 6  
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.

ART 0226  
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 0230  
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 0231  
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 0240  
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 0251  
Second Three Dimensional Design and Color  
MnTC Goal 6  
Second Three Dimensional 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 0260  
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 0261  
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 0297  
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.

**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  
This course covers the theory and testing of audio transducers, microphones, loudspeakers, and a closely associated component, crossovers.

**AVT 2100**  
Audio Signal Processing  
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 2110**  
Audio Recording Lab  
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 2211**  
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.

**AVT 2280**  
Systems Installation  
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.
## Course Descriptions

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<th>Course Code</th>
<th>Course Name</th>
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<td>AVT 2360</td>
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<td>AVT 2375</td>
<td>Computer Recording Techniques</td>
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<td>AVT 2390</td>
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<td>AVT 2460</td>
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<td>AVT 2590</td>
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<td>AVT 2630</td>
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<td>ABOD 1002</td>
<td>Automotive Trades Skills</td>
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<td>ABOD 1111</td>
<td>Minor Body Repair</td>
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### Auto Body (ABOD)

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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 employment-like work experience. Prerequisite: Varies depending on nature of internship.

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.

This course covers the mechanical and electronic operation, testing, and calibration of analog and digital audio tape recorders.

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.

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.

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.

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.

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 video 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 measurements. Prerequisite: AVT 1201.

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 acoustical testing of rooms and audio systems and the interpretation of numerous acoustical measurements. Prerequisite/Co-requisite: AVT 1201

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.

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.

This course allows the designing of a program of study for the individual 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 employment-like work experience. Prerequisite: Varies depending on nature of internship.

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.

In this course, students learn to repair minor vehicle body damage. Topics covered include the characteristics of sheet metal and other body materials, how damage affects the properties and structural shape of these materials, and methods/technologies for repairing small damaged areas.
ABOD 1112  6 Credits
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  3 Credits
Vehicle Preparation
This course covers the use of automotive reconditioning equipment and products. Students will practice methods of reconditioning automobiles to meet industry standards. Instruction will also cover products necessary to prepare a vehicle’s surface for a final topcoat.

ABOD 1124  1 Credit
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  3 Credits
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 refinish procedures. The course will allow students the chance to practice painting using modern technology.

ABOD 1126  9-11 Credits
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  4 Credits
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  2 Credits
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  4 Credits
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  9 Credits
Wheel Alignment and Mechanical Systems
In this course, students will learn about the theory, design and construction and 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  5 Credits
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  2-8 Credits
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 2900  1-6 Credits
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  3 Credits
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  6 Credits
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.
Course Descriptions

ABOD 2904 6 Credits
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.

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.

ABOD 2906 3 Credits
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 adjuster.

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.

ABOD 2907 5 Credits
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 upon the needs of specific students as recognized by the instructor.

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.

ABOD 2908 5 Credits
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.

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 include system components, imaging acquisition and processing, machine image software, and measurement and testing applications.

ABOD 2910 2 Credits
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

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.

ABOD 2904 6 Credits
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.

ENGT 1301 2 Credits
Fluid Power
This course covers fundamental principles of hydraulic and pneumatic systems, their operation, and design.

ABOD 2906 3 Credits
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 adjuster.

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.

ABOD 2907 5 Credits
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 upon the needs of specific students as recognized by the instructor.

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

ABOD 2908 5 Credits
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.

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.

Automated & Robotic Systems Technology (ENGT)

ENGT 1103 2 Credits
Mechanical Systems
This course covers mechanical systems including gears, pulleys, cams, bearings, clutches, conveyors, and other items associated with manufactured products and manufacturing machines.

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 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.
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 1112  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.

AUTO 1142  2 Credits
Suspension 1
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.

AUTO 1152  2 Credits
Brakes 1
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.

ENG 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.

ENG 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.

AUTO 2152  2 Credits
Brakes 2
This is a continuation of Brakes 1. Various braking systems will be discussed and repaired. ABS and other new systems will be discussed.

AUTO 2174  4 Credits
Air Conditioning
This course covers the principals of air conditioning, heating systems, and mechanical and electronic air handling systems. Practical shop experiences will include evacuation, recharging, performance testing, compressor service, parts replacement, and diagnosis, service and repair of air handling systems. Computerized air conditioning diagnostics will also be covered.

ENGT 2900  1-5 Credits
Internship
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.

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.

AUTO 1182  2 Credits
Engine Performance 1
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.

AUTO 1212  2 Credits
Engine Diagnosis
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.

AUTO 1234  4 Credits
Manual Transmission
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.

AUTO 1364  4 Credits
Electrical Systems 2
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.

AUTO 2103  3 Credits
General Shop
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.

AUTO 2124  4 Credits
Automatic Transmission
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.

AUTO 2152  2 Credits
Brakes 2
This is a continuation of Brakes 1. Various braking systems will be discussed and repaired. ABS and other new systems will be discussed.

AUTO 2174  4 Credits
Air Conditioning
This course covers the principals of air conditioning, heating systems, and mechanical and electronic air handling systems. Practical shop experiences will include evacuation, recharging, performance testing, compressor service, parts replacement, and diagnosis, service and repair of air handling systems. Computerized air conditioning diagnostics will also be covered.
### Course Descriptions

**Auto Transmission 2**
Advanced studies in automatic transmission troubleshooting, hydraulic schematics, shift kits, lockup torque converters, overdrives and computer controls are covered in this course. Various transmissions and transaxles are rebuilt to field standards. Basic techniques, technical updates, service improvements, and special tool use are stressed in this course.

**Suspension 2**
This is a continuation of Suspension 1. Various steering systems, suspension systems, and alignment angles will be discussed and repaired or adjusted. Checks and adjustments of steering gears and rack and pinion systems will be discussed.

**Brakes 2**
Diagnosis and repair of antilock brake systems, traction control, and newer braking systems will be presented. Actual diagnosis and repair of systems will be applied.

**Engine Performance 2**
This course will include fuel system theory and diagnosis. Fuel properties, fuel pumps, and fuel injection will be covered. OBD 2 diagnostics will also be included with some emphasis on General Motors vehicles. Scan tool diagnostics will be a large part of this course.

**Engine Performance 3**
This course covers the use of various test equipment with an emphasis on advanced diagnostic equipment and emission testing. Students develop skills in diagnosing, testing, and correcting problems related to engine performance. This course concentrates on computer controlled systems. Students have an opportunity to hone their skills on today's high tech automobiles using the latest techniques and diagnostic equipment.

**Electrical Systems 4**
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.

**Electrical Systems 4**
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.

**Special Projects/Topics**
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 develop skills and concepts essential to the Automotive Service Technology program. Prerequisite: Instructor approval
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

Biological Sciences

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 Archaeabacteria, Eubacteria, Protista, and Fungi. Lecture - 4 hours/week; Laboratory - 3 hours/week.

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 0200 or consent of instructor

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.

Human Anatomy and Physiology I
MnTC Goal 3A
A study of the structure and function of the following body systems: integumentary, skeletal, articualr, 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.

Human Anatomy and Physiology II
MnTC Goal 3A
A continuation of Biology 0212 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 0212

Microbiology
MnTC Goal 3A
This course will focus on the immune system, including specific and nonspecific host defenses, microbial offense, and a survey of the microbial world (bacteriology, parasitology, mycology and virology). Further topics will include practical application of immunological principles and diagnostics. Prerequisites: BIOL 0100 or higher, CHEM 0101

Applied Structural Genomics
This course is an undergraduate research opportunity applying the basic concepts of biotechnology. Students will utilize the equipment and techniques of a typical biotechnology laboratory including pipetting skills, agarose electrophoresis, aseptic technique, SDS-PAGE, polymerase chain reaction (PCR), transformation, and cloning. The research project will begin with identification of genes of interest, securing oligos, and amplifying the genes through PCR. Cloning processes will create entry plasmids to be introduced into destination vectors leading to protein expression. The expressed proteins will then be isolated and examined by SDS-PAGE. Prerequisites: BIOL 200 and CHEM 0151 or consent of instructor

International Study
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.

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**BUSINESS (BUS)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 0101</td>
<td>3</td>
<td>Business and the American Economy</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 0120</td>
<td>3</td>
<td>Business Communications</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 0140</td>
<td>3</td>
<td>Introduction to Computers</td>
<td>An introductory course in computers, including a history of computers, information systems, and societal impact. An introduction to computer applications is also studied using word processing, spreadsheets, data base programs, and the Internet.</td>
</tr>
<tr>
<td>BUS 0160</td>
<td>3</td>
<td>Business Leadership</td>
<td>The course is designed to provide knowledge about the skills and understanding 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: development and utilization of strategies to promote positive business relationships, self-management, change management and professionalism. The students will also be introduced to successful behaviors of leaders through case studies and readings.</td>
</tr>
<tr>
<td>BUS 0195</td>
<td>3</td>
<td>Introduction to Economics</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 0206 and/or ECON 0207.</td>
</tr>
<tr>
<td>BUS 0201</td>
<td>3</td>
<td>Legal Environment of Business</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 0207</td>
<td>4</td>
<td>Statistics and Its Applications</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 hypothesis testing, statistical inference, goodness of fit, analysis of variance, regression analysis, time series, forecasting, and quality control. Prerequisite: MATH 0098 or two years of high school algebra with a score on the math placement exam to qualify for college level math.</td>
</tr>
<tr>
<td>BUS 0208</td>
<td>3</td>
<td>Intro to International Business/Economics</td>
<td>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.</td>
</tr>
<tr>
<td>BUS 0224</td>
<td>4</td>
<td>Financial Accounting</td>
<td>Basic principles of recording business transactions and the preparation and interpretation of financial statements. Development of the accounting cycle. For both service and merchandising organizations.</td>
</tr>
<tr>
<td>BUS 0225</td>
<td>4</td>
<td>Managerial Accounting</td>
<td>This course includes the study of cash flow, cost accounting systems, manufacturing operations, budgeting, standard costs and capital budgets. Prerequisite: BUS 0224 or ACCT 1816 or consent of instructor</td>
</tr>
<tr>
<td>BUS 0295</td>
<td>1-4</td>
<td>Special Topics in Business</td>
<td>Current topics as they relate to the modern business environment. This course provides an opportunity for a student to study topics delivered either on an individual or course basis. Can be repeated up to 4 credits.</td>
</tr>
</tbody>
</table>

**CALIBRATION ENGINEERING TECHNOLOGIES (MSET)**

<table>
<thead>
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<th>Course Code</th>
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<tbody>
<tr>
<td>MSET 1803</td>
<td>2</td>
<td>Metrology Overview</td>
<td>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.</td>
</tr>
<tr>
<td>MSET 1804</td>
<td>2</td>
<td>Introduction to Physical Metrology</td>
<td>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.</td>
</tr>
<tr>
<td>MSET 1805</td>
<td>2</td>
<td>Introduction to Dimensional Metrology</td>
<td>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.</td>
</tr>
</tbody>
</table>
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 microscopes 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 if 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.
Course Descriptions

**Career Success Skills (CMAE)**

**CMAE 1514**
*2 Credits*
**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**
*2 Credits*
**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**
*2 Credits*
**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 non-conforming product.

**CMAE 1526**
*2 Credits*
**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.

**CMAE 1528**
*1 Credit*
**Career Success Skills**
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.

**Career Orientation (CAOR)**

**CAOR 0101**
*1 Credit*
**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.
Carpentry (CF)

CF 1100 2 Credits
Tool and Construction Safety
This course is designed to help students become aware of safety issues and requirements related to the carpentry trade. Topics covered include OSHA standards for construction jobsite 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 1103 2 Credits
Principles of Carpentry I
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.

CF 1106 2 Credits
Construction Drawings
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 1 Credit
Foundations and Concrete Lab I
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 2 Credits
Construction Lab I
In this course, students will learn to frame floors, walls, and roofs. Students will build various wall structures with window and door openings. 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.

CF 1115 2 Credits
Construction Lab 2
In this course, students will 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 3 Credits
Exterior Finish Lab 1
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.

CF 1121 2 Credits
Exterior Finish Lab 2
This course 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 2 Credits
Applied Mathematics for Carpentry Careers
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 2 Credits
Principles of Carpentry II
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 counter-tops. The course also covers exterior finishes including: house wrap, window installation and roof covering, exterior finishes, and roofing materials.

CF 1217 3 Credits
Construction Lab 3
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 1 Credit
Introduction to Green Construction Methods
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.

CF 1229 3 Credits
Remodeling/Renovation Lab 1
This course covers key elements in safe and proper design, demolition and reconstruction encountered during remodeling or renovation projects.

CF 1232 3 Credits
Custom Cabinet Construction Lab
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.

CF 1235 4 Credits
Interior/Exterior Finish Lab 1
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, countertop, door hardware, and closet shelving.

CF 1699 2 Credits
Stair Building
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

CF 1700 3 Credits
Roof Framing
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
Course Descriptions

common rafters. Extensive use of the steel and speed square will be stressed in this course. Prerequisite: CF 1691

CF 2302  2 Credits
Construction Planning and Management 1
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. Prerequisite: CF 1203

CF 2306  2 Credits
Architectural CAD
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 sub-feature of a particular command.

CF 2309  1-3 Credits
Foundations and Concrete Lab 2
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

CF 2315  1-5 Credits
Construction Lab 4
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

CF 2321  2 Credits
Exterior Finish Lab 3
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

CF 2402  2 Credits
Construction Planning and Management 2
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. Prerequisite: CF 1203

CF 2417  1-5 Credits
Construction Lab 5
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

CF 2422  2 Credits
Building Energy Codes
The purpose of this course is to acquaint the student with the Minnesota Building Code and Energy Code as it relates to residential buildings.

CF 2429  1-3 Credits
Remodeling/Renovation Lab 2
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 129

CF 2435  1-3 Credits
Interior/Exterior Finish Lab 2
This course covers advanced methods and skills associated with interior and exterior finishing. Prerequisite: CF 1235

CF 2900  1-5 Credits
Carpentry Internship
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

CHEMISTRY (CHEM)

CHEM 0100  4 Credits
Introduction to Chemistry
MnTC Goals 3B, 10
This introductory one-semester course is designed for liberal arts and pre-health science students. Topics covered are atomic structure, energy, phase changes, solutions, acid-base concepts and 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 0097 or MATH 0099 or math placement exam score for MATH 0098 or above

CHEM 0101  4 Credits
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 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 0097 or MATH 0099 or math placement exam score for MATH 0098 or above

CHEM 0102  4 Credits
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 0100
Chinese (CHIN)

CHIN 0101  
Beginning Chinese I  
MnTC Goal 8  
This course offers elementary training in basic language skills of listening, speaking, reading, and writing. Specific goals include: 1) discuss nature and history of the Chinese language; 2) understand and use basic sentence patterns and 400 vocabulary words; 3) recognize 250 Chinese characters (traditional and simplified forms) and write 150 of them; 4) write simple phrases and sentences in Chinese; and 5) translate simple phrases and sentences from Chinese into English. Students also learn use of Chinese word processing software, Chinese language Internet software, and a computer-based Chinese text reader that helps them learn both to read better and to master new vocabulary. This is a web-enhanced course with many on-line interactive activities. This course is the first semester of a one-year sequence in Mandarin Chinese.

CHIN 0102  
Beginning Chinese II  
MnTC Goal 8  
This course continues elementary training in basic Mandarin Chinese language skills of listening, speaking, reading and writing. Specific goals include: 1) increase knowledge of the nature and history of the Chinese language; 2) understand and use more basic sentence patterns and 800 vocabulary words; 3) recognize 500 Chinese characters (traditional and simplified forms) and write 300 of them; 4) write Chinese sentences and paragraphs; and 5) translate difficult sentences and paragraphs from Chinese into English. Students are also introduced to Chinese-English dictionaries and have further practice with Chinese word processing software, Chinese language Internet software, and a computer-based Chinese text reader. This is a web-enhanced course with many on-line interactive activities. This course is the second semester of a one-year sequence in Mandarin Chinese. prerequisite: CHIN 0101 or equivalent

CHEM 0103  
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 0102 or consent of instructor

CHEM 0151  
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 0100

CHEM 0152  
Principles of Chemistry II  
MnTC Goal 3B  
CHEM 0152 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 0151

CHEM 0261  
Introduction to Organic Chemistry I  
MnTC Goal 3B  
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, stereochemistry, 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 0152

CHEM 0262  
Introduction to Organic Chemistry II  
MnTC Goal 3B  
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 0261

COMMUNICATION STUDIES (CMST)

CMST 0121  
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 0220  
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 0260   3 Credits
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 0290   1 Credit
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   1 Credit
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 1500   2 Credits
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.

DRFT 1502   2-3 Credits
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   2 Credits
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  
**Drafting Math I**
This course is a study of actual shop problems faced by drafters and designers. It is structured like industry where you may use a Machinery Handbook for reference. This course also involves the study of Statistical Process Control and how it relates to the manufacturing field. The problems are solved by the use of algebra and basic mathematics equations.

DRFT 1510  
**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  
**Intersections and Developments**
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 1512  
**Dimensioning Principles**
This course introduces the student to dimensioning and tolerancing. Size, location, and tolerances of features are covered as well as the principles of making parts. Prerequisite: DRFT 1500

DRFT 2500  
**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  
**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  
**Jig and Fixture Design**
This course is an introduction to the basics of jig and fixture design including an overview of the various types of jigs and fixtures, basic principles and construction of work holding devices, important design considerations, and the practical application of tool design.

DRFT 2503  
**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  
**Electronic and Electrical Drawings**
This course covers logic diagrams, schematic diagrams, printed circuit board drawings, and the symbology used to create them.

DRFT 2505  
**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  
**Sheet Metal Design**
This course introduces the student to the basics of sheet metal design. Students will learn to apply the industry standard bend equations to metals varying from sheet metal to plate steel. The student 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, developing a single sheet metal part from a weldment, and utilize Parametric software. Prerequisite: DRFT 1510, DRFT 1511

DRFT 2508  
**Drafting 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. Prerequisite: DRFT 1508

DRFT 2510  
**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  
**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  
**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 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 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 0140  3 Credits
Introduction to Computers
An introductory course in computers, including a history of computers, information systems, and societal impact. An introduction to computer applications is also studied using word processing, spreadsheets, data base programs, and the Internet.

**COMPUTER SYSTEMS TECHNOLOGY (CST)**

CST 1001  2 Credits
Solving Computer Problems
In this class students will configure and customize their laptop; install/uninstall software; manage data files, software, hard disk and hardware; and learn to log on to the internet and the intranet. They will set up back-up procedures and troubleshoot problems with both Windows and Macintosh systems and with other components to get the best performance from their computer.

CST 1021  3 Credits
HTML and the Web
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 systems. It provides in-depth, hands-on training for Information Technology (IT) professionals responsible for the planning, implementation, management, and support of Microsoft Windows.

CST 1144  3 Credits
Multimedia and the Web
This course is designed to give students advanced skills in designing a web site. Students are instructed in how to effectively use a HyperText/World site authoring tool. The use of HTML coding, browser differences, page layout, tables, graphics, image mapping, linking, and using Flash objects are covered. Advanced topics covered include dynamically created pages using PHP. Students will manage their projects on an actual web server. Prerequisite: CST or MMDT 1021

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 the application software used in businesses and by other employers of computer technicians.

CST 1333  3 Credits
Computer Game Development
This course is designed to introduce the student to the principles and techniques involved in developing two dimensional computer games. In the process of learning principles of game development, the student will build upon fundamental programming techniques learned in prerequisite Course CST1794, as well as learning advanced Graphical programming techniques. These advanced techniques will include event processing, real time I/O control, pixel processing, and texture control. Upon completion of this course the student should be prepared to create two dimensional graphical interactive computer games. Prerequisite: CST 1794
CST 1510 3 Credits
System Diagnostics
This course is designed for the 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 1615 3 Credits
Introduction to Perl
This course covers an introduction to the Perl programming language. Perl concepts are covered with an emphasis on the uses of Perl in CGI scripts for the World Wide Web. Students will learn the skills they need to write Perl scripts and utilities through the writing of actual programs. Prerequisite: CST 1794 or prior programming experience.

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 object-oriented language. The student will develop many programs using C#. Prerequisite: CST 1794 or equivalent.

CST 1640 4 Credits
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 3 Credits
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 1701 3 Credits
CCNA R & S Routing and Switching Essentials
Cisco Certified Network Associate Routing and Switching, Routing and Switching Essentials, is the second of four semester courses designed to provide students experience in current and emerging networking technology. Instruction includes safety, networking, network terminology and protocols, network standards, LANs, WANs, OSI models, Ethernet, Token Ring, Fiber Distributed Data Interface, TCP/IP Addressing Protocol, dynamic routing, and the network administrator’s role and function. Particular emphasis is given to the use of decision making and problem solving techniques in applying science, mathematics, communication, and social studies concepts to solve networking problems. Instruction is provided in the proper care, maintenance, and use of networking software, tools, and equipment and all local, state and federal safety, building, and environmental codes and regulations. Students should have previously completed CST 1700.

CST 1704 3 Credits
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 1801 4 Credits
Visual Basic I
This course covers both design and programming using the programming language Visual Basic.NET, which is an event-oriented, highly-visual language. The student will develop many programs using Visual Basic.NET. Prerequisite: CST 1794 or equivalent.

CST 1802 1 Credit
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.
Course Descriptions

CST 1861  Command Line and Registry  3 Credits
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  3 Credits
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  3 Credits
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  3 Credits
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  2 Credits
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, CST 1510 and CST 1261

CST 2505  Introduction to Linux  3 Credits
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  2 Credits
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  3 Credits
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  3 Credits
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 2642  Java Servlets  3 Credits
The course covers both design and programming using Java, which is an object-oriented language. The student will develop Java servlets. Prerequisite: CST 1640 or equivalent

CST 2643  Mobile App Development Using iOS  3 Credits
An introduction to modern mobile application development for iOS (Apple) devices. Students will be using the Xcode development environment on Apple Mac equipment to create applications for iOS devices, which include iPads, iPhones, Apple TV and Apple Watch. Prerequisite: CST 1794

CST 2644  Mobile App Development Using Android  3 Credits
An introduction to mobile application development for Android devices. Students will be using Android development environments on Windows or OS X equipment to create applications for Android devices, which include tablets and phones. Prerequisite: CST 1794

CST 2645  Databases for Developers  3 Credits
A survey of database concepts including open-source relational databases, commercial relational databases, and non-relational databases. An introduction to the Structure Query Language (SQL) and XML focusing on mobile application development.

CST 2646  Software Project Management  3 Credits
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  CCNA R & S Scaling Networks  2 Credits
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, VPN’s, LAN Technology, LAN Switching, VLAN, LAN Design, IGRP and LAN troubleshooting. Students should have completed CST1700, CST1701 Before taking this class.
CST 2703  
CCNA R & S Connecting Networks  
This course introduces WAN technology, including PPP, Frame Relay, and broadband links. Topics include concepts about how to analyze network vulnerabilities, general methods for mitigating common security threats, and types of security appliances and applications. The course will teach students to manage and secure networks, and implement Cisco’s Adaptive 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. Students should have completed CST 1700, CST 1701, and CST 2702 before taking this class.

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, work place 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 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 students with in-depth knowledge and practical experience with 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 systems. Content topics include: intrusion detection, policy creation, social engineering, Distributed Denial-of-Services (DDoS) attacks, buffer overflows, and virus creation.

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 2823.

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 2824.

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 able to enroll in this course.

Cosmetology (COS)  

COS 1403  2 Credits  
Pre-Clinic Introduction  
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  4 Credits  
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 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, drapeing, 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 Pre-Clinic 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 the 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 day spa or medical spa environment. Students will perform microdermabrasion, acne, and aging treatment procedures. Topics covered include advanced massage techniques, aromatherapy, photography makeup, and other esthetic related services.

COS 1462  
**Salon Fundamentals for Estheticians II**  
This course builds on content introduced in Salon Fundamentals for Estheticians I. Topics covered are essential for success in the field of Esthetics including practical salon requirements, professional behavior, and theory related to 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 23-25 credit requirements of the Cosmetology diploma or 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 6-credit requirements of the Nail Technology certificate.

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 microderm abrasion 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 aesthetic 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, 1428, 1435, 1461, 2460 and 2462 prior to beginning this course.

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**EARLY CHILDHOOD EDUCATION (ECED)**

**ECED 1015**  
**3 Credits**
**Activity Ideas**
This course requires students to create activities and projects that encourage 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**  
**2 Credits**
**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**  
**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, reading readiness, lesson plans, comprehension, spelling, listening, whole language, and storytelling.

**ECED 1115**  
**3 Credits**
**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**  
**2 Credits**
**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.

**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
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
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
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
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
Health in Early Childhood
This course covers an overview of health, safety, and nutritional issues of children from birth to 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
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
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 discussions on improving practices to provide for a more inclusive environment for all children. Concurrent enrollment: ECED 1631

ECED 1631
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
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
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
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
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 or child care center. 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
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)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>MnTC Goals</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCI 0110</td>
<td>4</td>
<td>Physical Geology</td>
<td>3B, 10</td>
<td>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.</td>
</tr>
<tr>
<td>ESCI 0112</td>
<td>4</td>
<td>Introduction to Meteorology</td>
<td>3B, 10</td>
<td>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.</td>
</tr>
<tr>
<td>ESCI 0113</td>
<td>4</td>
<td>Introduction to Astronomy</td>
<td>3B</td>
<td>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</td>
</tr>
<tr>
<td>ESCI 0114</td>
<td>4</td>
<td>Natural Disasters</td>
<td>3B, 10</td>
<td>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</td>
</tr>
</tbody>
</table>

# Economics (ECON)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ECON 0190</td>
<td>3</td>
<td>Personal Finance</td>
<td>9</td>
<td>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.</td>
</tr>
<tr>
<td>ECON 0195</td>
<td>3</td>
<td>Introduction to Economics</td>
<td>5, 9</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 Economics 0206 and/or Economics 0207.</td>
</tr>
<tr>
<td>ECON 0206</td>
<td>3</td>
<td>Principles of Microeconomics</td>
<td>5, 10</td>
<td>This course provides traditional coverage microeconomic 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 0098 or 2 years of high school algebra recommended</td>
</tr>
<tr>
<td>ECON 0207</td>
<td>3</td>
<td>Principles of Macroeconomics</td>
<td>5, 8</td>
<td>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 0098 is recommended</td>
</tr>
<tr>
<td>ECON 0208</td>
<td>3</td>
<td>Intro to International Business/Economics</td>
<td>5, 8</td>
<td>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.</td>
</tr>
</tbody>
</table>
Course Descriptions

**EDUCATION (EDUC)**

**EDUC 0290**  
**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.

**EDUCATIONAL ASSISTANT (EDA)**

**EDA 1005**  
**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**  
**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**  
**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**  
**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**  
**Sign Language II**  
This course builds upon and expands previously learned vocabulary, incorporating fingerspelling and American Sign Language. Prerequisite: EDA 1020

**EDA 1030**  
**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**  
**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**  
**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**  
**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 1100**  
**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 1105**  
**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**  
**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**  
**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**  
**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 1 Credit
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 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.

EDA 1185 3 Credits
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 1-4 Credits
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 5 Credits
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 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 explore new concepts and complete assigned projects.

ELECTRICIAN (CNEL)

CNEL 1313 1 Credit
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 1 Credit
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 2 Credits
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 3 Credits
Circuits 2
This course covers series and parallel inductive, capacitive, resistive - capacitive, resistive - inductive, and resistive - inductive - 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 2 Credits
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 2 Credits
Digital Logic
This course introduces basic concepts of digital logic and provides an overview of numbering systems, logic gates, Boolean algebra, DeMorgan's theorem, Karnaugh mapping, comparators, multiplexing, de-multiplexing and flip-flops. Prerequisites: CNEL 1314, CNEL 1412

CNEL 1809 2 Credits
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 5 Credits
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.
Course Descriptions

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

5 Credits

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.

4 Credits

CNEL 1820
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.

3 Credits

CNEL 1825
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

3 Credits

CNEL 1830
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

3 Credits

CNEL 1850
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.

2 Credits

CNEL 2413
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 combinatorial logic circuits. Prerequisite: CNEL 1412

2 Credits

CNEL 2730
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

3 Credits

CNEL 2731
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

3 Credits

CNEL 2805
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

2 Credits

CNEL 2830
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

3 Credits

CNEL 2835
National Electric Code IV
This is a continuation of National Electric 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

3 Credits

CNEL 2840
Commercial Wiring Lab
This hands-on lab course is designed to give students the practical application and practice of wiring installations normally found in commercial buildings. Prerequisite: CNEL 1811

3 Credits

CNEL 2846
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

2 Credits

CNEL 2847
Basic Residential Wiring Lab
This hands-on lab course is designed to give 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 1828

1 Credit

CNEL 2848
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

1 Credit
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 2850

This course covers the design, layout and installation of distribution system transformers and specialty transformers. Prerequisite: CNEL 2870

This course covers the design, layout and installation of electrical services found in residential and commercial applications. Prerequisite: CNEL 2900

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.

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This course covers the design, layout and installation of electrical services found in residential and commercial applications. Prerequisite: CNEL 2900

This course covers the design, layout and installation of electrical services found in residential and commercial applications. Prerequisite: CNEL 2901

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This course covers the design, layout and installation of electrical services found in residential and commercial applications. Prerequisite: CNEL 2901

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.

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 Voltages laws, and power transfer. Prerequisite: ELEC 1814

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 phasor algebra.

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

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.

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ELEC 2313  
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  
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

ELEC 2414  
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  
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  
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  
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  
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  
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  
Programmable Logic Controllers  
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  
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  
Elements of Photonics  
This course covers key parameters that describe the operational characteristics of lasers including small signal gain, saturation, threshold gain, and power out. 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. Photons 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

EMERGENCY MEDICAL SERVICES (EMS)

EMS 1016  
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
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
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.

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. This course follows the guidelines of the American Heart Association.

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.

ENGINEERING (ENGR)

ENGR 0101
Introduction to Engineering
This course is an introduction to problem solving methods, engineering curriculum and computer applications in engineering. In addition, students will explore educational and professional career opportunities.

ENGR 0203
Mechanics of Materials
This course includes the study and analysis of simple stress and strain, shear and bending movement, flexural and shearing stresses in beams, combines stresses, deflection of beams, statically indeterminate members, and columns. Prerequisite: ENGR 0235

ENGR 0235
Statics

ENGR 0236
Dynamics
Introduction to vector calculus, kinematics. Application of principles or particle motion. Conservation principles. Dynamics of particle systems and plane rigid bodies. Technical applications. Prerequisite: PHYS 0121

ENGR 0250
Circuit Analysis I
To study methods of electrical engineering circuit analysis including Kirchhoff's Laws, Norton and Thevenin equivalents, DC circuits, transient RL analysis, AC Circuits, phasors, and power. Prerequisite: PHYS 0122, Co-requisite: Math 0233

ENGR 0251
Circuit Analysis II
This course examines linear electric circuits in steady-state and transient conditions, Laplace transformation, two-port networks, active and passive filters, filter design wave analysis, diodes and transistors. This course is intended for electrical and some mechanical engineering majors. The lab component provides hands-on learning of the lecture concepts and introduces proper use of the laboratory equipment. Prerequisite: ENGR 0250
ENGLISH (ENGL)

ENGL 0094 3 Credits
Pre-College Composition II
A review of the basics of written communication for those students who are not ready to enroll in English 121. The primary emphasis of the course is placed on writing paragraphs and essays, with a secondary emphasis on punctuation, sentence structure and English usage. Credits earned from this course do not apply toward graduation. Credits earned from this course do not apply toward graduation.

ENGL 0096 5 Credits
Gateway to Critical Reading and Writing
This course introduces students to the critical reading, thinking, and writing expectations of college-level courses across the curriculum. Course assignments will use academic texts with an emphasis on non-fiction for students to practice and develop their skills. The course design includes an integrated approach to reading and writing instruction and a scaffolded, recursive approach to learning in both classroom and lab settings. This is a Pass/NC course. Prerequisites: Appropriate placement scores

ENGL 0097 5 Credits
English for Academic Purposes
This course prepares 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. Upon successful completion of this course, students will enter English 98 or, with instructor approval, English 121. This is a Pass/NC course. Prerequisites: Appropriate placement scores and identification as English Language Learner

ENGL 0098 5 Credits
Transitions to Academic 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. English 98 will utilize 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. This is a Pass/NC course. Prerequisites: Appropriate placement scores or successful completion of English 96 or 97

ENGL 0121 3 Credits
College Composition I - Critical Reading & Writing
MnTC Goal 1
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. Students are placed into English 121 by way of appropriate placement scores, or successful completion of English 97 with instructor recommendation, or successful completion of English 98. Prerequisite: Appropriate placement scores or successful completion of English 98

ENGL 0122 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 0121

ENGL 0123 3 Credits
Scientific and Technical Writing
MnTC Goal 6
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 0121

ENGL 0150 3 Credits
Introduction to Literature
MnTC Goal 6, 7
Introduction to major forms of literature: fiction, prose, poetry, and drama selections. Discussions and writing require students to apply critical thinking skills. Students will be introduced to literary terms and literary criticism as well. Prerequisite: ENGL 0121 recommended

ENGL 0160 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 its 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. Prerequisite: ENGL 0121 recommended

ENGL 0170 3 Credits
Introduction to 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.

ENGL 0180 3 Credits
Introduction to American Literature
MnTC Goals 6, 9
This course, intended for all students, introduces students to writings by American authors in order to foster a broader understanding of the American experience, including political, social, and civic responsibilities therein. Students will engage in critical reading and discussion, the study of the elements of literature, literary analysis, interpretation, and evaluation. Recommended. Placement in ENGL 0121 or successful completion (C- or above) of ENGL 0099

ENGL 0211 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.
ENGL 0220        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.

ENGL 0232        3 Credits
Fantasy, Fable, and Science Fiction
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."

ENGL 0239        3 Credits
Gender and Sexuality in Literature
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 Anzaldua, Reinaldo Arenas, E.M. Forster, Tony Kushner, Cherrie Moraga, Octavio Paz, and Manuel Puig.

ENGL 0247        3 Credits
International Study of Literature
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, on-site, and post-trip readings and assignments related to literature. Prerequisite: ENGL 0121 or permission of instructor.

ENGL 0295        3 Credits
Special Topics in Literature
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 0121 recommended

ENVIRONMENTAL SCIENCE (ENVS)

ENVS 0131        3 Credits
Conservation of Natural Resources
MnTC Goals 3A, 10
An examination of our renewable resources with emphasis on biological requirements, use and management of each resource. A study of interactions of the resources in the total environment as influenced by man's exploitation and the result of the changing philosophies of conservation. The laboratory will emphasize observation, data collection, quantitative measurement and drawing conclusions. Lecture - 2 hours/week. Lab - 2 hours/week.

ENVS 0141        4 Credits
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.

ENTREPRENEURSHIP (ENTR)

ENTR 1000        2 Credits
Introduction to Small Business Management
This course is a foundational course for the individual contemplating the establishment of a small business. Students will learn what it takes to own, operate, and grow a small business successfully. The student will learn the personal traits, characteristics and skills necessary to succeed in the fast-paced world of small business. 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.

ENTR 1045        1 Credit
Computerized Accounting
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.

ENTR 1101        3 Credits
Principles of Marketing
A study of the marketing process and environment with regard to product, pricing, distribution and communication in order to satisfy consumer needs. International marketing will be addressed. Students will apply principles and purposes of marketing research, laboratory, field and historical research, sampling procedures, questionnaires and data analysis.

ENTR 1137        3 Credits
Business Math and Accounting
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 retail/service businesses and accounting system design.

ENTR 1800        2 Credits
Business Law
This is an introductory course in the principles of law as they apply to citizens and businesses.

ENTR 2823        3 Credits
Entrepreneurship - Business Plan
This course covers the qualities and skills that are needed for people to succeed in their own business. Other topics discussed will be the steps actually used in planning and starting a new business. The student will be expected to prepare a specific business plan.

ENTR 2830        1 Credit
Entrepreneurship - Business Planning
This course covers the qualities and skills that are needed for people to succeed in their own business. Other topics discussed will be the steps actually used in planning and starting a new business. The student will be expected to prepare a specific business plan.
ENVS 0151 4 Credits
People, Sustainability, and the Environment
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 bi-
ological information, providing students with the knowledge to make sustainable
decisions affecting their own lives and the well being of society.

ENVS 0247 1-3 Credits
International Travel
Designed to provide credit for international study experiences conducted un-
der the auspices of Ridgewater College faculty. Course requirements may vary
but will include pre-departure, on-site, and post-trip readings and assignments.

GENERAL STUDIES -
COMPUTER/INFORMATION
TECHNOLOGY (GSCI)

GSCI 1002 2 Credits
Keyboarding/Word Processing
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 1 Credit
Introduction to Computers
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 Win-
dows operating system will be utilized as the foundation platform for the Micro-
soft Office Suite. Students may have the opportunity to utilize word processing,
spreadsheet, database, presentation software as well as the Internet.

GSCI 1302 2 Credits
Introduction to Computers
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 Win-
dows operating system will be utilized as the foundation platform for the Micro-
soft Office Suite. Students may have the opportunity to utilize word processing,
spreadsheet, database, presentation software as well as the Internet.

GSCI 1312 1 Credit
Industry Computer Applications
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 1 Credit
Computer Technology
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.

The course may also include topics that are current and specific to computer
technology in an office environment such as digital imaging, IP telephony, PDA
technology, and others.

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 commu-
nicative use of language rather than simply its formal aspects. Most
emphasis is placed on the psychological, social, and rhetorical principles under-
lying 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 communi-
cation 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 au-
dience, 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**  
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**  
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**  
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**  
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**  
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**  
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.

**GSMS 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.

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 2 Credits
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 2 Credits
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 1 Credit
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 2 Credits
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 2 Credits
Industry Skills
Students will be exposed to skills present in an industrial work setting.

GSWS 1471 1 Credit
CPR for Healthcare Providers
This course is intended for healthcare professionals and involves CPR training.

GEOG 0141 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 0247 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 0101 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 0201 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 application 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  
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  
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  
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  
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 place on commonly used drugs and their effects on body systems. Drug reference utilization is included.

HIMC 1150  
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. Prerequisites: HIMC 1100, HIMC 1150

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. Prerequisite: HIMC 1110

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 2003  
ICD-10-CM Coding  
This course covers the basics of coding with the ICD-10-CM coding system. Students learn how to classify and index diagnoses for the purposes of standardization, retrieval, and statistical analysis. Prerequisite: HIMC 1110, HIMC 1120

HIMC 2004  
Advanced Coding  
This course provides advanced study of the ICD-10-CM/PCS, CPT-4/HCPCS Level II coding systems and ICD-9-CM as a legacy system. DRG optimization and data accuracy are emphasized. Students will be working with actual records in the laboratory. Prerequisite: HIMC 1100

HIMC 2006  
ICD-10-PCS Coding  
This course covers the basics of coding with the ICD-10-PCS coding system. Students learn how to classify and index procedures for the purposes of standardization, retrieval, and statistical analysis. Prerequisite: HIMC 1120
**Course Descriptions**

**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. 

**Prerequisite:** Approval of instructor

**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 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 relate 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 and student to accommodate simulation and internship options. Prerequisite: Approval of the instructor

**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 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 relate to their career path. This course will consist of 1 credit lecture (didactic content) and 1-2 credits of lab and internship as determined by the instructor and student to accommodate simulation and internship options. Prerequisite: Approval of instructor

**HIMC 2270**  
**Computerized Health Information**  
This course focuses on the vital role information processing plays in healthcare delivery. Basic concepts of electronic health information systems will be introduced and applied including electronic data collection, storage, retrieval, and other applications. Prerequisites: HIMC 1100

**HIMC 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.

**History (HIST)**

**HIST 0101**  
**World History I**  
MnTC Goal 5, 8  
Survey of world civilizations and cultures from the ancient period to 1500.

**HIST 0102**  
**World History II**  
MnTC Goals 5, 8  
Survey of world civilizations and cultures from 1500 to the contemporary period.

**HIST 0111**  
**United States History I**  
MnTC Goals 5, 7  
Survey of major political, economic, and sociocultural topics of United States history from ancient times through the Civil War.

**HIST 0112**  
**United States History II**  
MnTC Goals 5, 7  
Survey of major political, economic, and sociocultural topics of United States history from Reconstruction to the contemporary period.

**HIST 0210**  
**East Asian History**  
MnTC Goals 6, 8  
A survey of East Asian history from the earliest beginnings to the present. Emphasis is on political, economic, social and cultural development in China and Japan with secondary focus on Korea and Southeast Asia.

**HIST 0222**  
**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 0247**  
**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.
HSER 0200   3 Credits
Counseling Techniques
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.

HSER 0201   2 Credits
Introduction to Case Management
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. Pre-requisite: HSER 0200 or consent of instructor

HSER 0202   3 Credits
Group Process
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. Co-requisite: HSER 0200

HSER 0231   3 Credits
Pharmacology
How drugs are made, used and abused, and their effect on the health of human beings.

HSER 0234   3 Credits
Assessment and Interviewing
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.

Human Services (HSER)

HSER 0101   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.

HSER 0165   2 Credits
Behavior Modification
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.

HSER 0166   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.

HSER 0198   1 Credit
Pre-Professional Practicum
An orientation experience into chemical dependency treatment and the continuum of care, this course gives the student some on-site 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

Humanities (HUM)

HUM 0105   3 Credits
The Human Adventure
MnTC Goals 6, 8
This course introduces the humanities through its various disciplines, not limited to: visual arts, music, theatre, literature, dance and film. The disciplines will be explored within a historical and cultural perspective, to help gain an understanding of their value in society. The course will also examine broad themes that drive the humanities such as beauty, morality, love, happiness, and freedom.
HUM 0110
Leadership Development Studies
MnTC Goals 6, 9
Leadership Development Studies is designed to provide emerging and existing leaders the opportunity to explore the concept of leadership and to develop and improve their leadership skills. The course integrates readings from the humanities, experiential exercises, films, and contemporary readings on leadership.

LAWE 0101
Law Enforcement Practicum
In this course, students will apply academic knowledge to the practice of law enforcement. Skills development will occur in such areas as firearms, self-defense, physical fitness, patrol procedures, emergency driving, criminal investigation and traffic law enforcement. NOTE: Although credit for the skills training is granted by Ridgewater College, the actual course work is accomplished off campus. Prerequisite: Consent of program coordinator

LAWE 0103
Introduction to Criminal Justice
A broad survey course of the American system of criminal justice. Equal attention is given to the police, the courts and corrections. The philosophy and history of criminal justice and its role in American culture; organization and jurisdiction of local, state and federal elements of the criminal justice system; and professional career opportunities and qualifications are included.

LAWE 0105
Introduction to Corrections
This course addresses the philosophy and history of corrections and its role in American society. It provides an overview of the elements of corrections, the purposes of correctional punishments, and a historical perspective of punishments. Also covered are the following: correctional retribution, desert, deterrence, incapacitation, rehabilitation, and restoration; political, social, economic, human, and moral consequences of crime control; and a survey of professional career opportunities and qualifications required.

LAWE 0113
Criminal Law
This course is an introduction to law as it deals with criminal behavior in society. Included are the general principles of criminal law sentences, various crimes and a review and study of the Minnesota Criminal Code and certain federal statutes.

LAWE 0123
Traffic Law and Traffic Procedures
Traffic Law is an introduction to the elements of traffic offenses. These elements are analyzed and applied to hypothetical situations. Included are definitions and terms. This course covers instruction in Minnesota automobile insurance law, motor vehicle registration law, traffic law and driver’s license law. This course covers the Minnesota Traffic Statutes and how they are applied, interpreted, and enforced.

LAWE 0151
Self-Defense: The PR-24
This class provides practical experience in techniques which will enable students to defend themselves and others and control hostile suspects with the PR-24 police baton. In addition to providing basic PR-24 certification, the class provides advanced and retention techniques for the PR-24. The course also qualifies individuals to use the persuader baton as a police impact instrument.

LAWE 0152
Self-Defense for the Peace Officer
This class provides practical experience in techniques designed to insure peace officer self-defense. The areas of revolver retention, handcuffing and searching, as well as joint manipulation, pressure points and active countermeasures are covered. Prerequisite: Open only to licensed peace officers and students enrolled in the Peace Officer program.

LAWE 0201
Criminal Evidence and Procedures
This course will cover criminal evidence for police, types of evidence, criminal procedure in various courts, arrest, search and seizure, collection of evidence, discretion and related topics.

LAWE 0223
Applied Writing: Law Enforcement Communications
This course will prepare the student to write reports used in law enforcement agencies. Topics include the necessary information to be contained in police reports and the uses of various law enforcement reports. Prerequisite: ENGL 0121

LAWE 0231
Law Enforcement Operations & Procedures
Police problems and responsibilities including ethics, crime prevention, patrol functions and tactics, fundamentals of investigation, collection and preservation of evidence, interviews and interrogation, and techniques for testifying in court. The course will also explore the relationship of police and community, and public relations procedures.

LAWE 0241
Criminal Investigations
This course addresses the process of gathering information and evidence necessary in solving crimes. Course topics focus on the role of evidence gathering and its importance in prosecuting cases and administering justice. Topics of discussion will include: 1) crime scene investigation, 2) interviewing and interrogation, 3) the criminal mind, 4) forensic science, 5) the importance of criminal justice communication channels, and 6) the investigation of cybercrime.

LAWE 0243
Homeland Security
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 students.
### Machine Tool Technology (MACT)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Title</th>
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<tbody>
<tr>
<td>LAWE 0245</td>
<td>3 Credits</td>
<td>Police Ethics and Leadership</td>
</tr>
<tr>
<td>LAWE 0247</td>
<td>3 Credits</td>
<td>Juvenile Justice</td>
</tr>
<tr>
<td>LAWE 249</td>
<td>1 Credit</td>
<td>Introduction to Policing in Indian Country</td>
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<tr>
<td>LAWE 251</td>
<td>2 Credits</td>
<td>Psychology of Law Enforcement</td>
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<tr>
<td>LAWE 290</td>
<td>1-6 Credits</td>
<td>Cooperative Education</td>
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<tr>
<td>LAWE 0295</td>
<td>1 Credit</td>
<td>POST Seminar</td>
</tr>
<tr>
<td>LAWE 0297</td>
<td>1 Credit</td>
<td>Independent Study</td>
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</tbody>
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### MACT 1005 Blueprint Reading for Machinists
1 Credit
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 1508 Applied Math 1
2 Credits
This course is a study of actual shop problems faced by drafters and designers. It is structured like industry where you may use a Machinery Handbook for reference. This course also involves the study of Statistical Process Control and how it relates to the manufacturing field. The problems are solved by the use of algebra and basic mathematics equations.

### 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
2 Credits
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 Fixture Design and Tooling
2 Credits
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 1
3 Credits
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. Prerequisite: MACT 1801

### MACT 1840 2-Axis CNC I
2 Credits
This course covers basic principles of vertical milling operations with technical worksheets. Topics covered include safety, setting up and operating a milling machine; milling steps, angles, slots, drilling, reaming, tapping and indexing.

### MACT 1842 2-Axis CNC II
2 Credits
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.
**Course Descriptions**

**MACT 2501**  
**Geometric Dimensioning and Tolerancing**  
3 Credits  
This course covers the use of geometric tolerancing per the ANSI/ASME Y14.5 standard on Dimensioning and Tolerancing. Key topics covered include rules, datums, geometric controls, and calculations of positional tolerances.

**MACT 2503**  
**Parametric Design I**  
3 Credits  
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 2508**  
**Applied Math II**  
2 Credits  
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**  
2 Credits  
This course covers basic principles of surface grinding with technical work-sheets. 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**  
2 Credits  
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**  
3 Credits  
This course introduces students to CNC machining centers and the programming code that controls them. Two-axis contour programming using Fanuc compatible G&M code programming will be introduced. Students should successfully complete MACT 1840 prior to beginning this course.

**MACT 2813**  
**CNC Vertical Machining Centers**  
3 Credits  
This course covers intermediate level principles, programming, set-up, 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**  
3 Credits  
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 2826**  
**Computer Assisted Machining I**  
3 Credits  
This course introduces computer-assisted numerical-controlled programming using a computer-aided manufacturing system.

**MACT 2827**  
**Computer Assisted Machining II**  
3 Credits  
This course builds upon MACT2826 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

**MACT 2831**  
**Die Design**  
2 Credits  
This course gives the students basic knowledge in the metal stamping industry. The course covers die types, metal forming, tool steels, and design techniques.

**MACT 2832**  
**Mold Design**  
2 Credits  
This course gives the students basic knowledge in plastic molding, die casting components, molding techniques and mold designing.

**MACT 2839**  
**Mold and Die Design**  
2 Credits  
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.

**MACT 2870**  
**Mold Making I**  
2 Credits  
In this course the student will develop the design and print package for a complete injection mold including mold base, cores, and cavities.

**MACT 2872**  
**Mold Making II**  
3 Credits  
The student will build the complete mold base with cooling lines, cavities and core pockets, and a runner system. Prerequisite: MACT 2870

**MACT 2874**  
**Mold Making III**  
4 Credits  
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

**MACT 2880**  
**Die Making I**  
2 Credits  
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.

**MACT 2882**  
**Die Making II**  
3 Credits  
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

**MACT 2884**  
**Die Making III**  
4 Credits  
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
MACT 2890  
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.

MACT 2892  
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.

MACT 2894  
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.

MACT 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.

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 1101  
Principles of Marketing  
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  
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.

MSM 1137  
Business Math and Accounting  
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 retail/service businesses and accounting system design.

MSM 1205  
Business Presentations  
This course covers the fundamentals of business presentations. Students will plan, write and deliver presentations on various topics including conducting business meetings, sales manager meetings and using appropriate media and presentation software.

MSM 1212  
Personal Finance  
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  
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  
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 3 Credits
Internship II
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 3 Credits
Professional Sales
This course focuses on practical applications of communication skills, customer follow-up and service, prospecting, utilization appeals, customer behavior styles, presentation methods, handling objection techniques and customer reviews. Significant time is spent planning, delivering and critiquing actual sales presentations.

MSM 2105 3 Credits
Computer Applications
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 3 Credits
Principles of Supervision
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 3 Credits
E-Commerce & Social Media
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 care for products, explore linking to other websites, and practical application in evaluating website effectiveness.

MSM 2203 3 Credits
Management Issues
This course is intended to prepare students to deal with contemporary business problems. The students take part in a computerbased business simulation. Topics discussed include problem solving, financial statement analysis, diversity, supervision, and community service.

MSM 2207 3 Credits
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 3 Credits
Entrepreneurship - Business Plan
This course covers the qualities and skills that are needed for people to succeed in their own business. Topics included are start-up costs, franchising, choosing a location, marketing, advertising, pricing, various legal aspects and business plans. The student will prepare a professional business plan.

MSM 2833 3 Credits
International Business
This course is an introduction to the working of business in a global environment. With the increase in technology, our market is becoming a global market. Topics covered include cultural differences, legal systems, economic systems as well as importing, exporting and managing on an international basis.

MSM 2950 Variable 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.

MASS COMMUNICATIONS (MCOM)

MCOM 0150 3 Credits
Introduction to Mass Communications
MnTC Goals 5, 9
A historical examination of the nature, functions, legal and ethical responsibilities of communication media, nationally and internationally, from a professional as well as a consumer point of view.

MCOM 0151 3 Credits
Writing for Media
The techniques and styles of reporting and writing print news will be emphasized. Broadcast and electronic news will also be studied and practiced. Prerequisite: ENGL 121 recommended

MCOM 0255 3 Credits
Visual Communications
MnTC Goals 6, 7
The study of form, content and meaning in visual images, including structural elements and psychological implications. Particular attention is given to photography, film, television, advertising, cartoons and websites.

MASSAGE THERAPY (MTHE)

MTHE 1201 5 Credits
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 guidelines 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: MTHE 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 1205, 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 NCETM 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.
**Beginner Algebra**
This course is designed for students with an insufficient background for MATH 0098. 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 negative exponents. Prerequisite: A grade of C- or better in MATH 0093 or appropriate score on the math placement exam.

**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 0097 or appropriate score on the math placement exam.

**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 0093 or appropriate score on the math placement exam.

**Quantitative Reasoning**
This developmental 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 0098 or MATH 0099 or appropriate score on the math placement exam.

**Additional Course Descriptions**

**Course Descriptions**

**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 identify and 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 0093**
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 0097**
Beginning Algebra
This is a beginning algebra course designed for students with an insufficient background for MATH 0098. 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 negative exponents. Prerequisite: A grade of C- or better in MATH 0093 or appropriate score on the math placement exam

**MATH 0098**
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 0097 or appropriate score on the math placement exam.

**MATH 0099**
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 0093 or appropriate score on the math placement exam.

**MATH 0100**
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 0098 or MATH 0099 or appropriate score on the math placement exam.

**MATH 0109**
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 0098 or appropriate score on the math placement exam.
MATH 0110  
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 0098 or appropriate score on the math placement exam

MATH 0112  
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 0098 or appropriate score on the math placement exam

MATH 0116  
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 0112 or appropriate score on the math placement exam

MATH 0119  
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 0112 and Math 0116 or appropriate score on the math placement exam

MATH 0121  
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 0116 or Math 0119 or appropriate score on the math placement exam

MATH 0122  
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 0121 or appropriate score on the math placement exam

MATH 0201  
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 0098 or MATH 0099, or appropriate score on the math placement exam

MATH 0207  
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 0098 or appropriate score on the math placement exam

MATH 0210  
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 0098 or appropriate score on the math placement exam

MATH 0211  
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 0098 or appropriate score on the math placement exam

MATH 0223  
Calculus III: Calculus and Analytic 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 0122 or appropriate score on the math placement exam

MATH 0233  
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 0122 or appropriate score on the math placement exam
**MEDICAL ASSISTANT (MEDA)**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MEDA 1002</td>
<td>Applied Communications/Scribing I</td>
<td>2</td>
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</table>

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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<tbody>
<tr>
<td>MEDA 1010</td>
<td>Anatomy and Physiology I</td>
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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 1021</td>
<td>Disease Conditions</td>
<td>3</td>
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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 1102</td>
<td>Applied Communications/Scribing II</td>
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</table>

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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<tr>
<td>MEDA 1110</td>
<td>Human Relations for Health Care</td>
<td>3</td>
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This course focuses on increased awareness of self and others in normal and abnormal situations.

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<tr>
<td>MEDA 1113</td>
<td>Medical Terminology</td>
<td>3</td>
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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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<tr>
<td>MEDA 1225</td>
<td>Orientation to Medical Lab</td>
<td>3</td>
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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.

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<tbody>
<tr>
<td>MEDA 1235</td>
<td>Clinical Procedures II</td>
<td>3</td>
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</table>

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.

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<tbody>
<tr>
<td>MEDA 1313</td>
<td>Human Development for Allied Health</td>
<td>2</td>
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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.

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<tr>
<td>MEDA 1324</td>
<td>Lab Skills I</td>
<td>1</td>
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This course includes physical and chemical examination of urine. Prerequisite: Successful completion of all program course work.

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<tbody>
<tr>
<td>MEDA 1326</td>
<td>Lab Skills II</td>
<td>1</td>
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This course includes microscopic urine examination, occult blood testing, and immunology tests. Prerequisite: MEDA 1225, MEDA 1324, or concurrent enrollment.

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<tr>
<td>MEDA 1328</td>
<td>Certification Exam Review I</td>
<td>1</td>
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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.

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<tbody>
<tr>
<td>MEDA 1451</td>
<td>Practicum Seminar</td>
<td>3</td>
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</table>

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.

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<tbody>
<tr>
<td>MEDA 1540</td>
<td>Medical Office Procedures</td>
<td>3</td>
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</table>

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 HCPC's. Prerequisite: GSCI 1102, MEDA 1010, MEDA 1021, MEDA 1113, concurrent enrollment or consent of instructor.

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<tr>
<td>MEDA 1900</td>
<td>Phlebotomy Practicum</td>
<td>3</td>
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</table>

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.

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<tbody>
<tr>
<td>MEDA 2020</td>
<td>Certification Exam Review II</td>
<td>2</td>
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</tbody>
</table>

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 hematologic 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 1001  
Solving Computer Problems  
In this class student will configure and customize their laptop; install/uninstall software; manage data files, software, hard disk and hardware; and learn to log on to the internet and the intranet. They will set up back-up procedures and troubleshoot problems with both Windows and Macintosh systems and with other components to get the best performance from their computer.

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  
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  
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  
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 the Web  
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  
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  
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  
Students learn the basics of information graphics, including diagrams, charts, graphs, maps, and sequences, utilizing the tools of Adobe Illustrator, a vector graphics program. A variety of drawing techniques, such as custom colors, gradients and patterns, layers, and type manipulations will be incorporated into the graphics. Prerequisite: MMDT 1008 or MMDT 1023

MMDT 1048  
3-D Computer Animation  
Students are introduced to tools which create three-dimensional graphics, creating both images and animations. Students will discover the basic principles of 3-D design and types of images that can be created using 3-D software. Prerequisite: MMDT 1008
MMDT 1051  3 Credits
Image Editing
Students will learn the basics of 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. Prerequisite: MMDT 1008 or MMDT 1023

MMDT 1057  3 Credits
Electronic Publishing
Students learn techniques for page layout and design using the page layout software of choice in the industry. 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. Prerequisite: MMDT 1008 or MMDT 1023

MMDT 1088  3 Credits
Basic Digital Photography
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 1102  2 Credits
Image Visualization
Students are encouraged to visualize ideas and concepts, and convert them to a simple sketch that can be used for thinking, learning, and communicating. A variety of principles and techniques are used to develop personal and innovative thought in visual communication.

MMDT 1112  3 Credits
Animation for Web Design I
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 1114  3 Credits
Animation for Web Design II
In this course students will utilize advanced multimedia interactivity and animation. Projects will include logo animation, interactive simulations and simple games. The students will use ActionScript to create interactivity. Proper audience considerations and production/cost/value management for projects will be analyzed as well as good project design documenting. Prerequisites: MMDT 1008, MMDT 1021, MMDT 1112

MMDT 1135  1-3 Credits
Internship
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 1136  3 Credits
Advanced Digital Video
In this class, the student will use Adobe Effects to create video composites (layers of video) and will work on creating complex motion shots.

MMDT 1142  3 Credits
Interface Design
Students learn the design of Web and mobile interface elements.

MMDT 1144  3 Credits
Multimedia and the Web
This course is designed to give students advanced skills in designing a web site. Students are instructed in how to effectively use a HTML/Web site authoring tool. The use of HTML/CSS, browser differences, page layout, tables, graphics, image mapping, linking, and using Flash objects are covered. Advanced topics covered include dynamically created pages using PHP. Students will manage their projects on an actual web server. Prerequisites: CST 1021 or MMDT 1021

MMDT 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

MMDT 1150  1-3 Credits
Independent Studies
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). Students 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 0100  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 0101  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. Co-requisite: Simultaneous membership in MUSC 0100 - Concert Choir

MUSC 0107  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 0108  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 0111  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 0121  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 0122  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 0123  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 0123 is a course for liberal arts students and is recommended for elementary education students.

MUSC 0130  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 0131  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 0130

MUSC 0135  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.

MUSC 0140  3 Credits
Music in World Cultures
MnTC Goals 6, 8
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 0150  2 Credits
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 0151  1 Credit
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 0152  1 Credit
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.
NDT 1090  2 Credits
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  2 Credits
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  1 Credit
Basic Blueprint Reading
This course introduces principals, terms, and definitions of reading and understanding blueprints.

NDT 1501  1 Credit
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 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 Demming and Juran, with emphasis on total quality management. The course includes an introduction to statistics with practical applications of statistical process control.
NDT 2030  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  Isotope & Radiation Safety
This course covers the safety aspect of working with radioisotopes and equipment used in isotope radiography.

NDT 2049  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  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  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  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  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  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 Demming and Juran, with emphasis on total quality management. The course includes an introduction to statistics with practical applications of statistical process control.

NDT 2030  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
### Course Descriptions

**NDT 2064**
**PDI-UT-1**
This course will cover the advanced NDE examination techniques contained within nuclear power industry qualified inspection procedures. By practicing advanced ultrasonic and physics principles, students will apply the calibration, examination, and indication reporting steps in the procedure, PDI-UT-1. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. This course is part of a sequence of advanced ultrasonic inspection courses. Students must successfully complete NDT2061 prior to beginning this course.

**NDT 2065**
**PDI-UT-1A**
This course is a continuation of NDT 2064 and covers advanced NDE examination techniques and requires additional experience with flawed samples as required by nuclear power industry qualified inspection procedures. By practicing advanced ultrasonic and physics principles, students will apply the calibration, examination, and indication reporting steps in the procedure, PDI-UT-1. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. Prerequisite: NDT 2060

**NDT 2066**
**PDI-UT-1B**
This course is a continuation of NDT 2065 and requires additional experience examining flawed samples as required by nuclear power industry qualified inspection procedures. By practicing advanced ultrasonic and physics principles, students will apply the calibration, examination, and indication reporting steps in the procedure, PDI-UT-1. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. Prerequisite: NDT 2060

**NDT 2067**
**PDI-UT-2**
This course will cover the advanced NDE examination techniques contained within nuclear power industry qualified inspection procedures. By practicing advanced ultrasonic and physics principles, students will apply the calibration, examination, and indication reporting steps in the procedure, PDI-UT-2. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. Prerequisite: NDT 2060

**NDT 2068**
**PDI-UT-2A**
This course is a continuation of NDT 2067 and requires additional experience using advanced NDE examination techniques on flawed samples as required by nuclear power industry qualified inspection procedures. Students will apply the calibration, examination, and indication reporting steps in the procedure, PDI-UT-2. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. This course is part of a sequence of advanced ultrasonic inspection courses. Students must successfully complete NDT2061 prior to beginning this course.

**NDT 2069**
**PDI-UT-2B**
This course is a continuation of NDT 2068 and requires additional experience using advanced NDE examination techniques on flawed samples as required by nuclear power industry qualified inspection procedures. Students will apply the calibration, examination, and indication reporting steps in the procedure, PDI-UT-2. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. Prerequisite: NDT 2060

**NDT 2070**
**PDI-UT-3**
This course requires additional experience using advanced NDE examination techniques on flawed samples as required by nuclear power industry qualified inspection procedures. Students will apply the calibration, examination, and indication reporting steps in the procedure PDI-UT-3. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. Prerequisite: NDT 2060

**NDT 2071**
**PDI-UT-8**
This course covers advanced NDE examination techniques, calibration, and indication reporting steps using flawed samples as required by nuclear power industry qualified inspection procedure PDI-UT-8. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. Prerequisite: NDT 2060

**NDT 2072**
**PDI-UT-10**
This course covers advanced NDE examination techniques that are contained within nuclear power industry qualified inspection procedure PDI-UT-10. By practicing advanced ultrasonic and physics principles, students will apply the calibration, examination, and indication reporting steps. As mandated by law, these examination procedures are the same as required by NDE personnel working in the nuclear power industry. Prerequisite: NDT 2060

**NDT 2073**
**Phased Array PDI**
This course covers the concepts and applications of advanced phased array ultrasonic techniques, examination procedures, and code requirements and specifications as applied to power and construction industries. Prerequisite: NDT 2060

**NDT 2074**
**Advanced Phased Array Ultrasonics**
This course covers an introduction to ultrasonic phased array testing and its applications, and includes linear and sectorial scanning setups utilizing A, B, and C scan imaging. The laboratory work includes performing each of these tests on flawed samples. Prerequisite: NDT 2060

**NDT 2080**
**Advanced Eddy Current Inspection I**
This course presents advanced theory and application as it relates to depth of penetration, characteristic frequency, and flaw characteristics. Lab exercises prove and reinforce these advanced theories. Prerequisite: NDT 1080

**NDT 2081**
**Advanced Eddy Current Inspection II**
Advanced Eddy Current II will present the student with advanced eddy current inspection techniques. Advanced applications will include multi-frequency inspection, nuclear tubing inspection, as well as many aircraft inspection techniques. Prerequisite: NDT 1080

**NDT 2090**
**Advanced Magnetic Particle Inspection**
This course covers how to determine proper magnetization techniques, evaluate indications, interpret accept/reject standards, and implement quality control techniques. Parts are evaluated according to relevant codes and/or standards. Prerequisite: NDT 1090
Prerequisites: Math 0109, NDT 1100, NDT 1501, NDT 2160

The role of nondestructive evaluation in the safe operation of these plants. This course will cover primary operating systems and presurized water reactors. The course will cover primary operating systems and the role of nondestructive evaluation in the safe operation of these plants. Prerequisites: Math 0109, NDT 1100, NDT 1501, NDT 2160

NDT 2110
Acoustic Emission Inspection
This course will cover the basic principles of acoustic emission testing. Practical applications as well as theory will be included as part of the course.

NDT 2150
Infrared Inspection
This course covers the theory of infrared inspection. The student uses an infrared camera, and other temperature measuring devices to determine temperatures, heat loss and gain.

NDT 2160
Applied Physics
This course will cover a math review and the elements of physics that are involved in the methods of nondestructive testing. Emphasis will be placed on the areas of sound waves, radiation, magnetism, and electricity.

NDT 2170
Advanced Visual Inspection
Visual inspection is the most widely used method of nondestructive testing. The student learns to detect various discontinuities that are related to the power plant industry, structural steel fabrication and construction industry, aerospace industry, petro-chemical industry, and manufacturing processes. Exercises are performed using many visual inspection tools.

NDT 2240
Internship 1
This course provides students with a work-based learning experience within the field of nondestructive testing. The worksite and the internship agreement must be approved by the instructor and must include experience in one or more NDT disciplines.

NDT 2260
Composites I
This course covers the basic information needed to understand processing and performance characteristics of composite materials. The course focus is on the fiber resin matrix composites and the nondestructive testing of those materials.

NDT 2510
Leak Testing
This course provides an overview of Leak Testing Methods. Subjects covered include concepts of leaks, bubble testing, acoustical leak detection, and helium mass spectrometer detection.

NDT 2527
AWS Weld Evaluation
This course will provide the student with information and provide assistance in preparing the student for taking the Certified Weld Examination (CWI). The course includes information on welding, NDT and metallurgy.

NDT 2605
Introduction to Nuclear Reactors
This course will give the student an overview of both boiling water and presurized water reactors. The course will cover primary operating systems and the role of nondestructive evaluation in the safe operation of these plants. Prerequisites: Math 0109, NDT 1100, NDT 1501, NDT 2160

NDT 2610
IGSCC Detection
This course will cover mechanism, effects and morphology of intergranular stress corrosion cracking, (IGSCC). Complications in the inspection of austenitic stainless steel will be discussed along with metallurgical effects on ultrasonic propagation. Prerequisites: Math 0109, NDT 1100, NDT 1501, NDT 2160

NDT 2615
Planar Flaw Sizing
This course will cover various flaw sizing techniques, the advantages and limitations of each method and the theory and practice of each method. Prerequisites: Math 0109, NDT 1100, NDT 1501, NDT 2160, NDT 2110

NDT 2620
Weld Overlay Flaw Sizing
This course will cover the basics of weld overlay flaw sizing. Preservice and in-service protocols are described. Methods include tip diffraction and high angle longitudinal waves. Selection of search units will also be described.

NDT 2625
IGSCC, Mechanisms, Inspections
This course will cover the formation of Intergranular Stress Corrosion Cracking (IGSCC). Problems for ultrasonic examination will be discussed along with solutions for the examination of IGSCC. Prerequisites: Math 0109, NDT 1100, NDT 1501, NDT 2160

NDT 2630
Performance Demonstration Initiative (PDI)
This course will cover the advanced NDE examination techniques that are used within nuclear power industry inspection procedures. As mandated by law, these examination procedures are the same procedure which NDE personnel are required to qualify to. Prerequisites: NDT 2061, NDT 2605, NDT 2160

NDT 2950
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.

NURSING (NURS)

NURS 1000 3 Credits
Foundations of Nursing
This course is the fundamental platform for the nursing program at Ridgewater College. The course is designed to provide the nursing students with the knowledge required to care competently and safely for a wide variety of patients in numerous health care environments. This theory course includes (though not limited to) the following content: nursing history and philosophy, health care systems/organizations, legal/ethical considerations, licensed practical nurse (LPN) role and scope of practice, nursing process and critical thinking, communication, infection control, safety perioperative care, pain management, complementary/alternative therapies, transcultural issues, and basic nutrition. The course consists of lecture, written and/or oral assignments, student participation, and exams. Students must have successfully completed or concurrently be enrolled in BIOL 0210 and CMST 0226. Prerequisite: Admission to program.
Course Descriptions

NURS 1050
Clinical Foundation
This clinical course provides the student an opportunity to work within the nursing process appropriate to the scope of practice for a practical nurse. Emphasis will be placed on using clinical reasoning and judgment to plan and provide safe, effective client care. Students will interact with clients and families to build their communication skills. In addition, students will be expected to transfer knowledge and skills to the clinical setting. Students will evaluate their own clinical performance. The credit-to-contact hour ratio for students in this clinical course is 1:3. NURS 1200 must be successfully completed prior to NURS 1050. Students must have successfully completed or concurrently be enrolled in BIOL 0210 and CMST 0226. Prerequisite: Admission to program

NURS 1075
Nursing Interventions
This is an on-campus, lab-based course which addresses the nursing management of the basic needs of a client. Through the use of simulation and case scenarios, students will apply foundational knowledge of therapeutic nursing interventions for various body systems. Students will use an electronic system for nursing documentation. Students must have successfully completed or concurrently be enrolled in BIOL 0210 and CMST 0226. Prerequisite: Admission to program

NURS 1200
Medication Administration I
Medication Administration I is a lecture/lab course that introduces and demonstrates legalities, scope of practice, medication terminology, drug classifications, dosage calculations, and safety related to non-parenteral medication administration. Students must have successfully completed or concurrently be enrolled in BIOL 0210 and CMST 0226. Prerequisite: Admission to program

NURS 1250
Medication Administration II
Medication Administration II is a lecture/lab course that expands the student’s knowledge to include parenteral routes of administration. This course integrates drug classifications, dosage calculation, and lab values related to medication administration. Simulation will be used to apply knowledge of therapeutic and adverse effects of medications. NURS 1200 needs to be successfully completed with a grade of C prior to NURS 1250. Students must have successfully completed or concurrently be enrolled in BIOL 0210 and CMST 0226. Prerequisite: Admission to program

NURS 1300
Nursing of Adults
This course focuses on alterations in physiologic needs of the adult and aging person and incorporates concepts such as the hierarchy of basic human needs, human development, and holism. The leading causes of mortality according to the Center for Disease Control serve as a foundation for discussion of alterations. Emphasis is placed on the nursing process as it relates to the practical nurse. Pharmacology, nutrition, and health promotion are integrated throughout this course. Students must have successfully completed or concurrently be enrolled in PSYC 0263 and ENGL 0121. Prerequisite: Successful completion of all semester one Practical Nursing courses

NURS 1350
Clinical Application
In this clinical course the student expands knowledge, skill, and values necessary to assist individuals experiencing common health care problems to attain holistic health in a less predictable care environment. Students demonstrate skill in problem solving through the use of nursing process as they provide care for a variety of clients at different stages on the health/illness continuum appropriate to the role of the practical nurse. Students build on previously acquired elementary communication concepts. Enrichment experiences are provided in selected areas at the instructor’s discretion. The credit-to-contact hour ratio for students in this clinical course is 1:3. Students must have successfully completed on concurrently be enrolled in ENGL 0121. Prerequisite: Successful completion of all semester one Practical Nursing courses

NURS 1400
Nursing Care of Women/Newborns/Children
Nursing Care of Women/Newborns/Children provides an integrative approach to the care of the childbearing woman, newborns, and children. Prominence is placed on normal pregnancies and reduction of risk potential, normal growth and development, and common pediatric disorders. Students must have successfully completed or concurrently be enrolled in PSYC 0131 and ENGL 0121. Prerequisite: Successful completion of all semester one practical nursing courses

NURS 1600
Psychosocial Nursing (online)
This course provides an introduction to mental health concepts such as the mental health/illness continuum, the therapeutic use of self, and the therapeutic environment. In addition, it provides an overview of prevalent mental health illnesses and their treatment (pharmacological and non-pharmacological) from a nursing process perspective. Also included is a discussion of substance abuse, primarily ETOH and methamphetamine abuse, as well as the 12-step approach to recovery. Students will participate in discussions and activities to enhance the online learning environment. Concepts from the Foundations of Nursing course will be revisited in relationship to care of the clients with mental health needs. Students must have successfully completed on concurrently be enrolled in PSYC 0263 and ENGL 0121. Prerequisite: Successful completion of all semester one Practical Nursing courses

NURS 1617
Medical Terminology (online)
In this self-directed course, students learn basic medical terminology. Prefixes, suffixes, word roots, combining forms, special endings, abbreviations and symbols are included in the content. Successful completion of this course meets the Nursing program medical terminology admission requirement.

NURS 1700
Ethics in Nursing (online)
Ethics in Nursing introduces the student to ethics-related terms, principles, and dilemmas specifically related to nursing. This online course will encourage students to examine their personal value system. Students must have successfully completed or concurrently be enrolled in BIOL 0210 and CMST 0226. Prerequisite: Admission to the program

NURS 2000
Professional Nursing
This course is designed to introduce the student to the new role and acquisition of knowledge appropriate to the level of the professional nurse. Professional Nursing focuses on the impact of acute and chronic illness on the basic needs of the client. Holistic assessment and analysis will be emphasized in planning care for patients diagnosed with conditions identified as having a high mortality/morbidity rate. The following concepts will be integrated within selected case studies; culture, integrative therapies, wellness, and health promotion. The teaching role of the professional nurse is threaded throughout the course. Students will participate in discussion related to issues associated with entry into a professional nursing role. (i.e. membership, committee involvement, continuing education, certifications, ladder etc.) Students must have successfully completed or concurrently be enrolled in BIOL 0211, PubH 0107, and elective coursework. Prerequisite: Admission to the associate degree nursing program
NURS 2001

Foundations for Professional Nursing Practice

This course is designed as the foundational course for the LPN who is advancing their education to practice within the scope of practice of the professional nurse. Concepts of professional nursing practice aligned with the curricular threads and the nursing discipline philosophy regarding the role of the professional nurse as a provider of care, manager/coordinator of care, and member of the discipline. Students will explore current evidence-based practice, initiatives in the practice environment designed to safeguard patients, and current forces influencing the practice of professional nursing. The course includes both an online didactic and a lab component. This course must be successfully completed with a C grade or better to continue to NURS 2050. Prerequisite: Admission to the associate degree nursing program.

NURS 2010

Nursing Assessment in Professional Practice

The student will perform holistic nursing assessments of clients throughout the lifespan. The development of a holistic database using a variety of theoretical frameworks will reflect an understanding of growth and development, cultural, spiritual, and family influences of the client. Further emphasis is placed on the development of communication skills, health promotion and referral skills within the scope of practice of the professional nurse. Students must have successfully completed or concurrently be enrolled in BIOL 0211, PUBH 0107, and elective coursework. Prerequisite: Admission to the associate degree nursing program.

NURS 2050

Professional Nursing Practice

In this clinical course, the student will care for the client in a variety of care experiences across the lifespan. This course prepares the student to expand the application of knowledge, skills, and attitudes from the practical nurse scope of practice to the professional nurse scope of practice. The student will focus on applying the nursing process in the care of the client with acute and/or chronic illness, including referral, wellness promotion, and needs of the childbearing client. Students will begin to mentor practical nursing students. The student will also participate in simulation experiences with a focus on advanced nursing skills using selected case studies. The credit-to-contact hour ratio for students in this clinical course is 1:3. Students must have successfully completed NURS 2001 with a C grade or better to continue into NURS 2050. Students must have successfully completed or concurrently be enrolled in BIOL 0211, PUBH 0107, and elective coursework. Prerequisite: Admission to the associate degree nursing program.

NURS 2100

Integration of Nursing

This course is designed as the capstone theory course preparing the student for the scope of practice appropriate to the level of the professional nurse. Integration of Nursing will provide the student with the opportunity to synthesize the holistic care of the client* with multiple, complex needs. Concepts from previous semesters will continue to be integrated (e.g., growth and development, culture, integrative therapies, wellness, and health promotion) within selected case studies. Students will participate in discussion and active learning activities related to competencies specifically associated with the professional nursing role (i.e., supervision, delegation, teaching, health needs of families and communities, care management, etc.) Students must have successfully completed or concurrently be enrolled in BIOL 0215. *Client refers to the individual, family or community. Prerequisite: Successful completion of all semester one associate degree nursing courses.

NURS 2110

Pathophysiology

This course is designed to present an introduction to physiologic (functional) changes in the body that result from illness and disease. It is intended to enable the student to understand how and why the signs and symptoms of selected conditions appear. Understanding the complexity of disease and illness will guide the student in their professional role in recognition of potential complications of a condition, recognition of untoward reactions to interventions and treatments, and/or recognition of the potential to decrease the incidence of the condition and improve client care outcomes. Understanding the pathophysiology of disease and illness will allow the student to consider the ethical, social, and legal basis of how this knowledge leads to new and sometimes controversial scientific developments. This course will use asynchronous (online) learning to enhance active construction of knowledge and promote critical thinking. Students must have successfully completed or concurrently be enrolled in BIOL 0215. Prerequisite: Successful completion of all semester one associate degree nursing courses.

NURS 2120

Nursing Leadership

This course examines the functions and roles of leadership and management in professional nursing. Components of the course include effective leadership, effective management, organizing and directing nursing care, conflict resolution, prioritization, time management, quality improvement, communication and teambuilding, and future trends in health care. In this asynchronous online learning environment, students will participate in active learning activities specifically related to the development of leadership and management skills for the professional nurse graduate. Students must have successfully completed or concurrently be enrolled in BIOL 0215. Prerequisite: Successful completion of all semester one associate degree nursing courses.

NURS 2150

Clinical Synthesis

This clinical course prepares the student to assume the role of the graduate professional nurse. In this clinical course, the student will care for the client* with multiple and complex care needs across the lifespan in a variety of care experiences. The course prepares the student to expand the application of knowledge, skills and attitudes with emphasis on acute, chronic and wellness management. Students will have the opportunity to experience the leadership role of the professional nurse. The student will also participate in simulation experiences with a focus on the care of the client* with multiple and complex needs. The credit-to-contact hour ratio for students in this clinical course is 1:3. Students must have successfully completed or concurrently be enrolled in BIOL 0215. Prerequisite: Successful completion of all semester one associate degree nursing courses.

*NURS 2700

Foundations of Nursing - Health Promotion

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 2900   7 Credits
Transformation 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   2 Credits
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   7 Credits
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   3 Credits
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   2 Credits
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 maladaptation 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   7 Credits
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   2 Credits
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   3 Credits
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.

NURSING ASSISTANT/ HOME HEALTH AIDE (NA)

NA 1125   1 Credit
Assistant/Home Health Aide
This is a modified independent study course. Students will spend 9-12 hours in class and the remaining hours in self-study and shadowing activities, which will be scheduled with a home health agency. It is appropriate for Licensed Practical Nursing students and others.

NA 1612   3 Credits
Long-Term Care Nursing
This course helps students learn the roles and responsibilities of the nursing assistant working in long-term care. Information about residents’ and clients’ rights, pertinent laws and ethical issues will be introduced. Concepts of basic human needs, basic nursing and personal care skills, mental health and social needs, and restorative services will be addressed. The skills are performed in a supervised laboratory and long-term care setting. Successful completion of this course requires comprehension of written material. Students must be able to sufficiently bear or lift weight to accomplish common nursing activities such as moving and lifting patients and moving heavy equipment like hospital beds and metal carts.
NA 1614
Long-Term Care Nursing Assistant/Home Health Aide
This course helps students learn the roles and responsibilities of the nursing assistant working in long-term care and of the home health aide working with all ages of clients in the home setting. Information of resident/client’s rights, pertinent laws and ethical issues will be introduced. Concepts of basic human needs, basic nursing and personal care skills, mental health and social needs, and restorative services will also be addressed throughout the course. The skills are performed in a supervised laboratory and long-term care setting.

### Occupational Skills (OSP)

**OSP 1000**  
**Job Keeping Skills**  
This course covers basic job keeping skills such as reliability, dependability, honesty, good attendance, punctuality, initiative, and good co-worker relationships and customer service.

**OSP 1100**  
**Job Seeking Skills**  
This course covers information students need to seek employment. Topics include job-related vocabulary, job applications, classified ads, resumes, interviews, thank you notes, networking, internet resources for job search, job search record keeping, and using references.

**OSP 1200**  
**Career Assessment and Planning**  
This course provides an opportunity to explore occupational options. Students will identify their strengths and aptitudes to plan career goals.

**OSP 1300**  
**Basic Consumer Skills**  
This course covers consumer skills. Topics include paychecks, using bank services, budgeting, credit and credit cards, loans and comparative shopping.

**OSP 1320**  
**Communications**  
This course covers speaking, listening, using the telephone, expressing oneself, and understanding body language. It covers written personal communication: keyboarding, computer use, notes, messages, letters, and forms.

**OSP 1340**  
**Personal Development**  
This course covers the decision-making process, self-advocacy, self esteem, social behaviors and time management.

**OSP 1360**  
**Relationships**  
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.

**OSP 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.

**OSP 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.

**OSP 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.

**OSP 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.

**OSP 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.

**OSP 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.

**OSP 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.

**OSP 1760**  
**Supervised Occupational Training II**  
This course uses a community-based training site to teach job skills.

**OSP 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.

**OSP 1860**  
**Internship II**  
This course provides the student opportunity to apply knowledge and skills learned at internship sites and in the classroom. The job site will be community based.

**OSP 1900**  
**Applied Job Search**  
This course covers active job search for students seeking permanent paid employment. Students will participate in a job seeking club.
Course Descriptions

OnCourse (ONCR)

ONCR 0100 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.

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, protection, grief, stress, and infectious disease control issues. Prerequisite: EMT Basic Certification

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. Prerequisite: EMSP 1502

EMSP 1506 2 Credits
Pharmacology for the Paramedic
This course will focus on medications commonly used in the prehospital, 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 also examine procedures for maintaining preparedness to administer additional medications that may come into the pre-hospital arena. Prerequisites: EMT Basic Certification, EMSP 1502

EMSP 1510 1 Credit
Ambulance Operations I
This course is part of a series of courses which prepare the student to provide pre-hospital care to ill or injured individuals in the capacity of a paramedic. This course focuses on ambulance operations, incident command and hazardous materials incidents. Prerequisites: EMT Basic Certification, EMSP 1506

EMSP 1512 2 Credits
Ambulance Operations II
This course is part of a series of courses which prepare the student to provide pre-hospital care to ill or injured individuals in the capacity of a paramedic. This course focuses on advanced ambulance operations. Prerequisite: EMSP 1510

EMSP 1530 1 Credit
Patient Assessment
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. The 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: EMSP 1502, 1504

EMSP 1540 3 Credits
Shock and Trauma Care
This course is part of a series of courses which prepare the student to provide pre-hospital care to ill or injured individuals in the capacity of a paramedic. This course focuses on expanded study of the pathophysiology of injury mechanisms and the acute effects of altered hemodynamic states that lead to varying shock 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. Prerequisite: EMSP 1530

EMSP 1552 2 Credits
Airway and Pulmonology
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. The course provides in-depth assessment and treatment modalities for the patient who is suffering from an airway and/or respiratory emergency using various respiratory medications and treatment techniques. In addition, this course will cover respiratory diseases, the pathophysiology behind them and appropriate treatments. Prerequisites: EMSP, 1530, EMSP 1540

EMSP 1554 4 Credits
Cardiology
This course is part of a series of courses which prepare the student to provide pre-hospital care to ill or injured individuals in the capacity of a paramedic. This course provides in-depth assessment and treatment modalities 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, ECG wave forms, ECG axis, identifying acute ECG changes, pathophysiology of the patient experiencing an acute myocardial infarction (AMI), and treatment modalities for the AMI patient. Prerequisite: EMSP 1552

EMSP 1560 4 Credits
Medical Emergencies
This course is part of a series of courses, which prepares the student to provide pre-hospital care to ill or injured individuals in the capacity of a paramedic. The course is focused on medical emergencies encountered in the pre-hospital setting and how paramedics treat these emergencies. The topics include neurology, gastroenterology, toxicology, hematology, urology, and treatment of medical emergencies patients in the out of hospital setting. Prerequisite: EMSP 1554
EMSP 1570 3 Credits
Special Populations
This course is part of a series of courses which prepare the student to provide pre-hospital care to ill or injured individuals in the capacity of a paramedic. This course focuses on patients with common medical emergencies and patients who comprise special populations. The course emphasizes the recognition and treatment of medical emergencies and importance of recognizing the difference in treatment of pediatric and elderly patients from that of the average adult patient. The topics include: OB/GYN, pediatrics, neonatology, and geriatrics. Prerequisite: EMSP 1560

EMSP 1580 1 Credit
Clinical I -BLS
This course is part of a series of courses which prepare the student to provide advanced medical care to ill or injured individuals. 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 medical facility and in the pre-hospital setting. Clinical rotations include an emergency department, critical care setting, pediatrics, operating room, nursing home, doctor's office, and pre-hospital locations, such as ambulance services. Prerequisite: EMSP 1530

EMSP 1582 3 Credits
Clinical II
This course is part of a series of courses which prepare the student to provide advanced medical care to ill or injured individuals. 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 medical facility and in the pre-hospital setting. Clinical rotations include an emergency department, critical care setting, pediatrics, operating room, nursing home, doctor's office, and pre-hospital locations, such as ambulance services. Prerequisite: EMSP 1580

EMSP 1590 1 Credit
Field Clinical I -BLS
This course presents the concepts and information necessary for the student to apply classroom and clinical learning to the care and treatment of actual patients. 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 who successfully complete this course will be eligible to request privileges to provide care as a delegated practitioner within the EMS system. Prerequisites: EMSP 1502, EMSP 1510

EMSP 1592 2 Credits
Field Clinical II
This course presents the concepts and information necessary for the student to apply classroom and clinical learning to the care and treatment of actual patients. The student will apply medical skills and knowledge as a 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. Prerequisite: EMSP 1590

EMSP 1600 1 Credit
ACLS Provider
This course provides a systematic approach to manage a patient who is experiencing an acute cardiac event, respiratory emergencies or stroke. The team approach is emphasized, while adhering to standardized algorithms. Topics 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. Prerequisite: EMSP 1550

EMSP 1602 1 Credit
PALS Provider
This course presents concepts in advanced airway management and resuscitation of pediatric patients in the pre-hospital and hospital settings. The course provides a systematic approach to the pediatric patient who is acutely ill or injured. Topics include emergency pharmacology for pediatric patients, intraosseous 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. Prerequisite: EMSP 1550

PHILOSOPHY (PHIL)

PHIL 0101 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 0102 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 0110 3 Credits
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 0102 1 Credit
Racquet Sports
Beginning skills taught for the racquet sports of tennis, badminton and possibly other racquet sports. Rules and strategies also covered.

PE 0104 1 Credit
Weight Training
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 0106 1 Credit
Golf
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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>PE 0108</td>
<td>1</td>
<td>Volleyball</td>
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<td>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.</td>
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<tr>
<td>PE 0110</td>
<td>1</td>
<td>Recreational Activities</td>
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<td>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.</td>
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<tr>
<td>PE 0114</td>
<td>1</td>
<td>Physical Agility</td>
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<td>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.</td>
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<tr>
<td>PE 0116</td>
<td>1</td>
<td>Cardio and Core Training</td>
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<td>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.</td>
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<tr>
<td>PE 0119</td>
<td>1</td>
<td>Varsity Athletics I</td>
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<td>A first season of participation on an athletic team is required. Students may repeat this course if taken for/in different sports.</td>
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<tr>
<td>PE 0120</td>
<td>1</td>
<td>Self-Defense</td>
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<td>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.</td>
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<tr>
<td>PE 0122</td>
<td>2</td>
<td>Wellness and Fitness</td>
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<td>This course assists and encourages positive lifestyle choices for wellness and fitness. Required fitness workouts and physical activity labs enhance understanding 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.</td>
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<tr>
<td>PE 0124</td>
<td>1</td>
<td>Resistance and Balance</td>
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<td>This class will assist and encourage students to make positive lifestyles choices for their individual wellness and fitness. Through classroom participation and assignments, students will develop an understanding of the benefits of proper physical activity, healthy dietary habits, disease risk reduction, stress management, and maintenance of a healthy body weight. Students can choose from a variety of activities to improve muscle tone and balance through the use of resistance bands, weighted balls, fitness balls and other low impact strength training equipment.</td>
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<tr>
<td>PE 0130</td>
<td>1</td>
<td>Outdoor Activities</td>
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<td>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 &amp; 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.</td>
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<tr>
<td>PE 0140</td>
<td>1</td>
<td>Strength and Speed Development</td>
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<td>Students will learn advanced techniques and concepts in strength-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.</td>
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<tr>
<td>PE 0200</td>
<td>2</td>
<td>Introduction to Physical Education</td>
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<td>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.</td>
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<tr>
<td>PE 0201</td>
<td>2</td>
<td>Introduction to Exercise Science</td>
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<td>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.</td>
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<tr>
<td>PE 0202</td>
<td>4</td>
<td>Anatomical Kinesiology</td>
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<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>
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<tr>
<td>PE 0205</td>
<td>2</td>
<td>Prevention and Care of Athletic Injuries</td>
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<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>
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<tr>
<td>PE 0210</td>
<td>2</td>
<td>Football Skills and Officiating</td>
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<td>Course studies theory, rules, and techniques of officiating and coaching football.</td>
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<tr>
<td>PE 0211</td>
<td>2</td>
<td>Volleyball Skills &amp; Officiating</td>
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<tr>
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<td>Class combines volleyball skills (passing, setting, hitting, blocking) and officiating skills. Individuals learn skills, rules, and duties of officials.</td>
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<tr>
<td>PE 0212</td>
<td>2</td>
<td>Wrestling Skills and Officiating</td>
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<tr>
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<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>
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</tbody>
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PHYS 0101  
College Physics  
MnTC Goal 3B  
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 0112 and Math 0116 or equivalent.

PHYS 0102  
College Physics II  
MnTC Goal 3B  
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 0101.

PHYS 0121  
General Physics  
MnTC Goal 3B  
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 momentum. In addition, the topics of fluid mechanics and mechanical waves are covered. Laboratory is included. Prerequisite: Math 0121, Co-requisite: Math 0122.

PHYS 0122  
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 0121.

PHYS 0100  
Concepts in Physics  
MnTC Goal 3B  
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 0109, Elements of Algebra, and Trigonometry are recommended, but not required. Courses offered on the Hutchinson campus only.
Photoshop Lightroom
PHOT 1015   3 Credits
Principles, composition, design and lighting. This course provides students an introduction to photographic concepts and management and file output will be discussed.

PHOT 1014   4 Credits
Commercial Photography I
This course provides students an introduction to photographic concepts and principles, composition, design and lighting.

PHOT 2030   4 Credits
Commercial Photography II
In this course the student will enhance their commercial photography skills. A review of basic lighting as well as more advanced techniques will be covered. Product lighting, commercial portrait, and architecture will be covered. Prerequisite: PHOT 1028

PHOT 1025   3 Credits
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 1024   4 Credits
Photoshop I
This class will give the student an introduction to the computer program Adobe Photoshop. Topics covered in this course will include navigating in Photoshop, using the tool palette, working with layers, making color corrections, and working with image sizing and resolution. Color theory as it relates to photography will also be discussed. Basic scanning techniques will also be covered in this course. Prerequisite: Basic computer class or equivalent experience

PHOT 1027   4 Credits
Portrait II
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. This class will be all digital and through project assignments the student will become aware of the many practices involved with making a professional portrait. Prerequisites: PHOT 1014, PHOT 1016, PHOT 1017

PHOT 1028   3 Credits
Commercial Photography II
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 tungsten and studio strobe lights. Students will photograph objects to support the lighting techniques learned in class. Prerequisite: PHOT 1014, PHOT 1016, PHOT 1017

PHOT 1039   2 Credits
Basic Photography
This course covers basic camera operation and lighting techniques. The student will use Adobe Photoshop for image correction.

PHOT 1016   3 Credits
Portrait I
This course is designed to give the student a thorough understanding of all types of digital cameras. Other topics covered will be basic image manipulation, flash operation, and exposure control with digital cameras.

PHOT 1017   3 Credits
Introduction to Digital Cameras
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 1023   3 Credits
Product Photography
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 1013   3 Credits
Photoshop Lightroom
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.

POLS 1013   3 Credits
State and Local Government
MnTC Goals 5, 9
An introduction to the basic structure and processes of the American state and local government are explored. Emphasis is given to federalism, taxes and function of state and local governments in Minnesota.

POLS 135   3 Credits
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.

POLS 0133   3 Credits
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 295   3 Credits
Special Topics: GulfWar to 9/11 (online)
MnTC Goals 5, 8
A brief examination of the history of the Middle East, the foreign relations of the region and the West, and the reasons for terrorism. Specific attention is given to the events of the first Gulf War up to the events of 9/11. This course meets Goals 5 and 8 on the MN Transfer Curriculum. Goal 5 - This course examines the human condition, and social institutions in the United States and the Middle East. Students will form a number of theories to explain recent historical events, and communicate those theories and develop solutions for contemporary problems. Goal 8 - this course will examine political, economic, and cultural aspects of American and Middle Eastern societies, and students will demonstrate that knowledge by determining solutions for international problems.

POLS 0132   3 Credits
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 0131   3 Credits
American Government
MnTC Goals 5, 9
An introduction to the basic structure and processes of 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 1014   4 Credits
Basic Photography
This course is designed to give the student a thorough understanding of all types of digital cameras. Other topics covered will be basic image manipulation, flash operation, and exposure control with digital cameras.

POLS 1013   3 Credits
Portrait II
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. This class will be all digital and through project assignments the student will become aware of the many practices involved with making a professional portrait. Prerequisites: PHOT 1014, PHOT 1016, PHOT 1017

POLS 0130   3 Credits
Commercial Photography II
In this course the student will enhance their commercial photography skills. A review of basic lighting as well as more advanced techniques will be covered. Product lighting, commercial portrait, and architecture will be covered. Prerequisite: PHOT 1028

POLS 0129   3 Credits
Commercial Photography I
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. This class will be all digital and through project assignments the student will become aware of the many practices involved with making a professional portrait. Prerequisites: PHOT 1014, PHOT 1016, PHOT 1017

POLS 0128   3 Credits
Basic Photography
This course covers basic camera operation and lighting techniques. The student will use Adobe Photoshop for image correction.

POLS 0127   4 Credits
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

POLS 0126   3 Credits
Commercial Photography II
In this course the student will enhance their commercial photography skills. A review of basic lighting as well as more advanced techniques will be covered. Product lighting, commercial portrait, and architecture will be covered. Prerequisite: PHOT 1028

POLS 0125   3 Credits
Commercial Photography I
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. This class will be all digital and through project assignments the student will become aware of the many practices involved with making a professional portrait. Prerequisites: PHOT 1014, PHOT 1016, PHOT 1017

POLS 0124   4 Credits
Portrait I
This course is designed to give the student a thorough understanding of all types of digital cameras. Other topics covered 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.

POLS 0123   3 Credits
Introduction to Digital Cameras
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 2032  
Environmental Portraiture  
This course will show how to photograph people in an outdoor setting. Discover the ease of posing in the proper light location. Prerequisite: PHOT 1014, PHOT 1016, PHOT 1017, PHOT 1024, PHOT 1027, PHOT 1028  

PHOT 2033  
Wedding Photography  
This course is designed for the student to experience the realm of the wedding photographer. Posing, lighting, and camera skills will be examined. Prerequisite: PHOT 1014, PHOT 1016, PHOT 1017, PHOT 1024, PHOT 1027, PHOT 1028  

PHOT 2034  
Photoshop 2  
In this course, the student will learn advanced PHOTOSHOP techniques such as advanced color correction, advanced layer techniques, working with type layers, and layer masking techniques. Working with actions, color correction, and color spaces will be covered. Comprehensive use of Photoshop Lightroom will also be discussed. Several projects will be created in this class. Prerequisite: PHOT 1024  

PHOT 2035  
On-Camera Flash Photography  
This course is designed to give the student a comprehensive understanding of the use of an on-camera flash unit. Topics such as exposure control, flash fill, and remote control of multiple flash units will be covered in this class.  

PHOT 2040  
Introduction to Video Production  
This course is designed to give the student a basic understanding of video productions. Topics such as proper use of a video camera, lighting for video and post production video and audio techniques will be covered.  

PHOT 2041  
Basic Photo Business Applications  
This course will give the student a basic understanding of business applications that are used in photo studios. Applications such as Studio Cloud, Quickbooks, and Studio Pro will be discussed.  

PHOT 2042  
Photographic Presentation  
This course is designed to give the student an understanding of the various methods of photographic presentations through the use of electronic portfolios, web media, and physical display of images. Prerequisite: PHOT 1027  

PHOT 2046  
Portrait III  
This course gives the student an opportunity to continue on in new areas of advanced portraits while refining skills from Portrait II. Prerequisite: PHOT 1027  

PHOT 2048  
Studio Operations  
This course will introduce the student to the portrait business and how it operates. Prerequisite: PHOT 1016, PHOT 1027  

PHOT 2057  
Supervised Occupational Experience  
Student will have an opportunity to see and experience the work world of photography. Many times the supervised occupational experience leads to the first job.  

PHOT 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.  

PSYC 0131  
Introduction to Psychology  
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.  

PSYC 0132  
Laboratory in Introductory Psychology  
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 0131 or consent of instructor  

PSYC 0165  
Psychology of Women  
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 0131 or consent of instructor  

PSYC 0212  
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 0131 or consent of instructor  

PSYC 0263  
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 0131 or consent of instructor  

PSYC 0275  
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 0131 or consent of instructor  

**Psychology (PSYC)**

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<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSYC 0131</td>
<td>Introduction to Psychology</td>
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<td>PSYC 0131 or consent of instructor</td>
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<td>Abnormal Psychology</td>
<td>3</td>
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</tbody>
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PSYC 0280
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 0131 or consent of instructor

Public Health (PUBH)

PUBH 0105
Personal and Community Health
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 0107
Nutrition (online)
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 0110
Drug Education in Contemporary Society
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.

Reading (READ)

READ 0095
Pre-College Reading I
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 0095 and READ 0099, starting in their first term. Prerequisite: Assessment placement scores (if applicable)

READ 0099
Pre-College Reading II
This is the second in a two-course sequence designed to develop critical reading skills and college-level vocabulary, as well as prepare students for college-level reading. Students will read, discuss, and respond to assigned works of various lengths and from several genres, moving from literal to inferential and strategic reading. Students are placed in this course through assessment scores or through successful completion (C- or better) in READ 0095; these students will enroll in READ 0099 during their first term or 24 credits. Prerequisite: Assessment placement scores or successful completion of READ 0095.

SCIENCE (SCI)

SCI 0105
Physical Science
MnTC Goal 3B, 5
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 0106
Introduction to Forensic Science
MnTC Goal 3B
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 include blood analysis, hair analysis, firearms and identification, fiber comparisons, paints, glass compositions, 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.

Sociology (SOC)

SOC 0105
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 0106
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 0107
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 0225  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 0240  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 0241  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 0242  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 0243  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 0244  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 0251  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, sociocultural and spiritual interactions. Focus will be primarily on Northern Plains Native American people. Past and present issues and concerns will be covered.

SOC 0295  1-3 Credits
Topics in Sociology
MnTC Goal 5
Individual readings on selected topics in Sociology with seminar discussions. The unfortunate presence (and prevalence) of hate crimes in America challenges us to investigate this complex phenomenon. The focus of this course is to provide an exploration into the social, theoretical, and legal implications of hate-fueled crime and violence in the United States today. Specifically, we will be using a sociological lens to identify the reality of hate groups, document the rise in hate crimes throughout the years, and consider social and legal ways to curb such abhorrent acts.

SPANISH (SPAN)

SPAN 0107  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 0108  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 0107, one year of high school Spanish or consent of instructor

SPAN 0207  4 Credits
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 0108 or two years of high school Spanish or consent of instructor

SPAN 0208  4 Credits
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 0207 or three years of high school Spanish or consent of instructor.

**THTR 0150**
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 0250**
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 0150.

**SPAN 0210**
Culture of Costa Rica through Study and Immersion
MnTC Goals 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 0295**
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.

**THEATRE (THTR)**

**THTR 0140**
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 0141**
Introduction to Film
MnTC Goal 6
This course is designed to introduce and acclimate 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 0142**
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 0145**
Participation in Theatre
Active participation in theatre productions. Enrollment by approval of department. Maximum 5 credits.

**THTR 0150**
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 0250**
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 0150.

**UNIVERSAL CARE ASSISTANT (UCA)**

**UCA 1005**
Occupational/Service Learning
This course takes a hands-on approach to introducing the student to the Human Service Profession. The student will shadow and observe individuals who are employed in a variety of organizations, agencies, facilities or learning environments. Other learning experiences outside of the classroom include field trips and conferences/workshops.

**UCA 1010**
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. We will also address the importance of communication and relationships within the workplace.

**UCA 1015**
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.

**UCA 1040**
Introduction to Aging
This course covers the basic terminology and the lifestyles of the elderly related to working with the elderly. Particular emphasis is placed on types of agencies and organizations for the elderly and current issues that affect the aging population.

**UCA 1105**
Behavior Intervention
This course addresses areas which are important in daily encounters with the people whom the student works with and for. Topics include assertiveness, self-image, stress management, motivation techniques, goal planning, communication styles, and practical ideas and suggestions to be used with children of varying ages, temperaments, and behaviors.
UCA 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.

UCA 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.

UCA 1200 1 Credit
Basic Math Skills
This course addresses skills necessary to be independent as well as basic requirements needed to be an effective employee. Language skills including reviewing basic grammar and sentence structure are included. Communication and reporting on the job require being able to write complete paragraphs and proofreading for accuracy. Also included are basic math functions of whole numbers, fractions, decimals, percents, money, time, liquid and solid measurements, linear measurements, and unit pricing. Maintaining checking accounts, making buying decisions, letter writing, figuring wages, and planning budgets are also emphasized.

UCA 1205 1 Credit
Basic Communication Skills
This course addresses skills necessary to be independent as well as basic requirements needed to be an effective employee. Language skills including reviewing basic grammar and sentence structure are included. Communication and reporting on the job require being able to write complete paragraphs and proofreading for accuracy. Also included are basic math functions of whole numbers, fractions, decimals, percents, money, time, liquid and solid measurements, linear measurements, and unit pricing. Maintaining checking accounts, making buying decisions, letter writing, figuring wages, and planning budgets are also emphasized.

UCA 1210 2 Credits
Understanding Young Children
This course covers growth and development from birth through six years of age. Special topics included are safety, licensing, and child care facilities. Children are studied in relation to their individual needs and the care giver’s role in a community setting.

UCA 1225 1 Credit
Disability Awareness
This course increases awareness of various types of disabilities. It also addresses characteristics and offers tips for working with individuals with disabilities.

UCA 2800 1-5 Credits
Professional Development
This course is designed to provide various learning opportunities for unique situations in the student’s education process. Credits are variable to allow flexibility in the various learning experiences.

UCA 2900 1-6 Credits
Internship I
This course is a cooperative work study program between the Ridgewater College Professional Human Development 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.

**VETERINARY TECHNOLOGY (VNTE)**

VNTE 1000 1 Credit
Introduction to Veterinary Science
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.

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 1035 4 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, muscles and digestive.

VNTE 1045 2 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 1035

VNTE 1055 2 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 1116
Veterinary Nursing Procedures II
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. Introduced topics will include first aid, CPR, ECG's, toxicology, and oncology. Prerequisites: VNTE 1000, VNTE 1016, VNTE 1035

VNTE 1125
1 Credit
Kennel Management and Animal Care II
This course will continue with the concepts of necessary care of kennel animals. Husbandry techniques and animal care will be emphasized for dogs and cats. Emphasis will be placed on teamwork, communication and other personal skills needed for the successful veterinary technician. Concepts of animal behavior will be presented as well as dog and cat breed differences. Nutrition concepts and requirements for dogs and cats will be introduced as well. Prerequisites: VNTE 1000, VNTE 1016

VNTE 1135
2 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, immune and nervous. Prerequisites: VNTE 1000, VNTE 1035

VNTE 1146
2 Credits
Disease Processes I
This course will introduce principles of the disease process. Diseases of public health significance as well as disease control and management practices will be emphasized. Diseases discussed will emphasize the awareness of the cause of disease, the effects of disease on the body, as well as disease control and management procedures. Diseases of companion animals will be emphasized.

VNTE 1155
3 Credits
Laboratory Techniques II
This course is a continuation of the laboratory skills and techniques already begun. Techniques covered include further testing for internal parasites, an introduction to hematology, blood sample collection and handling, serological testing and other laboratory skills utilized in veterinary hospitals. Prerequisites: VNTE 1000, VNTE 1035, VNTE 1055

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 0101, VNTE 1116, VNTE 1135

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 0101, VNTE 1116, VNTE 1135

VNTE 2223
1 Credit
Kennel Management and Animal Care III
This course will continue with the concepts of the necessary care of kennel animals. Husbandry techniques, weekly physicals, kennel management, and animal care will be emphasized for dogs and cats. Emphasis will be placed on teamwork, communication, leadership, and other personal skills needed for the successful veterinary technician. Students will be introduced to the role of the veterinary team at animal shelters and our Paws and Claws clinic. This component will focus on technical skills of preventive shelter medicine and general animal health care. Prerequisites: VNTE 1116, VNTE 1125, CHEM 0101.

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: VNTE 1135, CHEM 0101

VNTE 2240
1 Credit
Pharmacology II
This course is a continuation of basic principles and information presented in Veterinary Pharmacology I. Students will utilize knowledge gained in prior coursework to explore general pharmacological principles of the following types and groups of drugs: antibacterials, gastrointestinal, anti-inflammatories, nutraceuticals, ophthalmics, otics, dermatologicals and chemotherapy. Prerequisites: VNTE 1016, VNTE 1035, VNTE 1045

VNTE 2255
3 Credits
Laboratory Techniques III
This course is a continuation of the laboratory skills and techniques already begun. Techniques covered include urinalysis, blood chemistries, cytology, review of hematology and serology, and other laboratory tests utilized in veterinary hospitals.

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 1135, VNTE 1155, VNTE 1045, CHEM 0101

VNTE 2330
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 2332
1 Credit
Veterinary Technician Career Skills
This course allows students to gain and utilize skills necessary for successful career placement. Included will be resume preparation, selection of internship sites and interview preparation. Prerequisite: Successful completion of first 3 semesters VNTE coursework
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VNTE 2335</td>
<td>1 Credit</td>
<td>Veterinary Office Skills</td>
<td></td>
<td>This course allows students to gain and utilize necessary advanced veterinary office skills. Included will be selected workplace issues with emphasis on telephone techniques, merchandising, appointment scheduling, how to work with difficult clients and client relations. This course provides an overview of veterinary practice management including veterinary marketing, interoffice communications and public relations techniques. Topics include inventory management, state and federal regulations governing veterinary practices and computer applications in veterinary medicine, and completion of all requirements leading towards graduation. Prerequisite: Successful completion of first 3 semesters VNTE coursework.</td>
</tr>
<tr>
<td>VNTE 2336</td>
<td>3 Credits</td>
<td>Veterinary Hospital Procedures</td>
<td></td>
<td>This course will teach routine office procedures with emphasis on client relations and education, ethics in veterinary medicine, inventory management, leadership skills, and state and federal regulations governing veterinary practices. This course incorporates a hands-on laboratory covering all aspects of clinical patient care.</td>
</tr>
<tr>
<td>VNTE 2345</td>
<td>1 Credit</td>
<td>Disease Process II</td>
<td>VNTE 1116, VNTE 1135, CHEM 0101</td>
<td>This course is a continuation of Disease Processes I. Diseases of public health significance as well as disease control and management practices will be emphasized. Diseases discussed will emphasize the awareness of the cause of disease, the effects of disease on the body, as well as disease control and management procedures. Prerequisites: VNTE 1116, VNTE 1135, CHEM 0101</td>
</tr>
<tr>
<td>VNTE 2350</td>
<td>3 Credits</td>
<td>Avian, Exotic and Lab Animal Care</td>
<td>VNTE 1116, VNTE 1135, CHEM 0101</td>
<td>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: husb Andry, common diseases, nursing procedures and preventative health care and handling techniques. VNTE 1116, VNTE 1135, CHEM 0101</td>
</tr>
<tr>
<td>VNTE 2355</td>
<td>1 Credit</td>
<td>Laboratory Techniques IV</td>
<td>VNTE 1116, VNTE 1135, CHEM 0101</td>
<td>This course is a review of the laboratory skills and techniques needed by the veterinary technician as taught in the last three semesters. Prerequisites: VNTE 2255, BIOL 215</td>
</tr>
<tr>
<td>VNTE 2425</td>
<td>1 Credit</td>
<td>Kennel Management and Animal Care IV</td>
<td>VNTE 1116, VNTE 1135, CHEM 0101</td>
<td>This course will continue with the concepts of care of kennel animals. Husbandry techniques, weekly physicals, kennel management, and animal care will be emphasized for dogs and cats. Emphasis will be placed on mentoring, teamwork, communication, leadership, and other personal skills needed for the successful veterinary technician. Concepts of animal nutrition and preventive care will be continued. Animal behavior training will continue in this kennel management class as well. Prerequisite: VNTE 2225</td>
</tr>
<tr>
<td>VNTE 2715</td>
<td>8 Credits</td>
<td>Veterinary Technology Internship</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>VNTE 2811</td>
<td>1 Credit</td>
<td>Shelter Medicine</td>
<td>VNTE 1116, VNTE 1135, CHEM 0101 (may be taken concurrently)</td>
<td>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 1116, VNTE 1135, CHEM 0101 (may be taken concurrently)</td>
</tr>
<tr>
<td>VNTE 2821</td>
<td>1 Credit</td>
<td>Certification Exam Review</td>
<td></td>
<td>This course will help prepare students and graduates for the Veterinary Technician National Examination (VNTE). 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.</td>
</tr>
<tr>
<td>VNTE 2822</td>
<td>1 Credit</td>
<td>Advanced Veterinary Dentistry</td>
<td></td>
<td>This is a lab-based course that will introduce students to advanced veterinary dental procedures, equipment, and terminology. Activities will include discussion of malocclusions, oral pathologies, endodontics, and specialty groups. Students will perform equipment maintenance, dental radiography, charting techniques, and prophylactic procedures.</td>
</tr>
<tr>
<td>VNTE 2825</td>
<td>1 Credit</td>
<td>Advanced Veterinary Behavior</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>VNTE 2830</td>
<td>2 Credits</td>
<td>Pet Grooming</td>
<td></td>
<td>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 &amp; maintenance, bathing &amp; drying, and basic grooming patterns. Students will have hands-on experience with each of the topics.</td>
</tr>
<tr>
<td>VNTE 2950</td>
<td>1-6 Credits</td>
<td>Special Projects/Topics</td>
<td></td>
<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>
</tr>
</tbody>
</table>
## Welding (WELD)

### WELD 1118 Agricultural Welding
This course teaches basic arc and oxyacetylene welding, basic welding and cutting. Brazing is included for non-fusion joining procedures.

### WELD 1190 NDT 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 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 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 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 1310

### 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 to 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 6011 or 6013 electrodes. Proficiency will be demonstrated by qualification welds in flat, horizontal, vertical and overhead positions. Prerequisite: WELD 1316

### WELD 1327 Gas Metal Arc Welding 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  
Small projects are fabricated to precise tolerances. All common GMAW processes are used when welding carbon steels, stainless steel, and aluminum on light gauge material and heavy plate. A higher degree of skill and applications to AWS and ASME procedures can be achieved. 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  
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  
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  
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  
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  
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  
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  
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  
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  
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**  
Wireless Communications Circuit Analysis  
4 Credits  
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**  
Telecommunication Systems  
4 Credits  
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**  
Radio Communication System Fundamentals  
4 Credits  
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**  
Advanced Radio Communication Systems  
4 Credits  
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**  
Voice Over IP Fundamentals  
1 Credit  
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**  
Radio and Voice over IP Network  
1 Credit  
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.

## Women's Studies (WMST)

**WMST 0107**  
Introduction to Women's Studies  
3 Credits  
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 women's movement as it relates to art and the contemporary woman artist.

**WMST 0165**  
Psychology of Women  
3 Credits  
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 0131

**ELWC 2934**  
Wireless Technician Certification  
2 Credits  
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:

- Dental
- Emergency Medical Services/Prehospital
- 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
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 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

Lori Anderson  
BACC Minnesota State University, Mankato  
MS Minnesota State University, Mankato

Jennifer Anderson  
BS University of North Dakota

Theodore Anderson  
Certificate University of Wisconsin  
BA University of Wisconsin

Jennifer Anderson  
DOC University of Minnesota College of Veterinary Medicine

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

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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

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MS Minnesota State University, Moorhead

Jill Benson  
BA St. Cloud State University  
MA Iowa State University

Wendy Benusa  
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Allen Benusa  
BS Bachelor of Science

Dawn Bjork-Pedersen  
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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

Julene Bredeson  
AS Willmar Community College  
BSN Graceland College

Julie Bredeson  
AA Willmar Community College  
BA St. Cloud State University  
MA St. Cloud State University

Julie Buntjer  
AS Willmar Community College  
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