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**Accreditation**
- North Central Association of Colleges and Schools
- Technology Accreditation Commission of the Accreditation Board for Engineering and Technology for the following two programs: Civil Engineering Technology
- Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants’ Endowment (AAMAE)
- Commission on Accreditation of Allied Health Education Programs (CAAHEP), in cooperation with Accreditation Review Committee on Education in Surgical Technology (ARC-ST)
- American Dental Association Commission Accreditation and recognized by the Minnesota Board of Dentistry
- Commission on Accreditation of Allied Health Education Programs (CAAHEP), in conjunction with the Committee on Accreditation of Respiratory Care (COARC)
- Joint Review Committee on Education in Radiologic Technology
- Minnesota Peace Officers Standards and Training Board
- National League for Nursing
- Recipient of the 1996 Silver Advancement Minnesota Quality Award

**Memberships**
- American Association of Community Colleges
- American Technical Education Association
- Association of College Unions, International
- Association of Minnesota Post-Secondary Educational Institutions
- Council of North Central Community and Junior Colleges
- Minnesota Association of Community and Junior Colleges
- NAFSA: Association for International Educators
- National Association for Campus Activities
- National Junior College Athletic Association
- AD Nursing Council
- Practical Nursing Council

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**Academic Calendar for 1999/2000**

**FALL SEMESTER**
- Classes begin ........................................ Aug. 23, 1999
- Labor Day - No Classes .............................. Sept. 6, 1999
- Faculty convention - No classes ............ Oct. 21, 22, 1999
- Veteran’s Day - No Classes ............... Nov. 11, 1999
- Last Day to Withdraw from Classes ...... Nov. 18, 1999
- Holiday break ........................................ Nov. 25, 26, 1999
- Semester ends ........................................ Dec. 17, 1999

**SPRING SEMESTER**
- Classes begin ........................................ Jan. 10, 2000
- Martin Luther King Day - No classes ........ Jan. 17, 2000
- President’s Day - No classes ................ Feb. 21, 2000
- Spring break ........................................ March 6 - 10, 2000
- Last Day to Withdraw from Classes .... April 11, 2000
- Semester ends / Graduation ...................... May 12, 2000

**SUMMER SESSION I**
- Classes begin ........................................ June 5, 2000
- Session ends .......................................... Aug. 11, 2000

Academic calendars in the Minnesota State Colleges and Universities System are subject to modification or interruption due to occurrences such as fire, natural disasters, labor disputes, interruption of utility services, acts of God, civil disorder and war. In the event of any such occurrences, the college will attempt to accommodate its students. It will not, however, guarantee that courses of instruction, extracurricular activities, or other college programs or events will be completed or rescheduled. Refunds will be made to eligible students only according to the policies adopted by the Minnesota State Colleges and Universities.
Disclaimers

Academic Freedom
Academic freedom is essential to the mission of higher education, which is to allow and promote free inquiry into the total environment of human endeavor. A college exists for the purpose of examining the questions and issues arising out of that environment, including the past, the present and the future. Such freedom includes research, teaching and activities sanctioned by the college.

Non-Discrimination
Non-Discrimination/Compliance with Rehabilitation Act: It is the policy of Rochester Community and Technical College not to discriminate on the basis of race, creed, national or ethnic origins, age, marital status, sex, or handicap as required by Title IX of the 1972 Educational Amendments or Section 504 of the Rehabilitation Act of 1973 as amended in admissions policies, educational programs, activities and employment practices. The designated Affirmative Action Officer is Susanne Sheehan, Director of Human Resources, who can be contacted at (507) 285-7183.

The designated coordinator for compliance with Section 504 of the Rehabilitation Act of 1973 as amended is Travis Kromminga, (507) 280-2968 (V/TDD), who is also the designated coordinator for compliance with Title IX of the Educational Amendment of 1972 (Disabled students see Catalog page 11).

College Authority
The College and its various divisions and departments reserve the right to change the rules controlling admission, instruction and graduation from the college or its various divisions. Such regulations are operative whenever the college authorities deem necessary and apply not only to prospective students but also to those currently enrolled in college. The college also reserves the right to withdraw courses, to reassign instructors and to change fees at any time.

Alternate Format
Information contained in this publication will be made available, upon request, in an alternative format such as large print or audio tape.

MN State Colleges and Universities (MnSCU)
Rochester Community and Technical College is one of 54 colleges and universities that make up Minnesota State Colleges and Universities (MnSCU). This statewide system of community colleges, state universities and technical colleges is governed by a Board of Trustees. MnSCU is dedicated to providing students with a wide array of opportunities for lifelong education in both technical and academic fields, ranging from short-course certificates to the master’s degrees.

Mission

To Provide Accessible, Affordable Educational Opportunities to Meet the Needs of a Diverse Community.

Statement of Purpose
Rochester Community and Technical College is a two-year regional college serving southeastern Minnesota.

The College provides curricula that are designed to meet a variety of academic and career educational opportunities that prepare students for work, life, and additional education now and into the future. Programs lead to the award of certificates, diplomas, and degrees such as Associate in Applied Science, Associate in Science, and Associate in Arts.

To meet our mission, staff members of Rochester Community and Technical College are committed to provide a variety of educational options on a nondiscriminatory, open-door basis, as follows:

- Technical and general education leading to the Associate in Applied Science degrees, diplomas and certificates in career fields requiring less than a baccalaureate degree;
- Relevant technical and general education leading to the Associate in Science degree, focusing on preparation for employment or transfer to a baccalaureate degree;
- Liberal arts and sciences education leading to the Associate in Arts degree and transfer to a four-year college or university;
- Developmental courses in basic educational areas to provide students with the background they need to succeed in a college environment;
- Continuing education, customized training services, and professional development to provide skills and knowledge for career improvement, service to business and industry, and licensure;
- Support services and student life opportunities that aid in leadership development in the educational, career and personal goals of students in a learning environment that accommodates individual learning needs;
- Partnerships with business and industry, agencies, government and other higher education providers to develop and maintain a skilled work force in an ever-changing environment;
- Regional economic development through job creation, retention, and retooling of the work force.
We believe:
- Learning is a lifelong process reflected in an academic continuum of developmental, general, technical, and transfer and continuing education;
- Quality educational opportunities must be affordable, convenient, and geographically accessible for all students;
- Open educational access requires the use of a variety of instructional strategies and technologies to accommodate individual learner needs and varied learning styles;
- Quality and excellence occur in a continuous improvement climate that recognizes emerging technologies, values applied experiences, advances community and business partnerships, and promotes student and staff development;
- Students deserve a respectful, safe, and caring environment that supports personal growth and embraces diversity;
- Student life enriches educational, career, cultural, recreational, and social development in preparation for citizenship in a global society;
- Student services enhance educational experiences, promote personal well-being, and support student success;
- Public investment in higher education assumes a promise of fiscal responsibility;
- Higher education in a multi-cultural setting values academic freedom, develops critical thinking, and accepts philosophical differences.

History
Rochester Community and Technical College
Rochester Community and Technical College was formed on July 1, 1996, when Minnesota Riverland Technical College and Rochester Community College consolidated. Combined, we have more than a century of experience providing higher education to southeastern Minnesota.

The College enrolls approximately 4,500 students in credit classes and also serves thousands of others through non-credit classes. The faculty consists of more than 100 highly-trained, permanent employees. The College is part of the University Center Rochester, which also includes University of Minnesota Rochester Center and Winona State University—Rochester Center. This unique partnership brings together a spectrum of program offerings that range from six-month certificate programs to master’s degree programs in a setting that features state-of-the-art facilities.

Rochester Community and Technical College students can choose from technical programs in such areas as accounting, business, administrative support, allied health, human services, technical and trade/industry. Students wishing to finish a four-year degree can take their first two years at Rochester Community and Technical College—earning an associate degree—and then transfer to finish a bachelor’s degree. The College has teamed up with Winona State University to establish more than a dozen “2 plus 2” programs that allow students to complete a four-year degree without leaving Rochester.

In addition to its educational programming, RCTC offers a comprehensive student life program. These opportunities include social activities, speakers, varsity athletics, intramural sports, honor societies and music, to name a few.

University Center Rochester Campus
Four buildings were ready for use when the college made its 1968 move to the forested hillside about a mile east of the city. The structures included Goddard Library and classroom building; Endicott Hall for technology and business classes; the Charles Singley building, housing all chemistry, biology and physics labs, as well as lecture halls; and the Administration building, which then held administrative offices and the college bookstore.

The next additions to the campus were Rockenbach Hall, gymnasium and physical education complex, and the Plaza West Building, which now contains faculty offices, numerous classrooms, the student newspaper office and a 200-seat lecture hall.

The campus continued to grow with three more additions marking the next phase of construction. A student services building housing the administration offices, the counseling center and a health service area was first. The art building came next, representing one of the most outstanding studio facilities of its kind in the upper Midwest; an immense north window in the structure provides proper lighting to three floors of studios. The Plaza East building completed this segment of construction. It provides a versatile nursing lab and staff offices. The next two major projects were the College Center and theater. As the student union, the Center is aptly named, since it is at the center of students’ lives here. The college theater is one of the finest such facilities in southeastern Minnesota. It seats 350 persons and contains advanced electronic and sound systems, as well as a complete scene-making shop and dressing rooms. In 1987, it was named Hill Theater in honor of retired RCC President Charles E. Hill, who served the college from 1953 to 1982.
General Information

A classroom building opened on the UCR campus in the fall of 1986 housing the Rochester Center of Winona State University. The Plaza West building was renamed Memorial Hall in 1988. Plaques and portraits are placed in this building to honor former college staff.

The campus further evolved in late 1989 with the completion of a $16 million construction project. The project included remodeling of the library, the administrative building, and the lower level of the Goddard Building, which housed the business office, bookstore, Student Support Services Program and the duplicating services area. New construction included a continuing education area featuring spacious conference rooms and state-of-the-art equipment, and a separate building to house the child care center.

Construction was completed in 1993 on the $17 million University Center Rochester facilities, which houses student services areas, classrooms, computer and science labs, as well as a number of interactive television classrooms. Today, the building is shared by RCTC, the University of Minnesota Rochester Center and Winona State University—Rochester Center.

Heintz Center
The former Minnesota Riverland Technical College-Rochester Campus facility was dedicated as Heintz Center on May 9, 1997. The building was named after Dr. Emil Heintz, founder and first Director of Rochester Area Vocational Technical Institute. Dr. Heintz served as Director from 1966 to 1973. Dr. Heintz had served as Dean (CEO) of Brainerd Junior College from 1938 to 1944 and Dean of Rochester Junior College from 1944 until 1966. The new Rochester Community and Technical College delights in the opportunity to name this facility after a man who had roots in both previous institutions. Heintz Center is located at 1926 College View Road.

Admissions
General Admission
The requirement for admittance to Rochester Community and Technical College is a high school diploma or General Education Diploma (GED) certificate. A person who has neither a high school diploma nor a GED certificate may be admitted if that person demonstrates potential for collegiate success. Such applicants will be considered for admission to Rochester Community and Technical College by completing the ASAP test and obtaining the recommendation of the Counseling Office of the college. The applicant is requested to contact the Counseling Office to arrange for an admission review appointment.

The Registrar, in consultation with other appropriate Rochester Community and Technical College staff, will make the admittance determination. The decision is appealable via the Rochester Community and Technical College appeal process. (See College Policy 3.8 - Student Grievance)

Admission to Rochester Community and Technical College does not guarantee admission to college-level courses or programs of study. Academic administrators and faculty will develop standards for admission into programs of study. Program admission decisions are appealable via the Rochester Community and Technical College appeal process.

High school students who can demonstrate readiness for the collegiate experience, as determined by the college, may be admitted.

Application Fee
Rochester Community and Technical College shall assess a onetime $20 application fee to all credit-seeking applicants. The fee is payable at the time of application. The application fee will be nonrefundable except when the college denies enrollment due to college-determined program/course size limitations or program closure.

Entry Opportunities
Students may enter the college during fall, spring or summer sessions. It is recommended that high school seniors apply for admission in their senior year and include their high school transcript and current schedule of classes with their application.

Admission of Transfer Students
Transfer students must submit the RCTC application form, an official transcript of high school credits, and official transcripts from all colleges previously attended.

A student transferring from another college or university must meet the admission and retention standards required of students who do all their study at Rochester Community and Technical College.

Students may request a copy of the evaluation of their transfer credits from the Admissions and Records Office before making a decision to attend RCTC.
Admission of International Students
An international student is defined to be a non-refugee/nonimmigrant holding a valid student visa.

International students are expected to possess certain standards of proficiency in the use of the English language and provide evidence of that proficiency to the college. To be eligible for admission, an international student must satisfy the English proficiency requirement through one of the following:

1. Attend and graduate from a like accredited United States (US) secondary or post-secondary institution.
2. Satisfactorily complete college level English course work at a like accredited US post-secondary institution.
3. Satisfactorily complete level 8 at one of the ESL Centers.
4. Attain a score of 133 on the computer based Test of English as a Foreign Language (TOEFL) examination. Examination results must be received directly from the exam center.
5. Attain a score of 450 on a written TOEFL examination. Examination results must be received directly from the exam center.

The International student must also submit a Financial Information Form before being considered for admission to the college.

Admission of New Immigrants
Potential students who are new immigrants must demonstrate English language proficiency before they enroll at RCTC. These students will take the English placement test administered to all incoming students. Results of this test will determine placement in either the regular freshman English sequence (English 1117 & 1118) or the English 1102, 1103 series. Immigrants who do not demonstrate proficiency in the English language will be required to take English as a Second Language courses that are provided in the community prior to enrolling at RCTC.

Post-Secondary Enrollment Options Program
(PSEOP OPTION A - Liberal Arts) Minnesota high school students who wish to enroll under the PSEOP must submit the RCTC application form, an official transcript of high school credits completed to date and the Notice of Student Registration form required for PSEOP. This latter form must have the high school counselor’s endorsement and parent signature before admission will be considered. A student may not be eligible for any program that requires a high school diploma or GED for entrance. Successful completion of the Academic Skills Assessment Program is required prior to admission. Additional admission requirements for students enrolling in associate degree program courses are: 12th grade students must rank in the upper 50 percent of their class or have a 2.5 or higher overall grade point average. 11th grade students must rank at or above the 66th percentile in class rank or have at least a 3.0 overall grade point average. A part-time participant may enroll in a maximum of 11 credits; full-time participants must enroll in a minimum of 12 and a maximum of 18 credits.

(PSEOP OPTION B-Certificate or Diploma Programs) For students enrolling in certificate or diploma programs or courses, no specific high school grade point average is required. Credit load is capped at 8 credits for the first semester of enrollment unless a student secures a recommendation from their high school counselor for additional credits. PSEOP participants enrolled in certificate or diploma programs or courses, must achieve a grade point average of 1.75. If a 1.75 grade point average is not achieved, the student will be suspended for one semester. Upon return, the student may enroll in a maximum of 8 credits.

Veterans/Educational Assistance
Certification of enrollment is processed through the Admissions and Records Office. Students who are approved for educational benefits under the G.I. Bill, State Vocational Rehabilitation, Social Security; who are wards of the State of Minnesota; or who are sons or daughters of deceased war veterans, must get approval from the Admissions and Records Office when changing credit load or leaving school.

Academic Policies
Assessment
All new students entering RCTC are required to complete an academic skills assessment. The assessment provides information about your current skill levels in reading, writing and mathematics. Based on your scores you will be placed in appropriate classes. You may be required to enroll in a developmental class that will provide you with the basic skills needed for success in subsequent classes. Transfer students may be exempt from the assessment if they have documentation showing successful completion (“C” or better) of a college level English and math course. For further information, contact Enrollment Services Office at (507) 285-7219.

All applicants are encouraged to submit the results of either the American College Testing (ACT) or the Scholastic Aptitude Test (SAT). These scores are not mandatory for admission.
**General Information**

**Registration**
The registration period and instructions for registration will be announced prior to the beginning of each term. Credits for any course, including Independent Study, will be awarded only for the term in which the student was registered and payment was made. If registration and/or payment is completed after the 15th day preceding the published ending date of the term, the credits will be awarded the following term. Exceptions will be granted for graduation purposes only.

Registration for classes will be allowed through the first five instructional days of the semester on a space available basis. Registration after the 5th day of the semester will require consent of the instructor.

**Web Registration**
Web (internet) registration is available to all RCTC students for any term after their initial term of enrollment with the college. Through the internet, students can add and drop courses, search for open classes, view class schedules, check grades, and more. In order to use the web registration module, students will need to obtain a Stinger ID number, a PIN, and an Advisor Access Code, all of which will be assigned to the student by the Admissions and Records Office.

**Evening and Saturday Courses**
Evening and Saturday courses are generally offered on the same semester schedule as day classes. It may be possible to earn a certificate, diploma or an Associate Degree by attending classes exclusively during evening hours. Consult a student service advisor or professional college counselor for help with planning. Evening services include counseling, testing, bookstore, library, admission/registration and cashier window. Review semester course schedule for specific information.

**Drop/Add**
The Drop/Add period for regularly scheduled courses will carry through to the tenth day of the semester with the following guidelines:

1. During the first five days of the semester classes may dropped and added.
2. During the sixth through the 10th day of the semester classes may be exchanged (Drop/Add) for the equal or greater credit loads with instructor signatures. Credits dropped without exchanged credits will still maintain a financial obligation. Dropped courses will not be reflected on a grade report or transcript
3. After the 10th day of the semester there will be no exchange of credits. Courses dropped after the 10th day will be recorded as a “W” (withdrawal).
4. Due to the nature of non-concurrent courses (classes which start and/or stop at times other than the regularly scheduled courses), drop/add and withdrawal options may be greatly restricted. As much as possible the college will allow drop in non-concurrent courses prior to the second meeting of the course, or prior to 80% of the class meetings remaining without incurring a financial obligation.

**Course Audit**
Students wishing to audit courses will be charged regular tuition and fee rates. Courses audited cannot be applied toward meeting graduation requirements as they do not bear credit. Students must declare their intent to audit classes before the 10th day of the semester or 5th day of summer session.

**Withdrawal from Course Work**
Students may withdraw from course work through the sixtieth day of instruction for regularly scheduled courses. Withdrawal forms must be submitted to the Admissions and Records Office to complete the withdrawal process.

If a student’s course schedule is reduced for the convenience of the college, or if the collection was made in error, the tuition and fees shall be adjusted without penalty. Withdrawal from college in the case of injury or illness which prohibits return to classes within the semester may qualify the student for a refund, as may entry into the armed forces. In these instances contact the Admissions and Records Office.

**Withdrawal from College**
1. The College strongly recommends consultation with a counselor, advisor, program coordinator, or instructor prior to withdrawal. Financial aid recipients should also consult with a financial aid assistant. Certain programs require an advisor or program coordinator signature to authorize course withdrawals
2. The student shall inform the Financial Aid Office, VA representative, SSSP Office, and program coordinator of their decision to withdraw. Withdrawals will not be authorized beyond the published term deadline.

**Refund for Reducing Credit Load**
Students receive a 100% refund for credits dropped on or before the fifth day of the semester. No refund for reduction of credits will be permitted after the fifth day. Withdrawals are processed until the published withdrawal deadline.
**General Information**

Students who totally withdraw from school will be subject to the following reimbursement schedule:

1. A 100 percent refund of tuition and fees shall be provided to a student who withdraws on or before the fifth day of the semester.
2. A 75 percent refund of tuition and fees shall be provided to a student who withdraws after the fifth day but on or before the 10th day of the semester.
3. A 50 percent refund of tuition and fees shall be provided to a student who withdraws after the 10th day but on or before the fifteenth day of the semester.
4. No refund of tuition and fees shall be provided to a student after the fifteenth day of the semester.

**Course Repeat**

Students are allowed to repeat courses for the purpose of passing or improving their grade. Some programs may have specific guidelines regulating when courses may be repeated and any potential impact on continuation in that program. Credits may be counted toward graduation only once. Students must complete a “Course Repeat” form and submit it to the Admissions and Records Office in order to have only the higher grade counted in the computation of their overall grade point average.

**Class Attendance**

Students are expected to attend all classes. Class attendance is vital to successful achievement in individual courses and in the entire college program. In case of absence, it is the responsibility of the student to arrange for completion of work missed. Faculty members determine, communicate, and implement attendance policies for their classes and programs.

**Student Classification**

Students are classified as follows:

- **Freshman:** A student who has completed fewer than 30 semester hours.
- **Sophomore:** A student who has completed 30 or more semester hours.
- **Special:** A student who has not been admitted to a prescribed program of study.

**Immunizations**

Minnesota law (M.S. 135A.14) requires that all students born after 1956, or entering an allied health field, and enrolled in a post-secondary institution in Minnesota must be immunized against diphtheria, tetanus, measles, mumps, and rubella with allowance for specific exemptions. Immunization is required of all students registered for more than one class. A form must be completed by the student indicating the month and year each immunization was administered. The appropriate form for this statement will be provided to the student as part of the admission process. If students have any questions about the form, they may contact the campus Health Service at (507) 285-7261.

**Fresh Start**

A student with a two-year lapse of attendance at Rochester Community and Technical College may apply to the office of Admissions and Records for a transcript re-evaluation “fresh start” their first year (two consecutive semesters) of re-admission to RCTC. A student will be allowed to submit a second Fresh Start application after a four-year lapse of attendance at Rochester Community and Technical College. A transcript re-evaluation allows a student to exclude grades which are detrimental to the student’s grade point average (GPA). If approved for Fresh Start, a student’s record will reflect all original courses attempted by the student, however, the grades will not be included in the computation of the GPA. The entire transcript will be reviewed upon application to a program with selective admission criteria, hence Fresh Start may not benefit students applying with special admission requirements. Additionally, the credits for Fresh Start approved courses will not count for registration privileges or graduation requirements. Grades of “F”, “NC”, “I”, “P”, and “Rx” do not impact the GPA and therefore are not considered for re-evaluation. Courses that were counted toward any previously conferred Diploma, Certificate, or Associate’s Degree cannot be considered for re-evaluation. Student’s planning to transfer may wish to consult their transfer institution to determine what impact Fresh Start may have on transition.

**Transcript Requests**

A permanent academic record is maintained in the Admissions and Records Office. The permanent records are confidential between the student and the college. Students may request transcripts of their permanent academic record by submitting a written request and paying the appropriate fee. Students must allow a minimum of two working days for processing of transcript requests. Transcripts will not be released without the student’s authorizing signature. The college is bound to observe the legislation pertaining to content and accessibility of the student record as prescribed by the Family Education Rights and Privacy Act of 1974. Information regarding the content of student records and files and the right of accessibility may be located under Confidentiality of Student Records page 18.
Tuition and Fees

1999-2000 academic year tuition and fees approved by MnSCU:

Residents: $66.75 * per credit hour
Nonresidents: $133.50 * per credit hour
(reciprocity WI, ND, SD)

- Credit by Examination: $22.50/credit
- Health Service Fee: $0.50 * per credit
- MSCSA (Student Association): $0.23/credit
- Parking/Access: $1.50 * per credit
- Student Life/Activity Fee: $3.50
- Technology Fee: $3.00 * per credit

* Estimated at the time of publication.

Special Course fees for some classes may be assessed.
Information on special fees will be published in the semester class schedule.

Tuition Payment

Current Semester tuition and fees are due and payable on the 20th day of class. The tuition and fees obligation will be determined by the number of credits a student is registered into on the 5th instructional day of the semester.

Deferred Payment

Payment of general fees may be deferred and payment of late fees may be waived under the following conditions only:

1. Veterans who are attending Rochester Community and Technical College under the G. I. Bill may defer payment of fees and tuition until receipt of their benefits from the Veteran’s Administration.
2. Students whose fees and/or tuition will be paid in full by a governmental agency, with payment made directly to the college, may defer payment of fees and/or tuition until receipt of such payment.
3. Students whose fees and/or tuition will be paid in full by an established organization, with payment made directly to the college, may defer payment of fees and/or tuition until receipt of such payment.
4. Students whose fees and/or tuition will be covered in full by a federal or state grant, or a federal or state loan, with payment made directly to the college, may defer payment of fees and/or tuition until receipt of such payment.
5. Students enrolled in a program that provides for full reimbursement of instructional costs, with payment made directly to the college, may defer payment of fees and/or tuition.

Late Payment

Tuition and fees paid on the 21st day of school or after will be assessed a late fee as follows: first day $5.00 and an additional $2.00 for each additional day up to a maximum of $23.00.

Residency

Students will be eligible for in-state tuition if they have resided in Minnesota for at least one year prior to applying for admission. Students have the burden of proof proving domicile for purposes of in-state tuition. The registrar will make the final determination of residency. Specific MnSCU residency policy may be reviewed at www.mnscu.edu/mnscu/PolicyIndex.asp, under Board Policies, Chapter 2.2.

Senior Citizens

A resident of Minnesota who is 62 years of age or older is entitled to attend courses without payment of tuition when space is available after the last scheduled registration date. When a course is taken for credit, an administrative fee of $9.00 per credit will be charged; however, there will be no tuition charge to enroll on an audit basis. To receive a grade of audit rather than a letter grade, a senior citizen must request an audit at the time of registration. Any applicable fees will be charged whether the course is taken for credit or audited.

Financial Aid

General Information

The Department of Financial Aid at Rochester Community and Technical College is available to assist students who need financial aid to meet college costs. RCTC awards in excess of $6 million from a variety of financial aid programs including grants, scholarships, work earnings, and student loans. Approximately 80% of RCTC students receive some form of financial aid.

All students that wish to apply for financial aid must complete the Free Application for Federal Student Aid (FAFSA). Parents are expected to contribute to the student’s college expenses as determined by a federal formula and financial aid is awarded based on need. Estimated college costs include tuition and fees, books and supplies, room, board, transportation, and personal/miscellaneous expenses for the 9 month academic year.

Financial aid is disbursed to students after the add/drop period for the semester/summer session ends.
Estimated Cost of Education
(9 month budget)

<table>
<thead>
<tr>
<th></th>
<th>Resident</th>
<th>Non-Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition and Fees</td>
<td>$2,250.00</td>
<td>$4,250.00</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>$800.00</td>
<td>$800.00</td>
</tr>
<tr>
<td>Room and Board</td>
<td>$4,300.00*</td>
<td>$4,300.00*</td>
</tr>
<tr>
<td>Personal/Transportation</td>
<td>$3,200.00</td>
<td>$3,300.00</td>
</tr>
</tbody>
</table>

* Renting Students

The following financial aid programs are available to students seeking a degree from Rochester Community and Technical College:

- Federal Pell Grants
- Federal Supplemental Education Opportunity Grants (SEOG)
- Bureau of Indian Affairs’ Grants (BIA)
- Minnesota State Grants and Scholarships
- Minnesota Indian Scholarship Program
- Non-AFDC Child Care Grants
- Minnesota Nursing Grants for Persons of Color

Scholarships

Students are encouraged to check with their high school guidance office and local library for scholarship information. The Rochester Community and Technical College Foundation Office and Career/Counseling Center may also provide scholarship information.

Student Employment

- Federal Work-Study
- Minnesota Work-Study
- Institutional Student Help

Loans

- Federal Perkins Loans
- Federal Stafford Loans
- Federal Parent Loans for Undergraduate Students (PLUS)
- Minnesota Student Educational Loan Fund (SELF)

Student Eligibility

Students applying for financial aid must be admitted as a degree candidate at Rochester Community and Technical College. Generally students must be enrolled at least half-time (6 credits) to be eligible for financial aid. Students enrolled less than half-time may be eligible for prorated Federal Pell and Minnesota State Grants only.

All students applying for financial aid will be provided with a copy of Rochester Community and Technical College’s Satisfactory Academic Progress policy. Additional copies may be obtained by contacting the Department of Financial Aid at (507) 285-7271.

Scholarships

RCTC Foundation

The Rochester Community and Technical College Foundation is a separate and independent organization holding tax exempt non-profit status. It’s mission is “Education Excellence Through Philanthropy”. The sole purpose of the foundation is to support RCTC with student scholarships and target resources to enhance and promote quality programs for the school and community.

RCTC Foundation is the vehicle through which private gifts, bequests and donations of property are channeled. In the last academic year, the Foundation awarded scholarships totaling $140,000 to 150 students.

Scholarship awards offered by the Foundation range in amount from $300 to $3000. In addition to endowed scholarships, the Foundation also offers nearly fifty annual scholarship awards for students pursuing degrees in a variety of fields. For more complete information and applications, contact the RCTC Counseling Office, Enrollment Services or RCTC Foundation Office.

Presidential Scholarships

Students who graduated in the upper five percent of their high school class can apply for a Presidential Scholarship. For further information on Presidential Scholarships, contact the RCTC Foundation Office at (507) 281-7771.

Academic Opportunities

The Honors “Edge” — RCTC

Honors at RCTC offers challenge, recognition, and a myriad of other opportunities through several avenues. The Honors Edge curriculum offers special honors courses to provide students with a strong grounding in primary texts and critical thinking.

Upon application to the Honors Program, students will be admitted who have attained a GPA of 3.25 (high school or college) and who present evidence of community volunteer work and/or student activities. Students who are not recent high school graduates or students who have completed secondary school in another country may offer evidence of equivalent qualifications. See Honors “Edge” Advisement Guide.
**General Information**

**Phi Theta Kappa**
Students who qualify can apply for membership in Phi Theta Kappa, an international two-year college academic honors society which provides educational and cultural programs and scholarships. For PTK membership, students must have at least a 3.5 GPA after 12 credits. For further information, contact Barb Mollberg at (507) 285-7111.

**Clep**
A student who has taken an exam of the College Level Examination Program may receive college credit from Rochester Community and Technical College. A minimum score of 500 is required.

The accepted five “General Examinations” and their credit value are listed below:
- English Composition (4) - (English 1117-4)
- Humanities (5)
- Mathematics (5)
- Natural Sciences (5)
- Social Science/History (5)

Credit will be awarded for graduation only; no letter grades will be assigned. Students still need from 2 to 3 different courses of 2 credits under each area to meet graduation requirements.

The RCTC counselors provide CLEP testing in General and Subject Examinations that will meet program requirements at a different college. It is up to the individual to determine with that college what tests are accepted and what scores are needed.

A passing score at one college may be different at another college. Some colleges may not accept CLEP. Original score reports must be submitted to each institution.

**Advanced Placement**
Credit may be earned through the Advanced Placement examination in specified courses as follows:

<table>
<thead>
<tr>
<th>Equivalent Discipline/ Courses at RCTC</th>
<th>Score needed to pass</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature and Composition/ ENGL 1117, 1118</td>
<td>3</td>
<td>8 Cr.</td>
</tr>
<tr>
<td>French/TBA *</td>
<td>3</td>
<td>TBA *</td>
</tr>
<tr>
<td>German/TBA *</td>
<td>3</td>
<td>TBA *</td>
</tr>
<tr>
<td>Spanish/TBA *</td>
<td>3</td>
<td>TBA *</td>
</tr>
<tr>
<td>Math/MATH 1127, 1128</td>
<td>3</td>
<td>10 Cr.</td>
</tr>
<tr>
<td>Physics/PHYS 1117, 1118</td>
<td>3 Exam B</td>
<td>10 Cr.</td>
</tr>
</tbody>
</table>

* To be arranged with Foreign Language staff.

**Credit by Examination**
Credit by examination can be provided for students who are currently enrolled or have been previously enrolled.

Students will initiate a Credit by Examination petition with the Admissions and Records Office. The petition must be approved by an academic administrator and the faculty member who agrees to administer and evaluate the examination.

Following completion of the examination, the faculty member will report the grade. A grade of “C” or higher will be required to receive credit for credit by examination. Credits earned by examination will not be computed in the student’s GPA, nor count toward enrollment in the college.

**Student Services**

**Bookstore**
An RCTC Bookstore is located on both campuses. The RCTC Bookstore sells textbooks, school supplies, snacks and gift items. A list of classes with required books is posted each semester. Hours are posted outside the bookstore and subject to change during school holidays and summer.

**Library**
Goddard Library has more than 70,000 volumes arranged by the Dewey Decimal System at its main and branch libraries. The PALS and LUMINA on-line catalogs provides an index to the book and periodical collections at RCTC and over 50 other college and government agency libraries. Materials from other libraries may be borrowed using the MINITEX network. Other services available for student use include computers, typewriters, photocopiers, VCRs, microfilm readers, etc.
Counseling
Counseling services are available for all current and prospective students. The counseling Center is staffed by professional counselors who recognize and respect confidential relationships with students. Students may choose to meet with any counselor. To see a counselor make an appointment by calling 285-7260, or utilize the daily walk-in schedule which does not require an appointment but may limit the time available to you.

Among the services provided by the Counseling Center are:
- Career counseling/program change
- Personal counseling
- Academic counseling for undecided students or liberal arts majors
- Academic intervention
- Assistance with transfer to other institutions
- Assessments
- Referrals to local agencies, when appropriate

Career Center
The Career Center is located in the Counseling Center and is open to students and non-students alike. The Career Center library is updated on an ongoing basis. Various career decision-making computer programs are located in the Career Center, including Discover, Sigi+, and MCIS. Make an appointment with a counselor, or drop by for assistance in using the Career Center.

Student Support Center
The Student Support Center provides services that assist students in achieving their educational, career, and personal goals through a variety of services and programs which include the following: Student Support Services Program, Disability Support Services, Minority Services, Student Special Needs and Tutoring Services.

Student Support Services Program (SSSP)
Academic advising, transfer planning, test accommodations and one-on-one peer tutoring are provided to eligible students. Eligibility must be met by one of the following criteria: first-generation college student, low-income status or documented disability. Students must complete a short application and meet with a SSSP staff member before services are provided. SSSP is funded by the U.S. Department of Education. SSSP is located in room SS150 at UCR. For further information, call (507) 285-7230.

Disability Support Services (DSS)
DSS offers support for students with physical and learning disabilities. Services include a pre-admission interview, assistance with application and registration procedures, support groups, auxiliary aids and adaptive equipment, special testing arrangements, advocacy, accessibility information and referral to community agencies. It is the responsibility of the student to let his/her needs be known to a DSS staff member. Upon receipt of this information, the college will provide reasonable accommodations within the provisions set down in section 504 of the Rehabilitation Act of 1973 and by the Americans with Disabilities Act (ADA). DSS is located in room SS168 at UCR and room B114 at Heintz Center. For further information, call (507) 280-2968.

Minority Services
Minority services provide information and support to assist minority students in achieving their educational goals. Minority services is located in room SS138 at UCR and B114 at Heintz Center. For further information, call (507) 280-5006.

Student Special Needs
Services include: assisting with class schedules, referrals to educational tutors, assistance in program advising, time management, balancing the responsibilities of home, school and employment, referrals to community services, career and occupational information. Student Special needs is located in room SS134 at UCR and B114 at Heintz Center. For further information, call (507) 280-3120.

Tutoring Services
Peer tutoring is available to all students in a variety of subjects. The drop in tutoring centers are located in room SS159 at UCR and B114 at Heintz Center. For further information, call (507) 280-5534.

Health Services
RCTC’s Health Service offers treatment for minor illnesses, emergency first-aid, non-prescription medications, referrals, health counseling and diagnostic tests. These services are financed by a Health Service fee. The nurse is available for six hours daily and a physician is available on a rotating schedule except during the summer. The Health Service cooperates fully with all local medical services and agencies. In emergency situations, the Health Service functions in the best interest of the student, therefore students are encouraged to secure personal health and accident insurance.
Physical Education Waiver
A student who must be excused from all or part of the physical education requirement because of a medical reason must submit the written recommendation of his/her doctor to the Student Health Service.

The Health Service will assist the student in registering for appropriate physical education classes if possible, otherwise, the Health Service will inform the Admissions and Records Office of the waiver of the physical education requirements for that student. Elective credits in other subjects must be earned to replace the PHED credits waived to meet program and graduation requirements. Veterans with a minimum of one year active duty will be given one semester hour credit. Evidence of active duty must be presented to the Admissions and Records Office to be considered for credit.

Part-time Employment
Rochester offers varied opportunities for students who need part-time employment. Jobs are not guaranteed, but most students are able to find work. Job listings are posted on special bulletin boards located outside the Enrollment Services Office at UCR and on the west end of the Commons at Heintz Center.

Placement Services
The Rochester Community and Technical College Placement Office assists students and alumni in finding employment opportunities via the job placement board. The job board is located outside the Enrollment Services Office at UCR and at Heintz Center on the west end of the Commons. Full-time, part-time, temporary, and seasonal job openings are posted throughout the year. A copy of the RCTC Placement Report may be obtained by contacting the Placement Office at (507) 280-2916.

Reach Center
The R.E.A.C.H. (Retention, Equity, and Career Help) Center located on the Heintz Center Campus was formed in 1991 with Federal Grant Funds. The R.E.A.C.H. Center works with students to help them stay in school on a full-time or part-time basis. It provides information, referral services, support, current information on occupations, educational programs and a variety of career-related topics. Call (507) 280-3120 for additional information.

Campus Pre-School/Day Care
The Civic League Day Nursery’s goal is to provide a warm, stimulating environment in which each child can learn and grow, and in which each child can build a positive self-image through his/her intellectual, social, emotional and physical development. Location: West of the main campus buildings. Outside playground space is also available. Call (507) 285-7232 for information or to enroll for services.

Student Life

Student Life Program
The RCTC Student Life Program seeks to complement the academic programs and services by providing opportunities and experiences that further enhance the student’s overall development. Studies have shown that students who get involved in student life activities develop excellent leadership skills, and tend to do better in the classroom. RCTC offers a vast number of activities and leadership opportunities to our students. Students can become involved as participants or spectators. Many of the activities can also be taken as a class to earn credit toward a degree.

Student Government: Athletics, Men:
Student Senate Baseball
Sophomore Leaders Basketball
Program Council:
ADAPT Golf
Activities Wrestling
Games and Recreation Softball
Music and Entertainment Volleyball
SPICE (Lecture Series)
Social
Special Events

Clubs:
Academic
Social
Cultural
Ethnic

Fine Arts:
Art Gallery
Band
Choir
Ensembles
Theater

Athletics, Women:
Basketball
Golf
Soccer
Softball
Volleyball

Miscellaneous:
Game Room
Fitness Center
Freshmen Weekend
Intramural Sports
Newspaper

All Student Life Activities are free to students with their student ID card.
College Center
The College Center is the hub of the majority of RCTC’s student life. The Center houses the main dining room, the Hill Theater, music and theater departments, along with the Student Senate, Program Council and Student Life offices. Students can find a place to relax in the quiet lounge, watch TV, play cards, shoot pool, listen to special speakers, watch professional entertainers and participate in a myriad of other activities. Most clubs and campus organizations hold their meetings in the College Center meeting rooms.

For further information on student life opportunities or College Center services, contact the Office of Student Life at (507) 285-7204.

Student Senate
The Student Senate was organized in January of 1922. The Senate has the responsibility for the general supervision of student activities and acts in an advisory capacity to provide closer cooperation between representatives of the student body, the faculty, and the administration. Members of the Senate include the president, secretary, eight sophomore senators, and eight freshman senators. The senators serve for a term of one year. The Director of Student Life is the advisor to the Senate.

The Student Senate has much responsibility and the authority with which to meet these responsibilities. It serves as the official voice of the student body in all problems facing the students and the college, and has the direct responsibility for the well-being of the student body.

The Senate appoints several committees to help run the student program. The most important of these committees is the Student Life Budget Committee. This committee has the responsibility to submit a student life budget plan to the senate and the college president for approval.

The Senate also appoints the student members to the many administrative and faculty committees on which students are represented. These student members give the students an active voice in policy-making at Rochester Community and Technical College.

Rules and Regulations
Rules and regulations are available through the student handbook and provided at orientation/registration. Additional copies are available in the Enrollment Services Office and Goddard Library.

Housing
Students may receive housing Information by contacting the Enrollment Services Office at (507) 285-7219. On or off-campus housing is not maintained or endorsed by RCTC. On-campus housing is privately owned and operated.

Academic Standards
Graduation Requirements
To graduate from Rochester Community and Technical College the student must meet the graduation requirements in effect at the time of first enrollment. If the graduation requirements for that program of studies have changed subsequent to the time of first enrollment, the student may elect to graduate under the new criteria. However, the student must meet the graduation requirements as prescribed in a catalog within the last eight years.

All degrees, diplomas, and certificates awarded by Rochester Community and Technical College require a minimum grade point average of 2.00. For degree programs, the minimum GPA will be calculated as cumulative. For certificate and diploma programs, the minimum GPA will be calculated using only those courses needed to complete the program of study.

Application for Graduation
Candidates must make application for graduation no later than the 30th day of the semester in which they will graduate. Graduation awards will be granted at the end of fall, spring and summer terms.

Graduation with Honors
A student will be graduated with honors if the grade point average is 3.500 or higher, and with high honors if the grade point average is 3.750 or higher.

Student Credit Hour Load
To complete graduation requirements for most programs within a four semester/two-year period, a student must average 16 credits per semester. Some curriculums will require a higher average in order to complete all necessary coursework. Student status will be defined as follows:
- Full-time: 12 or more credits
- 3/4 time: 9-11 credits
- 1/2 time: 6-8 credits
- less than 1/2 time: 5 or less credits

Financial aid programs may vary in the number of credits required for full-time status. Contact the RCTC Financial Aid Office at (507) 285-7271 for additional information.
Grading Policy
The following grades and transcript symbols are used to indicate student performance in credit courses:

- A: Superior Achievement 4 grade points
- B: Above Average Achievement 3 grade points
- C: Average Achievement 2 grade points
- D: Below Average Achievement 1 grade point
- F: Inadequate Achievement 0 grade points
- Pass/ C-level achievement or better
- Fail: Inadequate Achievement
- AU: Audit: Indicates a course that the student has attended without any obligation to prepare assignments, take examinations or complete other assessments.
- Pass/ No Credit: C-Level achievement or better Circumstances result in inadequate achievement. Not used to compute GPA.
- CR: Test out
- I: Incomplete: Indicates that a student was doing satisfactory work but was unable to complete all requirements by the end of the course; and the student and instructor enter into a formal agreement for the completion of the remaining requirements.
- W: Withdrawal: Indicates a course from which the student has withdrawn, no later than the sixtieth class day of the semester.
- Z: In progress or no grade assigned by the instructor.

Grading Policy Procedures
1. The Grade Point Average (GPA) for a student will be computed using only grades A through F.
2. In courses so approved through Curriculum Council, students may choose the A-F or P/NC option. The P/NC option may include both courses numbered below 1000 and other courses upon recommendation of departments and approved by Curriculum Council. The P/NC option must be declared by the student within the first ten days of the academic term.
3. The Z will appear on the transcript if no grade or symbol has been submitted as of the date of printing grade reports.
4. Incompletes must be initiated by the student and will be approved at the discretion of the instructor. The instructor may specify the time frame in which the work must be completed, but in no case later than the end of the next academic term, at which time an incomplete grade will automatically change to an “F” if the work has not been completed by the student and/or the grade has not been submitted by the instructor. Incompletes must be approved for extenuating circumstances by the Vice President of Academic Affairs.
5. Visitor or auditor status must be declared by the student within the first 10 days of the academic term.
6. The Pass/NC option must be declared by the student within the first 10 days of the academic term.
7. The “W” (withdrawal) will normally be initiated by the student. However, under special circumstances approved by the Vice President of Academic Affairs, the college may give a student a “W”. This action (with the exception of suspension or expulsion) should take place not later than the deadline of student-initiated withdrawal and the student should be notified of the action.

Courses for which the Pass/Fail option is available in addition to A-F grading
RCTC offers a limited number of courses with a pass/fail grading option. Students electing the P/F option in any courses approved for P/F must indicate their intent by completing and submitting the appropriate form no later than the sixteenth class day. A “P” requires performance at the “C” level or better. Since many institutions will transfer only courses with a grade of “C” or better, students have better transfer options with this policy. Performance below the “C” level in a Pass/Fail course will result in a grade of “F”.

Grade Reports
Grade reports or report cards will be mailed to the student at the close of each term at the address on record in the Admissions and Records Office. It is the student’s responsibility to have their most current address on file in the Admissions and Records Office so they will receive their grades.
Satisfactory Academic/Financial Aid Progress

Rochester Community and Technical College students bear primary responsibility for their academic progress and for seeking support services when experiencing academic difficulty. Students are encouraged to keep a file of their grades and transcripts.

A 2.00 Grade Point Average (GPA) is the standard for satisfactory academic progress. Students with a GPA below 2.00 will be placed on academic probation.

All students are required to maintain the minimum GPA level as follows:

<table>
<thead>
<tr>
<th>Cumulative Registered Credits</th>
<th>Minimum required GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - 15</td>
<td>1.40</td>
</tr>
<tr>
<td>16 - 31</td>
<td>1.60</td>
</tr>
<tr>
<td>32 - 45</td>
<td>1.80</td>
</tr>
<tr>
<td>46+</td>
<td>2.00</td>
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In addition to the GPA standards listed above, a student who exceeds a total of eight (8) courses with Ws and/or NCs shall be suspended from academic course work. Developmental course work (below 1000 level) will be included under this policy with a limit of 30 credits. Suspensions shall be one (1) year in duration.

Academic Application of Policy

1. Any student enrolled in a program requiring fewer than 46 credits for graduation will be required to achieve at least a 2.00 GPA prior to graduation.
2. Following each Spring Semester, a student will be suspended whose GPA falls below the measures listed above.
3. Repeat credits will be allowed in order to improve a grade.
4. Transfer credits earned at another college will not be included when calculating satisfactory academic progress. However, these credits are calculated into the credit limitations.
5. Programs may have more restrictive academic requirements.
6. Students may appeal academic decisions made by the college by petitioning the Academic Standards Committee. Students may request an Academic Standards Petition form at the Admissions and Records Office.

Financial Aid Application of Policy

1. Following each semester, a student’s satisfactory academic progress will be reviewed. Students not meeting the requirements will be given a warning after the first occurrence. A second occurrence will result in the student being placed on suspension from all Title IV Financial Aid Programs.
2. Students may continue to receive financial aid through the number of credits required for the completion of the degree/diploma/certificate multiplied by 150%, (in most cases this will be 96 cumulative registered credits) provided they meet required GPA.
3. All terms of attendance are counted.
4. Once a student has been suspended for unsatisfactory academic progress, RCTC may invoke an immediate one-year suspension for a student whose academic progress falls below the required criteria in any subsequent semester.
5. A student who has been suspended from financial aid, and subsequently returns to the college, may not receive financial aid until he/she meets or exceeds the cumulative credit/GPA level and successfully completes 66% of the cumulative credits attempted. Unless the student has an approved appeal, he/she will have to finance his/her own education during the semester(s) attended to re-establish satisfactory progress.
6. Minnesota State Colleges and Universities (MnSCU) reserves the right to withhold aid from any student, at any time, who demonstrates an attendance pattern that abuses the receipt of financial assistance; for example, a student who withdraws from all classes two consecutive semesters, a student who has previously attended two or more institutions and has not progressed satisfactorily, a student who does not appear to be pursuing a degree/certificate completion, etc.

Appeals

A student who is unable to achieve satisfactory academic progress and is academically and financial aid suspended from enrollment has the right to appeal based on extenuating circumstances. Academic suspension appeals must be directed to the Registrar or his/her designee. Financial Aid appeals must be directed to the Director of Financial Aid or his/her designee. RCTC counselors are available to assist with the appeal.

All appeals must be submitted in writing (including an explanation of the circumstances that affected academic progress) with supporting documentation attached (if appropriate or requested) and an academic action plan (prepared with a counselor/advisor). If the appeal is approved, the student is considered on probation until
satisfactory academic progress standards are met. Failure to meet conditions set for probation shall authorize the College to place student back on suspension.

If the appeal is denied, the student has the right to have the appeal forwarded to the Vice President of Student Affairs and Institutional Advancement for consideration.

Reinstatement
A student who has been suspended from enrollment may return to the College after an appeal has been approved or the period of suspension has passed. The student will return as a student on probation.

Transfer
Transferring to Other Institutions
Professional and pre-professional curricula are designed for transfer to senior colleges and universities. Students earn the Associate in Arts degree from RCTC as well as meeting the lower division requirements of the various colleges where they plan to continue their college education. Rochester Community and Technical College is fully accredited, having official accreditation from the North Central Association of Secondary Schools and Colleges. Students planning to transfer to another college or university with the same accreditation and have made the proper selection of course work, and maintained grades of "C" or better, may expect to transfer without loss of credit. Sixty-four credits are generally the maximum number which will be accepted by a receiving institution.

Career curricula are designed to provide training for employment in technical and semi-professional job situations. The amount of credit allowed in transfer will depend on the program of study, grades earned in this course work, and the college to which the student is transferring. The receiving institution will make the decision as to the credits they will allow to transfer.

Transferring to RCTC
RCTC will evaluate college transcripts provided by incoming transfer students and post transfer credit to the student’s RCTC transcript in accordance with current MnSCU policy.

Transfer of credit to RCTC shall follow these guidelines:
1. RCTC will accept in transfer, for full credit, college-parallel general education courses offered by colleges with regional accreditation.
2. RCTC will accept in transfer, for full credit, parallel college-level vocational or technical courses offered by colleges with regional accreditation.
3. Coursework being transferred into RCTC must have a minimum cumulative grade point average (GPA) of 2.000 from each transferring institution. (i.e., one course of four credits earning a "B" and three courses of two credits each earning a "D" will result in the acceptance of only two "D" courses in transfer.)
4. Grade qualifiers, minus (-) and plus (+) will not affect how a grade is transferred into RCTC. Grades with the qualifier will be accepted as the letter grade earned. (i.e., C- = C and C+ = C)
5. The entire transcript will be reviewed upon application to a program with selective admission criteria.
6. Regional accreditation for this policy is defined as the accreditation conferred by the North Central Association of Schools and Colleges, or by parallel accrediting agencies in other regions of the United States.

It is the responsibility of the student to provide an official transcript of the academic record to Rochester Community and Technical College for transfer evaluation. It is also the student's responsibility to provide syllabi, outlines, textbook lists, etc., in the event that these are needed for evaluation of a course taken at another post-secondary institution. In the matter of determining the equivalency of a course taken at another post-secondary institution to a course offered by RCTC, the recommendation of the department concerned will be solicited. Final decisions may be appealed to the Academic Standards Committee.

Implementation
Course work will not be received in transfer from private proprietary post-secondary institutions. If it can be demonstrated that course work taken at the private propriety institution is equivalent to a course required in a program at RCTC, that requirement will be waived from the program at RCTC and elective credit will be substituted. Should the student wish to have that course entered on the RCTC record, the student will have the option of earning that credit through credit by examination.

Procedures
It shall be incumbent upon the student that an official transcript of the academic record be delivered to Rochester Community and Technical College for transfer evaluation. It is also the student’s responsibility to provide course syllabus, outlines, textbook lists, etc. in the event that these are needed for evaluation of a course taken at another post-secondary institution. In determining the equivalency of a course taken at another post-secondary institution to a course offered by RCTC, the recommendation of the department concerned will be solicited.
Preparation to Transfer
If you are currently enrolled in a college or university:
- Discuss your plans with the campus transfer specialist, Audrey Lidke, (507) 285-7469.
- Call or visit your intended transfer college. You should obtain the following materials and information: a college catalog and transfer brochure; Information on admissions criteria and on materials required for admission (e.g. portfolio, transcripts, test scores). Note that some majors have limited enrollments or their own special requirements such as a higher grade point average; Information on financial aid (how to apply and by what date).
- After you have reviewed these materials, make an appointment to talk with an adviser/counselor in the college or program you want to enter. Be sure to ask about course transfer and admission criteria.

If you are not currently enrolled in a college or university, you might begin by meeting with a transfer specialist or an admission officer at your intended transfer college to plan the steps you need to take.

Understanding How Credit Transfer Works
- The receiving college or university decides what credits transfer and whether those credits meet its degree requirements. The accreditation of both your originating and receiving institution can affect the transfer of the credits you earn.
- Institutions accept credits from courses and programs like those they offer. They look for similarity in course goals, content, and level.
- Not everything that transfers will help you graduate. 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 you change your career goal or major, you might not be able to complete all degree requirements within the usual number of graduation credits.
- Application for admission is always the first step in transferring. Fill out the application as early as you can prior to the deadline. Enclose the application fee.
- Request that official transcripts be sent from every institution you have attended. You might be required to provide a high school transcript or GED test scores as well.
- Recheck to be certain you supplied the college or university with all the necessary paperwork. Most colleges make no decisions until all required documents are in your file.
- If you have heard nothing from your intended college of transfer after one month, call to check on the status of your application.
- After the college notifies you that you have been accepted for admission, your transcripted credits will be evaluated for transfer. A written evaluation should tell you which courses transfer and which do not. How your courses specifically meet degree requirements may not be decided until you arrive for orientation or have chosen a major.
- If you have questions about your evaluation, call the Office of Admissions and Records and ask to speak with a credit 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, you can appeal. See “Your Rights as a Transfer Student”.

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;
- Usual appeals steps are:
  1) Student fills out an appeals form. Supplemental information you provide to reviewers — a syllabus, course description, or reading list — can help.
  2) Department or committee review.
  3) Student receives, in writing, the outcome of the appeal.
  4) Student can appeal decision to the RCTC Admissions and Records Office.
- At your request, a review of your eligibility for financial aid or scholarships.

For help with your transfer questions or problems, see your campus transfer specialist.
General Student Information
Confidentiality of Student Records
Rochester Community and Technical College complies with provisions of the Family Educational Rights and Privacy Act. Pursuant to this Act, students are entitled to review those records, files, documents, and other materials which contain information directly related to them and maintained by the college*. Students have the right to challenge information considered inaccurate or misleading**. If the custodian of the record refuses a request for modification or removal of the information, the student may file an appeal through the Student Grievance Policy or place a written explanation of your challenge in the file. A list of college records and the responsible custodian is available from the RCTC Registrar. Students also have the right to consent to disclosures of personally identifiable information contained in the student’s education records, except to the extent that FERPA or the Solomon Amendment authorizes disclosure without consent. Finally a student has the right to file a complaint with the U.S. Department of Education concerning alleged failures by RCTC to comply with the requirements of FERPA. Records may be disclosed without consent to:

1. School officials who have a legitimate educational interest in the records. School officials are those individuals employed by the college who act in the student’s educational interest within the limitations of their need to know. This may include faculty, administrators, clerical and professional employees, and other persons who need student record information for the effective functioning of their office of position, including members of institutions having formal joint-program agreements with the College. Students serving on college committees or employed on campus may also be included where legitimate “need to know” exists. A person employed by or under contract to the college to perform a special task, such as an attorney or auditor, may be considered a school official as appropriate to the proper performance of the specified task. Individuals identified as school officials do not have an inherent right to any and all education record information, but must demonstrate legitimate educational interest as opposed to a personal or private interest.

2. Certain officials of the US Department of Education, the Comptroller General, and State and local educational authorities, in connection with audit or evaluation of certain State or federally supported education programs or for enforcement of or compliance with Federal legal requirements which relate to those programs.

3. State and local officials to whom disclosure is specifically required by State Statute adopted prior to Nov. 19, 1974.

4. Veterans Administration officials, as specified under Title 38, Section 1790(c), United States Code.

5. Authorized persons in connection with a student’s request for or receipt of financial aid (to determine the eligibility, amount, or conditions of the financial aid, or to enforce the terms and conditions of the aid).

6. Organizations conducting certain studies for or on behalf of the college.

7. Accrediting organizations carrying out their accrediting functions.

8. Persons in compliance with a judicial order or a lawfully issued subpoena.

9. Officials of other institutions in which a student seeks or intends to enroll.

10. Authorized high school officials and/or counselors, limited to students participating in the Post Secondary Enrollment Options Program.

11. Appropriate parties in a health or safety emergency.

12. An alleged victim of any crime of violence (as that term is defined in 18 U.S.C. 16); limited to the results of any institutional disciplinary proceeding against the alleged perpetrator with respect to that crime.

* Written requests that identify the record(s) to be inspected should be submitted to the registrar. Arrangements for access will be made (within 45 days of receipt of the written request) and notify the student of the time and place where the records may be inspected.

** Students should write the college official responsible for the record, clearly identifying the part of the record they want changed and specify why it is inaccurate or misleading.

Public Student Data/Directory Information
Directory information may be made available to the public in a variety of ways unless the student restricts this release by written notice to the RCTC Registrar prior to the 10th day of the semester. Rochester Community and Technical College has identified the following as “directory information:”

- student name
- program of study
- enrollment status (enrolled-full time or part time, graduated, withdrawn)
- dates of enrollment
- degrees, honors, and awards received
- student activities participation
- height and weight of athletic team members

Any information other than the items listed above will not be released without the student’s specific written permission except as provided by law and according to the Solomon Amendment. Rochester Community and Technical College does not provide directory information for commercial use.
Private Student Information
The following data is not accessible to the public. It is accessible to the subject of the data, to individuals or agencies authorized by law to gain access, and to any person or agency having the approval of the subject.

- academic information including transcripts, grades, and test results
- background information including behavior, performance and traits
- recommendations
- evaluations
- financial aid records and other financial information
- profile information which identifies individuals
- counselor records unless information contained is public or confidential

Confidential Information
The following data is not accessible to the public or to the subject of the data. It is accessible only to individuals or agencies authorized by law to gain access.

- investigative information collected for purposes of active or pending legal action, prior to such action
- investigative information collected for purposes of anticipated suspension or expulsion for disciplinary reasons, prior to formal action
- legal counsel
- financial records and statements of a student’s parents.

Other Organizations on Campus
Choices
A Program for Women in Transition and Displaced Homemakers provides services to people who are divorced, widowed, separated, may have a disabled partner, have spent at least two years caring for their homes and families, and have lost their source of financial support. Individuals in the process of life-work transition are served by the program through workshops, support groups and individual consulting. Services provide help to participants in building confidence, identifying career and educational options, developing job seeking and keeping skills and life/work plans. Choices, located in Room HA125 of the Heintz Center at Rochester Community and Technical College, provides services to persons in the 11 counties of Southeast Minnesota. For more information, phone (507) 280-5510 or 1-800-657-3716.

Upward Bound
Upward Bound is a nonprofit US Department of Education college preparatory program administered by Rochester Community and Technical College. Upward Bound is designed to meet the academic and motivational needs of young men and women, in grades 9-12, who are low-income and the first-generation in their family to graduate from college. Upward Bound students are from St. Charles and Rochester high schools and represent a variety of cultures and backgrounds. Upward Bound is designed to provide year round supplemental classes and tutoring to assist participants with preparation for positive achievement and matriculation to college.

Continuing Education, Custom Training Services, Economic Development
The Department of Continuing Education, Custom Training Services and Economic Development at Rochester Community and Technical College has a multifaceted purpose. The department directly supports area work force needs in the present and assists in planning for the future. The department provides assessment, design, delivery and evaluation services to meet the needs of the region’s businesses and employers.

Non-credit courses, workshops, and seminars are offered throughout the year. Participants earn Continuing Education Units (CEU’s). These opportunities are designed to meet specific community needs for training, retraining, or personal interest in areas where college credits are not needed. For specific Continuing Education/Custom Training/Economic Development information, phone (507) 285-7218.

Nursing, Allied Health and Human Services
Providing a wide variety of credit and non-credit offerings designed to meet the continuing education needs of RNs, LPNs, and health care and human services professionals. All programs are planned with careful attention to continuing education requirements to meet relicensing needs. Rochester Community and Technical College is an approved provider of nursing continuing education, by the Iowa Board of Nursing Provider #121. Director: Kathy Richie (507) 285-7251.
Community Based Programs
Offering a continuum of educational opportunities that respond to the lifelong learning needs of Rochester and the surrounding area. These programs offer the opportunity for the intellectual growth of the individual learner. Programs are available for all age ranges including the College for Kids program for school-age children and Senior Programming including our Elderhostel and Elder Institute programs. The department is available to provide consulting and advising assistance to groups who wish to develop educational courses or programs. Coordinator: Dena Mundy (507) 285-7453.

Emergency Medical Services
Specializing in pre-hospital care in a wide area of training, credit and non-credit continuing education needs are provided through the staff of Emergency Medical Services. Specific areas include CPR, PECC, PED CDR, First Responder, EMT-Basic, EMT-Intermediate, EVOC, and other credit and non-credit continuing education needs. Coordinator: Michael Dewar (507) 280-3129.

Computer Technology
Providing the most valuable and dynamic training in the field to business and the community through work force education is the responsibility of the dedicated and highly trained staff in Computer Technology. The diverse offerings include programs that highlight the rapid changing technology in computer software and hardware in the computer industry. Classes can be customized and delivered on-site or on the campus according to the flexibility of the customer’s schedule. Director: Scott Sahs (507) 280-3511.

Quality/Organizational Development
Success in today’s high-involvement environment requires new and additional skills. Our training systems give individuals and leaders skills for building teamwork, improving quality, and leading in an empowered workplace. Representatives will work with you to customize training and development specializing in leadership, continuous improvement, process management, teams, front-line empowerment and customer service. Director: Michelle Pyfferoen (507)285-7425.

Law Enforcement
Continuing education and training are available through the Law Enforcement department. Areas offered include Precision Driving and ASP certification, advanced use of force, firearms instruction, radar refresher, domestic abuse. A spring refresher academy is also offered through the Law Enforcement area. Coordinator: Michael Dewar (507) 280-3129.

Economic Development/Entrepreneurship
Housing the headquarters for the Region 10 Small Business Development Center the department provides Entrepreneurship education for existing business owners and start-up ventures. One-on-one counseling and assistance in financial analysis, loan packaging, market research, general business analysis, business plan development and business management are available through the center. Director: Michelle Pyfferoen (507) 285-7425.

Human Resources Management
In today’s global workplace, the fast-paced technological advances and social change make human resource management critical in order to achieve an organization’s competitive advantage. A variety of individual assessment instruments are available to measure employee skill levels, interests, values and personalities. Our trained staff will help you with a training needs assessment from which a training plan can be developed. Programs can be tailored to your needs in the areas of employee selection and hiring, performance, planning and management, and leadership. Coordinator: Ivan Imm (507) 280-3186.

AS/400 University
The AS/400 University Program provides a wide variety of courses to gain specific skills and knowledge to support AS/400 midrange computing systems. It is designed to address an immediate marketplace need for entry-level positions in AS/400 system operations with courses for both credit and non-credit. Graduates will be prepared for AS/400 system operations and support positions within government, insurance, manufacturing, service, support, software development, engineering, wholesale and retail sales, utilities, banking and accounting. Contact: Warren Kemplin (507)280-2807 or Scott Sahs (507)280-3511.

Cisco Networking Academy
This program is based on the principles and practice of designing, building and maintaining networks capable of supporting national and global organizations. Students learn about networks in a hands-on environment. Graduates will have an opportunity to become a Cisco Certified Networking Associate. Contact: Ted Marchand (507)285-5199.

If you’d like to know more about the work force education services, or receive an information packet, call (507) 280-3157.
# Tentative Course Offerings
## Spring Semester 2000

### Accounting
- ACCT 1115 Small Business Accounting
- ACCT 1807 Accounting Math/Calculators
- ACCT 1810 Applied Principles of Accounting I
- ACCT 1811 Applied Principles of Accounting II
- ACCT 1814 Payroll Accounting
- ACCT 1834 Computerized Accounting Applications I
- ACCT 1837 Computerized Accounting Applications II
- ACCT 2843 Auditing
- ACCT 2850 Accounting Internship
- ACCT 2862 Applied Cost/Managerial Accounting
- ACCT 2874 Integrated Financial Presentations

### Flex Lab Option
- BUS 2217 Financial Accounting
- BUS 2218 Managerial Accounting
- BUS 2234 Computerized Accounting

### Administrative Information Systems
- AIS 1020 Keyboarding for Computers
- AIS 1030 Keyboarding Speed/Accuracy Improvement
- AIS 1050 Keyboarding
- AIS 1150 Introduction to Desktop Publishing
- AIS 1220 Human Relations
- AIS 1320 Word Processing I
- AIS 1510 Exploring the Internet
- AIS 1600 Introduction to Medical Terminology
- AIS 1610 Med. Term. Body Systems and Diseases
- AIS 1640 Medical Insurance and Coding
- AIS 1660 Introduction to Medical Transcription
- AIS 1680 Medical Transcription II
- AIS 1700 Applied Law for Business
- AIS 2200 Information Resource Management
- AIS 2220 Business Communications
- AIS 2270 Office Procedures
- AIS 2330 Word Processing II
- AIS 2350 Microcomputer Business Applications
- AIS 2530 Voice Recognition Software
- AIS 2530 PowerPoint
- AIS 2610 Medical Specialties and Pharmacology
- AIS 2640 Medical Word Processing
- AIS 2650 Medical Office Procedures
- AIS 2840 AIS Internship

### Flex Lab Option
- GSCL 1500 Introduction to Windows
- GSCL 1676 Computer Basics

### American Sign Language
- ASL 1108 American Sign Language II

### Anthropology
- ANTH 1612 Cultural Anthropology

### Art
- ART 1110 Art Appreciation
- ART 1112 Modern Art
- ART 1120 Computer as a Creative Tool
- ART 1123 Three-Dimensional/Sculptural Design
- ART 1124 Graphic Design I
- ART 1130 Computer Graphics I
- ART 1131 Presentation Graphics
- ART 1134 Drawing I
- ART 1144 Painting I
- ART 1164 Ceramics I
- ART 2224 Graphic Design II
- ART 2230 Computer Graphics II
- ART 2234 Drawing II
- ART 2237 Animation and 3D Modeling
- ART 2244 Painting II
- ART 2264 Ceramics II
- ART 2292 Studio Problems

### Auto Mechanics
- AMT 2215 AS/400 Facilities
- ASF 2020 AS/400 Interactive Programming
- ASF 2299 AS/400 Internship

### Biology
- BIOL 1101 Elements of Biology
- BIOL 1107 Fundamentals of Anatomy & Physiology
- BIOL 1110 Human Biology
- BIOL 1128 Principles of Anatomy & Physiology I
- BIOL 1217 Anatomy & Physiology I
- BIOL 1218 Anatomy & Physiology II
- BIOL 1220 Concepts of Biology
- BIOL 1230 Survey of Life Forms
- BIOL 2021 General Microbiology
- BIOL 2100 Plant Biology
- BIOL 2300 Genetics

### Building Utilities Mechanic
- BU 1500 Power Plant Theory
- BU 1510 Welding Theory
- BU 1520 Welding and Equipment Repair
- BU 1530 Plumbing Theory
- BU 1540 Power Plant Operation
- BU 1550 Plumbing Lab
- BU 1560 Basic Electricity
- BU 1564 Electrical Theory I
- BU 1631 Electrical Lab I
- BU 1641 Electrical Theory II
- BU 1651 Electrical Lab II
- BU 1661 Electrical Safety and National Electric Code
- BU 2500 Refrigeration Theory
- BU 2506 Refrigeration Lab
### Class & Program Information

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<td>CT 1521 Chiropractic Concepts of Motivating Health</td>
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<td>CT 1534 Introduction to Chiropractic Radiology Dynamics</td>
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### Class & Program Information

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*Rochester Community and Technical College reserves the right to cancel a course when the registration is not sufficient to warrant its continuance, to divide courses if enrollment is too large for efficient instruction, and to change instructors, dates and times when necessary. Rochester Community and Technical College reserves the right to change without notice any of the materials, information, requirements and regulations published in this schedule. This schedule is not to be regarded as a contract.*
Programs of Study

To certify a student’s successful completion of a program of study, Rochester Community and Technical College grants Associate Degrees, Diplomas and Certificates.

In addition, the college and its faculty have developed articulation agreements with Winona State University, the University of Minnesota, and other colleges and universities in the region.

A.A. Associate in Arts Degree in Liberal Arts and Sciences

The Associate in Arts (A.A.) degree is a liberal arts and sciences degree designed to prepare students for transfer to a baccalaureate program. For students who are planning to earn the A.A. degree, and to transfer to a specific major at a four-year college or university, RCTC has developed Advisement Guides to assist students in choosing courses that both satisfy the A.A. degree and enable the student to transfer readily into the baccalaureate program of his or her choice. Advisement Guides can be found on pages 126-145. Sending for the catalog from the institution you plan to attend combined with early and frequent consultation with RCTC advisors, counselors and program leaders will maximize your ease of transfer. Requirements for the A.A. degree are found on page 32.

A.S. Associate in Science Degrees

Associate in Science (A.S.) degrees are designed to prepare students for immediate employment or for transfer to a baccalaureate major in a scientific, technical, professional, or occupational field. Increasingly, the A.S. degree is intended to meet the first two years of requirements for a specific baccalaureate program. Newly created A.S. degrees must have a signed articulation agreement with a four-year institution.

This degree includes 60-64 credits (with some rare exceptions). An A.S. degree must include a minimum of 30 general education credits, the majority of which are prerequisites to or specifically supportive of the occupational requirements and goals of the program. Specific requirements within general education vary, but each must include a minimum of 4 credits from each of four broad discipline areas: 1) Communications; 2) Arts and Humanities; 3) History and Social Sciences; and 4) Mathematics/Natural Science. Wherever possible, general education courses should be those approved for the Minnesota Transfer Curriculum (see pg. 30) since taking Minnesota Transfer Curriculum courses increases transferability.

One A.S. degree, the A.S. degree in Liberal Studies, provides greater flexibility for students planning to transfer to baccalaureate degree programs in a wide range of scientific, technical and professional fields. Advisement Guides have been developed to assist students in choosing courses that both satisfy the A.S. degree in Liberal Studies and enable students to transfer readily. Students planning to pursue an A.S. Liberal Studies degree should 1) obtain the catalogue from the institution they plan to transfer to and 2) consult early and often with RCTC advisors, counselors and program leaders.

The A.S. Associate in Science degrees offered by RCTC are listed below, along with the page numbers where degree requirements appear. Those degrees which are jointly sponsored by RCTC and the Mayo School of Health-Related Sciences are marked with an asterisk (*).

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Business Administration ........................................... Page 49
Medical Secretary .................................................. Page 97
Retail Merchandising ............................................. Page 114
Retail Merchandising - Interior Decorating Option ........ Page 115

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Nursing Associate Degree ..................................... Page 102, 103
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Science & Technology

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Computer Information Systems ................................. Page 57
Computer Science .................................................. Page 58
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Conservation: Forest Resources/Environmental Studies .... Page 68
Conservation: Wood and Paper Science ...................... Page 69
Mechanical Engineering Technology ......................... Page 94
Surveying .......................................................... Page 124

Service Professions

Human Services Specialist ...................................... Page 88
Law Enforcement ................................................... Page 92

A.A.S. Associate in Applied Science Degrees

Associate in Applied Science (A.A.S.) degrees are designed to prepare students for immediate employment. This degree may range from 60 to 72 credits. It must include a minimum of 20 general education credits, the majority of which are prerequisites to or specifically supportive of the occupational requirements and goals of the program. Specific requirements within this general education requirement vary depending upon the purpose of the degree, but must include a minimum of 3 credits from each of the four broad discipline areas: Communications; Arts and Humanities; History and Social Sciences; and
Mathematics and/or Natural Science. Wherever possible, general education courses should be those approved for the Minnesota Transfer Curriculum, since this increases transfer options should the student decide to return to college at a later date for another degree.

RCTC offers 16 Associate in Applied Science degrees. These are listed below, along with the page numbers where degree requirements appear. Those degrees which are jointly sponsored by RCTC and the Mayo School of Health-Related Sciences are marked with an asterisk (*).

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- Administrative Assistant - Legal Option ............. Page 42
- Business Management ................................... Page 51
- Business Management - Marketing Emphasis ........ Page 53
- Medical Secretary ........................................... Page 98
- Retail Merchandising ...................................... Page 116
- Retail Merchandising - Interior Design Option .... Page 117

**Health Sciences**
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- Dental Hygiene .............................................. Page 73, 74
- Surgical Technology ........................................ Page 122, 123

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- AS/400 Midrange Computing .............................. Page 44
- Computer Aided Drafting Technology ................ Page 55
- Electronics Engineering Technology .................. Page 81
- Horticulture Technology - Floriculture/Garden Center .................................................. Page 84
- Horticulture Technology - Landscape .................. Page 86
- Golf Course and Grounds Maintenance

**Service Professions**
- Child Development ......................................... Page 60

**Diploma Programs**
Diploma programs are designed to prepare students for employment. They range from 30 to 64 credits and must include a minimum of 4 credits of general education or general studies for one-year programs and 8 credits of general education or general studies for two-year programs. The general education or general studies courses must be drawn from more than one discipline. Wherever possible, general education courses should be selected since this increases transfer options should the student decide to return to college at a later date for another degree.

RCTC offers 24 Diploma programs. These are listed right, along with the page numbers where program requirements appear.

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- Accountant .................................................. Page 35
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- Administrative Assistant ............................... Page 40
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**Service Professions**
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**Certificates and Awards of Attendance**
Certificates are designed to prepare students for employment. They range from 10 to 30 credits and may include general education or general studies. Awards of attendance also prepare students for employment. RCTC offers 15 Certificates and one Award of Attendance. These are listed below, along with the page numbers where program requirements appear.

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- Digital Arts: Music Technology ........................ Page 80
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Dental Assistant/Expanded Functions Certificate .................. Page 72
Health Unit Coordinator Certificate ............................... Page 83
Nursing Assistant Award of Attendance ................. Page 104

Science & Technology
Computer Skills ...................................................... Page 59

Service Professions
Child Development - Child Care and Education .... Page 61
Human Services Chemical Health
Assistant Certificate ............................................. Page 90
Human Services Developmental Disabilities .......... Page 91
Assistant Certificate
Human Services Mental Health
Assistant Certificate ............................................. Page 91

Competency Awards
Competency Awards are designed to provide a compact package of courses on a focused topic. They usually include several courses that total fewer than 10 credits. RCTC has 7 Competency Awards.

Business Quantitative Analysis, 8 credits
Freelance Writing & Photography, 9 credits
Government and Civics, 9 credits
Interior Decorating, 8 credits
Retail Merchandising, 8 credits
Sociology, 9 credits
Women’s Studies, 9 credits

Advisement Guides
Advisement Guides assist students in choosing courses that both satisfy the A.A. degree and enable the student to transfer readily. While these guides are very helpful, requesting a catalog from the college you plan to transfer to combined with early and frequent consultation with RCTC advisors, counselors, and program leaders, will maximize your ease of transfer.

Unless otherwise noted these are 64 credits
(P) Agriculture - A.A. Liberal Arts & Sciences
(P) Architecture - A.A. Liberal Arts & Sciences
(P) Athletic Training - A.A. Liberal Arts & Sciences
(P) Business Transfer - A.A. Liberal Arts & Sciences
(P) Chiropractic - A.S. Liberal Arts & Sciences
(P) Computer Graphics - A.A. Liberal Arts & Sciences
(P) Computer Science - A.A. Liberal Arts & Sciences
(P) Dentistry - A.S. Liberal Arts & Sciences
(P) Dietetics - A.A. Liberal Arts & Sciences
(P) Engineering - A.S. Liberal Arts & Sciences
(P) Journalism - A.A. Liberal Arts & Sciences
Honors - A.A. or A.S. Liberal Arts & Sciences
(P) Medical Technology - A.S. Liberal Arts & Sciences
(P) Mortuary Science - A.A. Liberal Arts & Sciences
(P) Nursing, 66 credits - A.A. Liberal Arts & Sciences
(P) Occupational Therapy - A.A. Liberal Arts & Sciences
(P) Pharmacy - A.S. Liberal Arts & Sciences
(P) Physical Therapy - A.S. Liberal Arts & Sciences
(P) Veterinary Medicine - A.S. Liberal Arts & Sciences
(P) Women’s Studies - A.A. Liberal Arts & Sciences

Minnesota Transfer Curriculum (MNTPC)
By completing the Minnesota Transfer Curriculum, students will have satisfied the general education requirements for the first two years of college at all Minnesota public colleges and universities. The MNTPC, then, is a kind of transfer agreement for general education among the public colleges and universities of Minnesota. The MNTPC refers to the 40-credit foundation in general education, which is the core of the A.A. degree. The MNTPC was designed as the general education foundation of the A.A. Liberal Arts and Sciences degree, in which general education constitutes about two-thirds of the degree. Please notice that the MNTPC refers to the general education requirements of the first two years; completing the MNTPC does not mean that you have completed a two-year degree. It does, however, mean that by completing the MNTPC, you will be able to transfer a package of 40 general education credits to any other public college or university in Minnesota.

The MNTPC commits the public colleges and universities in the Minnesota to a broad foundation that integrates a body of knowledge and skill with study of contemporary concerns that are essential in meeting the challenges of the twenty-first century. Competencies people need to participate successfully in our complex and changing world are identified. These competencies emphasize our common membership in the human community, personal responsibility for intellectual life-long learning, and an awareness that we live in a diverse world. They include diverse ways of knowing—that is, the factual content, the theories and methods, and the creative models of a broad spectrum of integration, application, and communication.

The ten areas of emphasis in the MNTPC are listed below along with a two-letter code for each. The two-letter code identifies courses, which have been approved for application to the Minnesota Transfer Curriculum requirements at Rochester Community and Technical College. (Each course description from pages 146-200 also identifies whether the course is part of the MNTPC and identifies which core competency or competency it fulfills.)

- CM: Oral and Written Communication
- HA: Humanities and Fine Arts
- SS: History and Social/Behavioral Sciences
- NS: Natural Sciences
- MA: Mathematical/Logical Reasoning
- CT: Critical Thinking
- HD: Human Diversity
- GP: Global Perspective
- EC: Ethical and Civic Responsibility
- PN: People and the Environment

To view an outline of the MNTPC areas you will need to take to complete this core of 40 general education credits, see the first 40 credits of A.A. Associate in Arts Degree I Liberal Arts & Sciences listed on the next page.
A.A. Associate in Arts Degree
Liberal Arts & Sciences

I. Minnesota Transfer Curriculum General Education Requirements ........................................... 40 credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult the course description section of this catalog to determine which courses satisfy the areas listed below.

A. Written and Oral Communications ................................................................. Minimum of 11 cr
ENGL 1117, 1118 or Reading & Writing Critically I and II, 8 cr
ENGL 1917, 1918 Reading & Writing Critically I and II: Honors, 8 cr
SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts ................................................................. Minimum of 9 cr
Chosen from the following disciplines with a minimum of 2 credits from 3 different areas: Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre.

C. History and Social Sciences ................................................................. Minimum of 9 cr
Chosen from the following disciplines with a minimum of 2 credits from 3 different areas: Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology.

D. Mathematics and Natural Sciences ......................................................... Minimum of 9 cr
One mathematics course (MATH 1111 college level or higher, except MATH 2051 and 2052).
Two science courses with laboratory, simulation or field experience, chosen from the following disciplines: Biology, Chemistry, Earth Science, Physics; or ENGR 2213.

E. Theme Area Competencies
Theme area courses may be used to satisfy A, B, C, and D above but no one course may be used to satisfy more than one theme area.
A minimum of 2 credits from each of the following areas:

   HD: Human Diversity          EC: Ethical & Civic Responsibility
   GP: Global Perspective       PN: People & the Environment

Note: 24 additional credits are needed to complete an A.A. degree with Minnesota Transfer Curriculum.
Theme Areas for MNTC
To help you further identify the courses at RCTC that meet the HD (Human Diversity), EC (Ethical and Civic Responsibility), GP (Global Perspective, and PN (People and the Environment) competencies (E. in the listing above), see the following chart.

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Students who complete the MNTC will also be expected to use computers, libraries, and other appropriate technology and information resources. Rochester Community and Technical College seeks to assure integration of these skills in courses throughout the general education curriculum.
Transferability of MNTC
Students who are certified by their colleges as having completed the MNTC will be able to transfer the package in full satisfaction of MNTC requirements at any other public college or university in Minnesota.

Some students think, erroneously, that only MNTC courses are transferable. In fact, most of RCTC’s liberal arts and sciences courses will transfer to other college and universities both in and beyond Minnesota. Many, and in some cases, most of its occupational and professional courses will also transfer, depending on the program of study to which the student wishes to transfer.

Planning the courses you take in order to accomplish your goals is the key to reaching those goals in a defined time frame. The contents of this catalog, including the program information immediately following in this section, are intended to guide you to a successful and efficient conclusion to the requirements you must meet in order to accomplish your goals. Still it is wise to visit a counselor, advisor, or program leader for guidance in planning your program of study.

Transfer Agreements and Advisement Guides
The College, its faculty and staff work to facilitate transfer for students planning to pursue specific baccalaureate programs following graduation from Rochester Community and Technical College. When specific details are arranged with a four-year college or university, RCTC may maintain a 2 + 2 program agreement, a transfer agreement, an articulation agreement, or an advisement guide. The extent of formality in these various arrangements may vary, but they have a common goal: to assist students in planning their two-year programs at RCTC so that students can transfer smoothly to a baccalaureate program. Students should meet with a counselor, advisor, or program leader frequently to assure maximizing transferability of courses and programs. The Guidance Center maintains records of the many transfer opportunities that have been specifically established between RCTC and other colleges and universities.

RCTC/WSU 2+2 Programs at UCR
Students at Rochester Community and Technical College have a unique opportunity to complete a baccalaureate degree while remaining in Rochester as a result of 2+2 agreements with Winona State University. Students interested in one of the following 2+2 programs with Winona State University would do well to see a counselor, advisor or program leader.

Accounting
Business Administration
Computer Information Systems
Computer Science
Elementary Education
Individualized Study
Nursing
Psychology
Social Work
Sociology

RCTC/U of M 2+2 Programs*
Students at Rochester Community and Technical College have a unique opportunity to complete a baccalaureate degree while remaining in Rochester as a result of 2+2 agreements with the University of Minnesota. Students interested in one of the following 2+2 programs with University of Minnesota would do well to see a counselor, advisor or program leader.

Horticulture Science*

Pending Agreements
New agreements for addition baccalaureate degrees with Winona State University and the University of Minnesota should be completed soon and available for fall. Watch for a special Catalog Supplement announcing these new agreements.

* 1st two years at RCTC; 2nd two years at U of M in the Twin Cities.
LIBERAL ARTS & SCIENCES
A.A. ASSOCIATE IN ARTS DEGREE

I. Minnesota Transfer Curriculum General Education Requirements ..................................................40 Credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult the course description section of this catalog to determine which courses satisfy the areas listed below or use the grid on page 30.

A. Written and Oral Communications .................................. Minimum of 11 cr
   ENGL 1117, 1118 or Reading & Writing Critically I and II, 8 cr
   ENGL 1917, 1918 Reading & Writing Critically I and II: Honors, 8 cr
   SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts .............................................. Minimum of 9 cr
   Chosen from the following disciplines with a minimum of 2 credits
   from 3 different areas: Art, English Literature, Foreign Language, Humanities,
   Journalism, Music, Philosophy, Speech/Theatre.

C. History and Social Sciences .......................................... Minimum of 9 cr
   Chosen from the following disciplines with a minimum of 2 credits
   from 3 different areas: Anthropology, Economics, Geography,
   History, Political Science, Psychology, Sociology.

D. Mathematics and Natural Sciences ................................. Minimum of 9 cr
   One mathematics course (1111 college level or higher,
   except MATH 2051 and 2052).
   Two science courses with laboratory, simulation or field experience,
   chosen from the following disciplines: Biology, Chemistry,
   Earth Science, Physics; or ENGR 2213.

E. Theme Area Competencies
   Theme area courses may be used to satisfy A, B, C, and D above but
   no one course may be used to satisfy more than one theme area.
   A minimum of 2 credits from each of the following areas:
   HD: Human Diversity EC: Ethical & Civic Responsibility
   GP: Global Perspective PN: People & the Environment

F. Critical Thinking Competencies (CT).
   All courses approved for the Minnesota Transfer curriculum will include critical thinking competencies.
   Completion of requirements listed in A, B, C, D and E above will satisfy critical thinking requirements.

II. Health and Physical Education Requirements ...............................4 Credits
   Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

III. Electives ..................................................................................20 Credits

TOTAL .............................................................................................................64 Credits

Foreign Languages: Graduation from many colleges and universities will require two full college years of a single foreign
language. It is recommended that these requirements be fulfilled at RCTC. For further information, consult your transfer
institution, the RCTC transfer specialist counselor, or a foreign language instructor.

Computer Literacy: Knowledge of the computer as a productivity tool is now considered important in all areas of our
society. It is recommended that all students complete an elective in the computer field. For further information, consult the
RCTC transfer specialist or your transfer institution.
LIBERAL ARTS AND SCIENCES
A.S. ASSOCIATE IN SCIENCE DEGREE

I. General Education/Studies Requirements ....................................................................................... 32-33 Credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult the course description section of this catalog to determine which courses satisfy the areas listed below. Graduates must complete a minimum of 14 credits in one of the following four areas and a minimum of 6 credits in each of the others.

A. Written and Oral Communications ...................................................................................... 7-14 cr
    ENGL 1117, or Reading & Writing Critically I, 4 cr
    ENGL 1917 Reading & Writing Critically I: Honors, 4 cr
    SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts .......................................................................................... 6-14 cr
    Chosen from the following disciplines with a minimum of 2 credits from each of 2 areas: Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre.

C. History and Social Sciences ..................................................................................... 6-14 cr
    Chosen from the following disciplines with a minimum of 2 credits from each of 2 areas: Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology.

D. Mathematics and Natural Sciences ........................................................................ 6-14 cr
    Chosen from the following disciplines with a minimum of 2 credits from each of 2 areas: Biology, Chemistry, Earth Science, Mathematics, Physics.

II. Health and Physical Education Requirements ........................................................................... 4 Credits
Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

III. Elective ....................................................................................................................... 27-28 Credits

TOTAL ................................................................................................................................. 64 Credits

Foreign Languages: Graduation from many colleges and universities will require two full college years of a single foreign language. It is recommended that these requirements be fulfilled at RCTC. For further information, consult your transfer institution, the RCTC transfer specialist counselor, or a foreign language instructor.
ACCOUNTANT
Associate in Applied Science Degree

I. General Education/Studies Requirements .......................................................................................... 21 Credits
   A. Written and Oral Communications .................................................................................................. 4 cr
      ENGL 1117 or ENGL 1917 Reading and Writing Critically I
   B. Humanities and Fine Arts ........................................................................................................... 3 cr
      SPCH 1114 Fundamentals of Speech
   C. History and Social Sciences ........................................................................................................... 3 cr
      PSYC 1611 Psychology of Adjustment
   D. Mathematics and/or Natural Sciences .......................................................................................... 3 cr
      Mathematics must be 1000 level or above
      Natural Science must be a lab course in Biology, Chemistry, Earth Science or Physics
   E. Additional General Education Electives ...................................................................................... 8 cr
      Students must complete a total of 21 credits of general education with at least three credits
      from each of the categories A-D

II. Accounting Core Requirements ......................................................................................................... 49 Credits
   Semester I
      ACCT 1807 Accounting Math/Calculators 3 cr
      ACCT 1810 Applied Principles of Accounting I 4 cr
      General Education Requirements
   Semester II
      ACCT 1811 Applied Principles of Accounting II 4 cr
      ACCT 1814 Payroll Accounting 3 cr
      ACCT 1834 Computerized Accounting Applications I 3 cr
      ACCT 1837 Computerized Accounting Applications II 3 cr
      General Education Requirements
   Semester III
      *ACCT 2821 Applied Intermediate Accounting I 4 cr
      *ACCT 2835 Computerized Accounting Applications III 3 cr
      *ACCT 2849 Income Tax 4 cr
      *ACCT 2861 Applied Cost Accounting I 3 cr
      *ACCT 2863 Fund/Not-for-Profit Accounting 2 cr
      General Education Requirements
   Semester IV
      *ACCT 2822 Applied Intermediate Accounting II 4 cr
      *ACCT 2843 Auditing 3 cr
      *ACCT 2862 Applied Cost/Managerial Acct 3 cr
      *ACCT 2874 Integrated Financial Presentations 3 cr
      General Education Requirements

III. Electives: Any ACCT, AIS, BUS or course approved by a program advisor ..................................... 2 Credits

TOTAL ..................................................................................................................................................... 72 Credits

To finish in four semesters, you will need to average 18 credits a semester or average 16 credits a semester and 8 credits
summer semester. * Courses offered once during the school year.

Purpose:
Accounting is the process of identifying, measuring, recording, interpreting and communicating financial information. It may
also include designing accounting systems and computing income taxes. An accountant examines, analyses and interprets data for
the purpose of financial statements and other reports identified for internal and external users. Employment opportunities include three major
areas: private enterprises, public accounting firms, and government/non-profit. Graduates in accounting careers may work for public
accounting firms, manufacturing firms, retail or wholesale stores, financial entities, hospitals, government agencies, insurance companies,
or any other business.

The AAS achieves a balance between fundamental theory and practical applications of theory as related to business and accounting. It is
recognized that effective oral and written communication skills, as well as an understanding and appreciation of human behaviors and
relations are influential to the success of organizations and employee satisfaction. These topics and skills will be addressed in the AAS
through the general education course requirements as well as being integrated throughout other courses.

Prerequisites:
The student should have average to above average ability in reasoning and reading comprehension. Students should be
proficient in basic communications and basic math. Discretion, judgement, and initiative are also important. In addition to accounting skill
competence, employers seek accountants who have common sense, sound judgement, ambition, dependability, initiative, poise and talent in
addition to accounting skill competence.
# ACCOUNTANT Diploma Program

## I. General Education/Studies Requirements

6 or 7 Credits

## II. Professionally-Related Business Requirements

51 Credits

### Semester I

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<tr>
<td>ACCT 1807</td>
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<tr>
<td>ACCT 1810</td>
<td>Applied Principles of Accounting I</td>
<td>4 cr</td>
</tr>
<tr>
<td>AIS 1050</td>
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<td>2 cr</td>
</tr>
<tr>
<td>ENGL 1630 or</td>
<td>College English</td>
<td>3 cr</td>
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<td>ACCT 1814</td>
<td>Payroll Accounting</td>
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<tr>
<td>ACCT 1834</td>
<td>Computerized Accounting Applications I</td>
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<td>*ACCT 2835</td>
<td>Computerized Accounting Applications III</td>
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<td>*ACCT 2849</td>
<td>Income Tax</td>
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<td>*ACCT 2861</td>
<td>Applied Cost Accounting I</td>
<td>3 cr</td>
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<td>*ACCT 2863</td>
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<td>*ACCT 2843</td>
<td>Auditing</td>
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<td>*ACCT 2862</td>
<td>Applied Cost/Managerial Accounting</td>
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<td>*ACCT 2874</td>
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<td>3 cr</td>
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<td>GSCL 2870</td>
<td>Employment Strategies</td>
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</tr>
<tr>
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</table>

### III. Business Related Electives

6 or 7 Credits

* Courses offered only once during the school year.

**Number of elective credits dependent upon English course selected.

**Recommended Electives:** Any ACCT/AIS/BUS course with advisor approval.

### TOTAL

64 Credits

## Purpose:
The Accountant major provides students with the knowledge necessary to examine, analyze, correct, and interpret accounting data for the purpose of giving professional advice and preparing financial statements. This is accomplished by solving problems and reviewing pronouncements of the Financial Accounting Standards Board, Accounting Principles Board, and other regulating boards. Skill development includes such activities as recording accounting data, preparing state and federal reports, making oral presentations, preparing budgets, analyzing deviations, and advising management. Skill development also includes automated accounting systems, in addition to spreadsheet, database, and word processing applications. Speakers, field trips, professional meetings, and seminars are special events for accounting students. An internship for qualified students enables them to reinforce skills in actual on-the-job training alongside qualified personnel.

The accountant graduate has a broad choice of employment areas from which to choose. Private accounting involves working as an accountant for a private firm which may be engaged in manufacturing, retail, service, or wholesale type operations. An accountant could be working in cost accounting, internal auditing, general accounting, payroll, or income tax for a firm of this type. Accountants are needed at all levels of government: federal, state, and local. Auditing and examination of business records are the main functions of government accountants.
ACCOUNTING CLERK
Diploma Program

I. General Education/Studies Requirements ................................................................. 6 or 7 Credits

II. Professionally-Related Business Requirements ....................................................... 22 Credits

<table>
<thead>
<tr>
<th>Semester I</th>
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<tbody>
<tr>
<td>ACCT 1807</td>
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<tr>
<td>ACCT 1810</td>
<td>Applied Principles of Accounting I</td>
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<tr>
<td>ENGL 1630 or</td>
<td>College English</td>
</tr>
<tr>
<td>ENGL 1117 or</td>
<td>Reading and Writing Critically I</td>
</tr>
<tr>
<td>ENGL 1917</td>
<td>Reading and Writing Critically I: Honors</td>
</tr>
<tr>
<td>Elective**</td>
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<table>
<thead>
<tr>
<th>Semester II</th>
<th></th>
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</thead>
<tbody>
<tr>
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<td>Applied Principles of Accounting II</td>
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<td>ACCT 1834</td>
<td>Computerized Accounting Applications I</td>
</tr>
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<td>ACCT 1837</td>
<td>Computerized Accounting Applications II</td>
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<tr>
<td>GSCL 1500</td>
<td>Human Relations</td>
</tr>
<tr>
<td>GSCL 2870</td>
<td>Employment Strategies</td>
</tr>
</tbody>
</table>

III. Business-Related Electives ................................................................. 3 or 4 Credits

**Number of elective credits dependent upon English course selected
Recommended Electives: Any ACCT/AIS/BUS course with Advisor approval

TOTAL ........................................................................................................................................ 32 Credits

PURPOSE: The Accounting Clerk major is designed to prepare students for careers in the accounting field. Job titles may be accounting clerk or designated to type of accounting performed as accounts payable clerk, accounts receivable clerk, advance payment clerk (clerical), billing clerk, cash posting clerk, rent and miscellaneous remittance clerk, tax record clerk (light, heat, & power), payroll clerk. In addition, to accounting courses, this program takes the student through all phases of office functions - typing, business letter writing, office procedures, and word processing. Accounting clerks are prepared to perform manually or on a computer combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. They may record and post details of business transactions such as allotments, disbursements, deductions from payrolls, pay and expense vouchers, remittances paid and due, checks, and claims. Other duties may include: compute and record interest charges, refunds, cost of lost or damaged goods, freight or express charges, rentals, and similar items. They also may type vouchers, invoices, account statements, payrolls, periodic reports, and other records as well as reconcile bank statements.
ACCOUNTING TECHNICIAN
Diploma Program

I. General Education/Studies Requirements .................................................................6 or 7 Credits

II. Professionally-Related Business Requirements ......................................................38 Credits

Semester I
ACCT 1807 Accounting Math/Calculators 3 cr
ACCT 1810 Applied Principles of Accounting I 4 cr
AIS 1050 Keyboarding 2 cr
ENGL 1630 or College English 3 cr
ENGL 1117 or Reading and Writing Critically I 4 cr
ENGL 1917 Reading and Writing Critically I: Honors 4 cr
Elective** 3-4 cr

Semester II
ACCT 1811 Applied Principles of Accounting II 4 cr
ACCT 1814 Payroll Accounting 3 cr
ACCT 1834 Computerized Accounting Applications I 3 cr
ACCT 1837 Computerized Accounting Applications II 3 cr
GSCL 1500 Human Relations 2 cr
GSCL 2870 Employment Strategies 1 cr

Semester III
*ACCT 2821 Applied Intermediate Accounting I 4 cr
*ACCT 2835 Computerized Accounting Applications III 3 cr
*ACCT 2849 Income Tax 4 cr
*ACCT 2861 Applied Cost Accounting I 3 cr
*ACCT 2863 Fund/Not-for-Profit Accounting 2 cr

III. Business-Related Electives .....................................................................................3 or 4 Credits

*Courses offered once during the school year.
**Number of elective credits dependent upon English course selected.
Recommended Electives: Any ACCT/AIS/BUS course with advisor approval.

TOTAL ........................................................................................................................................48 Credits

Purpose: The Accounting Technician major provides skills necessary to perform various accounting functions using computers and related hardware and software. Content will include automated general ledger and payroll accounting, spreadsheet applications, data base management, and graphics. Content will also include the planning and implementation of automated accounting systems, as well as monitoring and controlling various types of computer equipment used in the accounting process. Typical places of employment would include data processing and accounting departments in governmental agencies, financial institutions, and private business and industry. Job titles may be automated accounting clerk, computerized accounting clerk, computerized payroll clerk, or accounting data entry specialist.
ADMINISTRATIVE ASSISTANT
Associate in Science Degree Program

I. General Education/Studies Requirements ....................................................................................... 30 Credits

A. Written and Oral Communications ........................................................................ 4 cr
   ENGL 1117 or ENGL 1917  Reading & Writing Critically I

B. Humanities and Fine Arts .................................................. Minimum of 4 cr
   Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater.

C. History and Social Sciences .................................................. Minimum of 4 cr
   Electives from Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology

D. Mathematics and/or Natural Sciences ........................................ Minimum of 4 cr
   Chosen from the following disciplines with a minimum of 2 credits from each of 2 areas: Biology, Chemistry, Earth Science, Mathematics, Physics.

E. General Education Electives – Additional electives from disciplines listed above to complete the minimum of 30 credits in general education.

II. Professionally-Related Business Requirements ............................................................................. 31 Credits

   ACCT 1115  Small Business Accounting  3 cr
   AIS 1220  Human Relations in Organizations  3 cr
   AIS 1230  Machine Transcription  3 cr
   AIS 1320  Word Processing I  3 cr
   AIS 2200  Information Resource Management  3 cr
   AIS 2220  Business Communications  3 cr
   AIS 2270  Office Procedures  3 cr
   AIS 2330  Word Processing II  3 cr
   AIS 2350  Microcomputer Business Applications  3 cr
   BUS 1101  Introduction to Business  3 cr
   GSCL 2870  Employment Strategies  1 cr

NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

TOTAL ........................................................................................................................................ At Least 64 Credits

Administrative Assistant, A.S., Course Sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1030* 1 cr</td>
<td>AIS 1220 3 cr</td>
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<tr>
<td>AIS 1320 3 cr</td>
<td>AIS 1230 3 cr</td>
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<td>ELECTIVES (See Advisor)</td>
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*This course recommended for students keyboarding less than 55 wpm.

<table>
<thead>
<tr>
<th>Semester III</th>
<th>Semester IV</th>
</tr>
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<tr>
<td>AIS 2200 3 cr</td>
<td>ACCT 1115 3 cr</td>
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<td>AIS 2220 3 cr</td>
<td>AIS 2270 3 cr</td>
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<td>GSCL 2870 1 cr</td>
<td>ELECTIVES (See Advisor)</td>
</tr>
<tr>
<td>ELECTIVES (See Advisor)</td>
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</table>

Purpose: This course of study develops the office skills, knowledge, and attitudes sought by today’s employers. Extensive training is provided in communications, current applications software, and other office-related technology. This degree program is also designed with additional general education requirements for those students who may wish to transfer to another program/ institution.
ADMINISTRATIVE ASSISTANT
Associate in Applied Science Degree Program

I. General Education/Studies Requirements ................................................................................... 20 Credits

A. Written and Oral Communications .......................................................................................... 4 cr
   ENGL 1117 or ENGL 1917 Reading & Writing Critically I
   ENGL 1917 Reading & Writing Critically I: Honors

B. Humanities and Fine Arts ......................................................................................................... Minimum of 3 cr
   Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater.

C. History and Social Sciences ....................................................................................................... Minimum of 3 cr
   Electives from Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology

D. Mathematics and/or Natural Sciences ..................................................................................... Minimum of 3 cr
   Mathematics must be 1111 college level or above, except MATH 2051 and 2052.
   Natural Science must be a lab course in Biology, Chemistry, Earth Science, or Physics

E. General Education Electives – Additional electives from disciplines listed above to complete the minimum of 20 credits in general education.

II. Professionally-Related Business Requirements ........................................................................... 31 Credits

   ACCT 1115 Small Business Accounting .................................................................................. 3 cr
   AIS 1220 Human Relations in Organizations ......................................................................... 3 cr
   AIS 1230 Machine Transcription ......................................................................................... 3 cr
   AIS 1320 Word Processing I ................................................................................................. 3 cr
   AIS 2200 Information Resource Management ....................................................................... 3 cr
   AIS 2220 Business Communications .................................................................................... 3 cr
   AIS 2270 Office Procedures .................................................................................................... 3 cr
   AIS 2330 Word Processing II ................................................................................................. 3 cr
   AIS 2350 Microcomputer Business Applications .................................................................. 3 cr
   BUS 1101 Introduction to Business ......................................................................................... 3 cr
   GSCL 2870 Employment Strategies ....................................................................................... 1 cr

   NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

III. Health and/or Physical Education .............................................................................................. 3 Credits

   Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

TOTAL ........................................................................................................................................... At Least 64 Credits

Administrative Assistant, A.A.S., Course Sequence

Semester I

<table>
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<th>Course</th>
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<td>3 cr</td>
</tr>
<tr>
<td>BUS 1101</td>
<td>3 cr</td>
</tr>
<tr>
<td>ENGL 1117 or ENGL 1917</td>
<td>4 cr</td>
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Semester II

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<td>GSCL 2870</td>
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ELECTIVES (See Advisor)

*This course recommended for students keyboarding less than 55 wpm.

Semester III

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<tr>
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ELECTIVES (See Advisor)

Semester IV

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<tr>
<td>AIS 2270</td>
<td>3 cr</td>
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ELECTIVES (See Advisor)

Purpose: This course of study develops the office skills, knowledge, and attitudes sought by today’s employers. Extensive training is provided in communications, current applications software, and other office-related technology. This degree program is also designed with additional general education requirements for those students who may wish to transfer to another program/institution.
ADMINISTRATIVE ASSISTANT
Diploma Program

I. General Education/Studies Requirements ............................................................................... 4 Credits
   ENGL 1630  College English 3 cr
   GSCL 2870  Employment Strategies 1 cr

II. Professionally-Related Business Requirements ...................................................................... 24 Credits
   AIS 1220  Human Relations in Organizations 3 cr
   AIS 1230  Machine Transcription 3 cr
   AIS 1320  Word Processing I 3 cr
   AIS 2200  Information Resource Management 3 cr
   AIS 2220  Business Communications 3 cr
   AIS 2270  Office Procedures 3 cr
   AIS 2330  Word Processing II 3 cr
   AIS 2350  Microcomputer Business App. 3 cr

NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

III. Electives ................................................................................................................................. 4 Credits

TOTAL .............................................................................................................................................. 32 Credits

Administrative Assistant Diploma Course Sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
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<tr>
<td>AIS 1220 3 cr</td>
<td>AIS 2220 3 cr</td>
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<tr>
<td>AIS 1230 3 cr</td>
<td>AIS 2270 3 cr</td>
</tr>
<tr>
<td>AIS 1320 3 cr</td>
<td>AIS 2330 3 cr</td>
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<tr>
<td>AIS 2350 3 cr</td>
<td>GSCL 2870 1 cr</td>
</tr>
<tr>
<td>ENGL 1630 3 cr</td>
<td>ELECTIVES (See Advisor)</td>
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</table>

ELECTIVES (See Advisor)

*This course recommended for students keyboarding less than 55 wpm

Purpose: This one-year concentrated program is designed to prepare students to perform a wide range of office tasks including mail handling, telephone etiquette, records management, scheduling appointments or meetings, and making travel arrangements. Successful graduates may be employed in a variety of business firms, state/local/federal government offices, and many other companies with a need for an office assistant.
## ADMINISTRATIVE ASSISTANT - Legal Option
Associate in Science Degree Program

### I. General Education/Studies Requirements

**A. Written and Oral Communications**
- ENGL 1117 or ENGL 1917: Reading & Writing Critically I or Honors

**B. Humanities and Fine Arts**
- Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater

**C. History and Social Sciences**
- POLS 1617 or American Gov’t. Theory, 3 cr
- ECON 1101 or Intro to Economics, 3 cr

**D. Mathematics and/or Natural Sciences**
- Mathematics must be 1111 college level or above, except MATH 2051 and 2052.
- Natural Science must be a lab course in Biology, Chemistry, Earth Science, or Physics.

**E. General Education Electives**
- Additional electives from disciplines listed above to complete the minimum of 30 credits in general education.

### II. Professionally-Related Business Requirements

- AIS 1220: Human Relations in Organizations, 3 cr
- AIS 1710: Legal Terms/Transcription I, 3 cr
- AIS 2220: Business Communications, 3 cr
- AIS 2270: Office Procedures, 3 cr
- AIS 2300: Word Processing II, 3 cr
- AIS 2350: Microcomputer Business Applications, 3 cr
- AIS 2710: Legal Terms/Transcription II, 3 cr
- BUS 1101: Introduction to Business, 3 cr
- GSCL 2870: Employment Strategies, 1 cr

**NOTE:** KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

**TOTAL** At Least 63 Credits

### Administrative Assistant/Legal Option, A.S. Course Sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
<th>Semester IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>*AIS 1030</td>
<td>1 cr</td>
<td>AIS 2330</td>
<td>3 cr</td>
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<tr>
<td>AIS 1220</td>
<td>3 cr</td>
<td>AIS 2350</td>
<td>3 cr</td>
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<td>AIS 1320</td>
<td>3 cr</td>
<td>ELECTIVES</td>
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</tr>
<tr>
<td>BUS 1101</td>
<td>3 cr</td>
<td>(See Advisor)</td>
<td>3 cr</td>
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<td>ENGL 1117 or</td>
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<td></td>
</tr>
<tr>
<td>ELECTIVES (See Advisor)</td>
<td></td>
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</tr>
</tbody>
</table>

*This course recommended for students keyboarding less than 55 wpm.*

**Purpose:** The legal option provides specialized study in business law and legal terminology/transcription to train the student for entry-level positions in law offices or law-related careers. Extensive training is also provided in communications, current applications software, and other office-related technology. This degree program is designed with additional general education requirements for those students who may wish to transfer to another program/institution.
ADMINISTRATIVE ASSISTANT – LEGAL OPTION
Associate in Applied Science Degree Program

I. General Education/Studies Requirements ....................................................................................... 20 Credits

A. Written and Oral Communications ................................. Minimum of 4 cr
   ENGL 1117  or  Reading & Writing Critically I
   ENGL 1917  Reading & Writing Critically I: Honors

B. Humanities and Fine Arts ........................................... Minimum of 3 cr
   Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater.

C. History and Social Sciences ........................................ Minimum of 6 cr
   POLS 1617  or  American Gov’t. Theory, 3 cr
   POLS 1618  American Gov’t. Structure
   ECON 1101  or  Intro to Economics, 3 cr
   ECON 1901  Intro to Economics: Honors
   Other electives may be chosen from Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology

D. Mathematics and/or Natural Sciences ........................ Minimum of 3 cr
   Mathematics must be 1111 college level or above, except MATH 2051 and 2052.
   Natural Science must be a lab course in Biology, Chemistry, Earth Science, or Physics

E. General Education Electives
   Additional electives from disciplines listed above to complete the minimum of 20 credits in general education.

II. Professionally-Related Business Requirements ............................................................... 36 or 37 Credits

   ACCT 1115  Small Business Accounting 3 cr
   AIS 1220  Human Relations in Organizations 3 cr
   AIS 1320  Word Processing I 3 cr
   AIS 1700  or  Applied Law for Business 2-3 cr
   AIS 2227  Business Law I
   AIS 1710  Legal Terms/Transcription I 3 cr
   AIS 2200  Information Resource Management 3 cr
   AIS 2220  Business Communications 3 cr
   AIS 2270  Office Procedures 3 cr
   AIS 2330  Word Processing II 3 cr
   AIS 2350  Microcomputer Business Applications 3 cr
   AIS 2710  Legal Terms/Transcription II 3 cr
   BUS 1101  Introduction to Business 3 cr
   GSCL 2870  Employment Strategies 1 cr

NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

III. Health and/or Physical Education ...................................................................................... 3 Credits
   Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

TOTAL ........................................................................................................................................... At Least 64 Credits

Administrative Assistant/Legal Option, A.A.S. Course Sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
<th>Semester IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>*AIS 1030</td>
<td>1 cr</td>
<td>ACCT 1115 3 cr</td>
<td>AIS 1700  or 2-3 cr</td>
</tr>
<tr>
<td>AIS 1220</td>
<td>3 cr</td>
<td>AIS 2330 3 cr</td>
<td>BUS 2227</td>
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<tr>
<td>AIS 1320</td>
<td>3 cr</td>
<td>AIS 2350 3 cr</td>
<td>AIS 1710 3 cr</td>
</tr>
<tr>
<td>BUS 1101</td>
<td>3 cr</td>
<td>ELECTIVES (See Advisor)</td>
<td>AIS 2200 3 cr</td>
</tr>
<tr>
<td>ENGL 1117  or 4 cr</td>
<td>AIS 2220 3 cr</td>
<td>GSCL 2870 1 cr</td>
<td>ELECTIVES (See Advisor)</td>
</tr>
<tr>
<td>ENGL 1917</td>
<td>ELECTIVES (See Advisor)</td>
<td>POLS 1617 or 3 cr</td>
<td>ELECTIVES (See Advisor)</td>
</tr>
</tbody>
</table>

*This course recommended for students keyboarding less than 55 wpm.

Purpose: The legal option provides specialized study in business law and legal terminology/transcription to train the student for entry-level positions in law offices or law-related careers. Extensive training is also provided in communications, current applications software, and other office-related technology. This degree program is designed with additional general education requirements for those students who may wish to transfer to another program/institution.
ADMINISTRATIVE ASSISTANT - LEGAL OPTION
Diploma Program

I. General Education/Studies Requirements ....................................................................................... 4 Credits
   ENGL 1630 College English, 3 cr
   GSCL 2870 Employment Strategies, 1 cr

II. Professionally-Related Business Requirements ...................................................................................... 26 Credits
   AIS 1220 Human Relations in Organizations 3 cr
   AIS 1320 Word Processing I 3 cr
   AIS 1700 Applied Law for Business 2 cr
   AIS 1710 Legal Terms/Transcription I 3 cr
   AIS 2220 Business Communications 3 cr
   AIS 2270 Office Procedures 3 cr
   AIS 2330 Word Processing II 3 cr
   AIS 2350 Microcomputer Business Applications 3 cr
   AIS 2710 Legal Terms/Transcription II 3 cr

NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

III. Electives .................................................................................................................. 2 Credits

TOTAL ....................................................................................................................................................... 32 Credits

Administrative Assistant – Legal Option Diploma Course Sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>*AIS 1030 1 cr</td>
<td>AIS 2220 3 cr</td>
</tr>
<tr>
<td>AIS 1220 3 cr</td>
<td>AIS 2270 3 cr</td>
</tr>
<tr>
<td>AIS 1320 3 cr</td>
<td>AIS 2330 3 cr</td>
</tr>
<tr>
<td>AIS 1700 2 cr</td>
<td>AIS 2350 3 cr</td>
</tr>
<tr>
<td>AIS 1710 3 cr</td>
<td>AIS 2710 3 cr</td>
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<tr>
<td>ENGL 1630 3 cr</td>
<td>ELECTIVES</td>
</tr>
<tr>
<td>GSCL 2870 1 cr</td>
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</tr>
</tbody>
</table>

*This course recommended for students keyboarding less than 55 wpm.

Purpose: The Legal Option provides specialized study in business law and legal terminology/transcription to train the student for an entry-level position in law offices or law-related careers. Extensive training is also provided in current applications software and other office-related technology. This program provides an opportunity to gain work experience through internship credits used as electives.
AS/400 MIDRANGE COMPUTING
Associate in Applied Science Degree Program

I. General Education/Studies Requirement ................................................................. 20 Credits
A. Written and Oral Communication ................................................................... 4 cr
   ENGL 1117 English Composition, 4 cr
B. Humanities and Fine Arts ............................................................................... 3 cr
   SPCH 1130 Fundamentals of Public Speaking, 3 cr
C. History and Social Science .............................................................................. 3 cr
D. Mathematics and Natural Sciences ................................................................. 7 cr
   MATH 1115 is required College Algebra, 3 cr
   MATH 2218 or Discrete Mathematics, 4 cr
   MATH 2208 is required Introduction to Statistics, 4 cr
E. General Education Electives .......................................................................... 3 cr
   Students may choose additional courses numbered 1000 or higher from any of the categories outlined
   in A-D.

II. Core Requirements ......................................................................................... 48 Credits
AIS 1220 Human Relations in Organizations 3 cr
ASF 1107 Groupware/Lotus Notes 3 cr
ASF 1112 CL Programming 3 cr
ASF 1117 Customer Service in the Computing Industry 2 cr
ASF 1127 Client/Server Concepts 3 cr
ASF 1142 Introduction to Database/SQL 2 cr
ASF 2010 Data Communications 3 cr
ASF 2020 AS/400 Interactive Programming 3 cr
ASF 2210 AS/400 Operations 3 cr
ASF 2215 AS/400 Facilities 3 cr
ASF 2299 AS/400 Internship 3 cr
COMP 1150 Introduction to Computer Science 3 cr
COMP 2243 Introduction to Programming and Problem Solving 4 cr
COMP 2297 RPG Programming I 4 cr
COMP 2298 RPG Programming II 2 cr
ELEC 2040 Networking Essentials 4 cr

Purpose: The AS/400 Midrange Computing Specialist Program prepares individuals for employment in the computer field
in such positions as application development, systems analysis, and telecommunications. The program’s courses emphasize
the development of business applications on IBM’s midrange computing system.

Occupational Objectives: The program is designed to prepare students for employment following graduation. Students
wishing a Bachelor’s Degree (transfer program) should meet with an advisor to discuss transferability of courses.

Program Coordinator: AS/400 Program Coordinator
Rochester Community and Technical College
851 30th Avenue SE, Rochester
MN 55904-4999
Phone: (507) 285-7520
E-mail: AS400u@roch.edu

COURSE PLAN FOR AS/400 MIDRANGE COMPUTING SPECIALIST:

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>SEMESTER II</th>
<th>SEMESTER III</th>
<th>SEMESTER IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASF2210</td>
<td>ASF1117</td>
<td>AIS1220</td>
<td>ASF2020</td>
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<tr>
<td>3 cr</td>
<td>2 cr</td>
<td>3 cr</td>
<td>3 cr</td>
</tr>
<tr>
<td>COMP1150</td>
<td>ASF1142</td>
<td>ASF1112</td>
<td>ASF2299</td>
</tr>
<tr>
<td>3 cr</td>
<td>2 cr</td>
<td>3 cr</td>
<td>3 cr</td>
</tr>
<tr>
<td>COMP2243</td>
<td>ASF2215</td>
<td>ASF1107</td>
<td>MATH*</td>
</tr>
<tr>
<td>4 cr</td>
<td>3 cr</td>
<td>3 cr</td>
<td>4 cr</td>
</tr>
<tr>
<td>ENGL1117</td>
<td>COMP2297</td>
<td>ASF1127</td>
<td>Social Science</td>
</tr>
<tr>
<td>4 cr</td>
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<td>3 cr</td>
</tr>
<tr>
<td></td>
<td>SPCH1130</td>
<td>COMP2298</td>
<td>Misc. Gen. Ed.</td>
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<td>3 cr</td>
<td>2 cr</td>
<td>3 cr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17 cr</td>
<td>16 cr</td>
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*Either MATH 2208 or MATH 2218 is required
## AS/400 SYSTEM OPERATIONS
### Advanced Certificate Program

### I. Required Program Courses

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>COMP 1150</td>
<td>Introduction to Computer Science</td>
<td>3 credits</td>
</tr>
<tr>
<td></td>
<td>ELEC 2035</td>
<td>Microprocessors</td>
<td>3 credits</td>
</tr>
<tr>
<td></td>
<td>ASF2210</td>
<td>AS/400 Operations</td>
<td>3 credits</td>
</tr>
<tr>
<td></td>
<td>ELEC2040</td>
<td>Networking Concepts</td>
<td>4 credits</td>
</tr>
<tr>
<td>Spring</td>
<td>ASF 1117</td>
<td>Customer Service in Computing Industry</td>
<td>2 credits</td>
</tr>
<tr>
<td></td>
<td>ASF2215</td>
<td>AS/400 Facilities</td>
<td>3 credits</td>
</tr>
<tr>
<td></td>
<td>COMP2297</td>
<td>RPG Programming I</td>
<td>4 credits</td>
</tr>
<tr>
<td></td>
<td>ASF 2299</td>
<td>AS/400 Internship</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

### Purpose:
The AS/400 Systems Operation Advanced Certificate Program meets the specific skills and knowledge requirements of technical and professional employment to support AS/400 mid-range computing systems. It is designed to address an immediate marketplace need for entry-level AS/400 system operations in the Rochester area and the State of Minnesota. Graduates will be prepared for entry-level AS/400 system operations positions within government, insurance, manufacturing service, software development, wholesale and retail sales, utilities, banking and accounting.

### Admissions Requirements:
- College level micro-computer software course (COMP 1112 or equal)
- Minimum of 96 quarter credits or 64 semester credits completed
- 2.75 GPA minimum
- Commitment to complete program
- Successful completion of College Algebra
- Relevant work experience resume
- Submit application for admission to College
- Submit application for admission to the AS/400 Advanced Certificate Program
- Submit employment reference letters, including industry/workstudy/internships

### Submit Above Requirements to:
- AS/400 Program Coordinator
- Rochester Community and Technical College
- 851 30th Avenue SE
- Rochester, MN 55904-4999
- Phone: (507) 285-7520
- E-mail: AS400u@roch.edu
# AUTOMOBILE MECHANICS
## Diploma Program

### I. General Education/Studies Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1015, Applied Technical Math</td>
<td>3 cr</td>
</tr>
<tr>
<td>Elective general education/studies courses</td>
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8 Credits

### II. Professional Core

**Semester I**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AMT 1710 Service Theory</td>
<td>2 cr</td>
</tr>
<tr>
<td>TT 1720 Electrical Theory</td>
<td>2 cr</td>
</tr>
<tr>
<td>AMT 1730 Brake Theory</td>
<td>2 cr</td>
</tr>
<tr>
<td>AMT 1740 Tune-Up Theory</td>
<td>2 cr</td>
</tr>
<tr>
<td>AMT 1725 Service &amp; Electrical Lab</td>
<td>3 cr</td>
</tr>
<tr>
<td>AMT 1735 Brakes Lab</td>
<td>4 cr</td>
</tr>
<tr>
<td>AMT 1745 Ignition Lab</td>
<td>2 cr</td>
</tr>
<tr>
<td>MATH 1015 Applied Technical Math</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**Semester II**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT 1810 Engine Repair Theory</td>
<td>3 cr</td>
</tr>
<tr>
<td>TT 1820 Alignment &amp; Suspension Theory</td>
<td>2 cr</td>
</tr>
<tr>
<td>AMT 1815 Engine Repair Lab</td>
<td>7 cr</td>
</tr>
<tr>
<td>AMT 1825 Alignment/Suspension Lab</td>
<td>3 cr</td>
</tr>
<tr>
<td>General Study Elective</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**Semester III**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT 2740 Drive Train Theory</td>
<td>3 cr</td>
</tr>
<tr>
<td>AMT 2742 Manual Drive Train Lab</td>
<td>4 cr</td>
</tr>
<tr>
<td>AMT 2744 Automatic Transmission/Transaxle Lab</td>
<td>4 cr</td>
</tr>
<tr>
<td>TT 2650 Auto Science</td>
<td>2 cr</td>
</tr>
<tr>
<td>TT 1900 Welding</td>
<td>2 cr</td>
</tr>
<tr>
<td>General Study Elective</td>
<td>2 cr</td>
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**Semester IV**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AMT 2750 Engine Performance Theory</td>
<td>4 cr</td>
</tr>
<tr>
<td>AMT 2752 Engine Performance Lab</td>
<td>7 cr</td>
</tr>
<tr>
<td>AMT 2770 Heating/Air Conditioning Lab</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

TOTAL: 69 Credits

**PURPOSE:** The Automotive Mechanic major is designed to prepare students for careers in the automotive industry where they will inspect, diagnose, repair, and maintain automobiles. Instruction includes courses in vehicle service, brakes, steering and suspension, starting and charging systems, electrical service, engine overhaul, fuel systems, driveline and differential, clutch and transmissions, and air conditioning. With the introduction of on-board computers, instruction is also given in electronics and other high tech areas such as fuel injection and turbo charging. Instruction combines a comprehensive mix of classroom theory and hands-on experience in the auto lab. Job opportunities exist with repair shops, dealerships, fleet owners, and businesses performing specialized service work. Graduates typically start as entry level mechanics. With further education and/or experience, they can go on to specialize in an area such as rebuilding components or they can advance to shop foreman or service manager positions. Some graduates have opened their own repair businesses.

**Computer Literacy:** Knowledge of the computer as a productivity tool is now considered important in all areas of our society. It is recommended that all students complete an elective in the computer field. For further information, consult the RCTC transfer specialist or your transfer institution.
BOOKKEEPING CLERK
Certificate Program

I. General Education/Studies Requirements* ................................................................. 4 or 5 Credits
   ENGL 1630 or ................................. *College English ............................................. 3 cr
   ENGL 1117 or ................................. *Reading and Writing Critically I .......................... 4 cr
   ENGL 1917 ................................. *Reading and Writing Critically I: Honors .......................... 4 cr
   GSCL 1870 ................................. Employment Strategies ............................................. 1 cr

II. Professionally-Related Business Requirements ......................................................... 12 Credits
   ACCT 1807 ................................. Accounting Math/Calculators ............................................. 3 cr
   ACCT 1810 ................................. Applied Principles of Accounting I ............................. 4 cr
   AIS 1050 ................................. Keyboarding ................................................................. 2 cr
   ACCT 1834 ................................. Computerized Accounting Applications I ................. 3 cr

TOTAL ........................................................................................................................................... 16 or 17 Credits

Purpose: The Bookkeeping Clerk major provides skills necessary to perform routine calculating, journalizing, posting, and verifying duties used to maintain accounting records. Content will include journalizing and posting routine business transactions, preparing bank reconciliation statements and processing payroll records, vouchers, invoices, and other miscellaneous accounting records. Both manual and automated bookkeeping concepts will be included. Positions will be entry level clerical and bookkeeping in nature. Job titles may be posting clerk, accounts receivable clerk, or records payable clerk.
Programs of Study

BUILDING UTILITIES MECHANIC Diploma Program

I. General Education/Studies Requirements ........................................................................................................ 8 Credits

II. Professional Core ............................................................................................................................................. 64 Credits

<table>
<thead>
<tr>
<th>First Year—First Semester</th>
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<tbody>
<tr>
<td>BU 1500 Power Plant Theory</td>
<td>4 cr</td>
</tr>
<tr>
<td>BU 1510 Welding Theory</td>
<td>1 cr</td>
</tr>
<tr>
<td>BU 1520 Welding Equipment Repair</td>
<td>3 cr</td>
</tr>
<tr>
<td>BU 1530 Plumbing Theory</td>
<td>2 cr</td>
</tr>
<tr>
<td>BU 1540 Power Plant Operation</td>
<td>4 cr</td>
</tr>
<tr>
<td>BU 1550 Plumbing Lab</td>
<td>2 cr</td>
</tr>
<tr>
<td>BU 1560 Basic Electricity</td>
<td>1 cr</td>
</tr>
<tr>
<td>GS General Studies</td>
<td>2 cr</td>
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</table>

<table>
<thead>
<tr>
<th>First Year—Second Semester</th>
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<tbody>
<tr>
<td>BU 1621 Electrical Theory I</td>
<td>3 cr</td>
</tr>
<tr>
<td>BU 1641 Electrical Theory II</td>
<td>2 cr</td>
</tr>
<tr>
<td>BU 1631 Electrical Lab I</td>
<td>4 cr</td>
</tr>
<tr>
<td>BU 1651 Electrical Lab II</td>
<td>4 cr</td>
</tr>
<tr>
<td>BU 1661 National Electric Code and Safety</td>
<td>2 cr</td>
</tr>
<tr>
<td>General Studies</td>
<td>2 cr</td>
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<table>
<thead>
<tr>
<th>Second Year—First Semester</th>
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<tbody>
<tr>
<td>BU 2500 Refrigeration Theory</td>
<td>3 cr</td>
</tr>
<tr>
<td>BU 2506 Refrigeration Lab</td>
<td>3 cr</td>
</tr>
<tr>
<td>BU 2512 Commercial Refrigeration Theory</td>
<td>3 cr</td>
</tr>
<tr>
<td>BU 2518 Commercial Refrigeration Lab</td>
<td>2 cr</td>
</tr>
<tr>
<td>BU 2555 Building Utilities Mechanic Co-op</td>
<td>5 cr</td>
</tr>
<tr>
<td>General Studies</td>
<td>2 cr</td>
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<table>
<thead>
<tr>
<th>Second Year—Second Semester</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BU 2602 Facility Air Handling Systems</td>
<td>4 cr</td>
</tr>
<tr>
<td>BU 2612 Facility Heating/Venting/Air Conditioning Controls</td>
<td>2 cr</td>
</tr>
<tr>
<td>BU 2622 Forced Air Heating/Cooling Controls</td>
<td>2 cr</td>
</tr>
<tr>
<td>BU 2632 Forced Air Heating/Cooling Systems</td>
<td>3 cr</td>
</tr>
<tr>
<td>BU 2655 Building Utilities Mechanic Co-op</td>
<td>5 cr</td>
</tr>
<tr>
<td>General Studies</td>
<td>2 cr</td>
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<table>
<thead>
<tr>
<th>Co-op Options:</th>
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</thead>
<tbody>
<tr>
<td>BU 2552 BUM III</td>
<td>2 cr</td>
</tr>
<tr>
<td>BU 2651 BUM IV</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

TOTAL ...................................................................................................................................................... 72 Credits

Purpose: The Building Utilities Mechanic major is designed to prepare students for careers requiring skills in the operation, maintenance, troubleshooting, and repair of electrical and mechanical equipment found in commercial buildings. Instruction in the first year includes courses in boiler operation, electricity, plumbing, tool usage, welding, electrical controls, and programmable controls. Courses in residential and commercial refrigeration, air conditioning, pneumatics, heating and cooling controls, and computerized energy management systems comprise the second year instruction. In the second year, students are placed with a co-op training sponsor to gain hands-on work experience. After initial training, students may take the state examination for a special steam engineer’s license. After completion of the second year, students who qualify may take the state examination for second class “A” steam engineer’s license and/or refrigeration certification. Graduates usually start at entry level positions in various maintenance operation areas in medical clinics, hospitals, waste to energy plants, power plants, hotels, and educational, manufacturing, processing, and industrial facilities. Graduates have been employed as service technicians in the heating/ventilation/air conditioning (H.V.A.C.) field, building trades, and some are self-employed in the H.V.A.C. field.
BUSINESS ADMINISTRATION
Associate in Science Degree Program

I. General Education/Studies Requirements ............................................................................................................. 30 Credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog listing to determine specific courses that apply to areas below or see the grid on page 30.

A. Communication .................................................................................................................................................. 7 cr
ENGL 1117 or ENGL 1917 or SPCH 1114
Reading and Writing Critically I, Reading and Writing Critically I: Honors, 4 cr, Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts - 4 cr with 2 credits from different areas ................................................................. 4 cr
Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater.

C. History and Social Sciences ............................................................................................................................. 6 cr
ECON 2214 or ECON 1101 or ECON 1901
Principles of Economics: Micro, 4 cr, Introduction to Economics, Introduction to Economics: Honors, 3 cr
Elective from Anthropology, Geography, History, Political Science, Psychology, Sociology.

D. Mathematics and/or Natural Sciences .................................................................................................................. 6 cr
Mathematics must be 1111 college level or above, except MATH 2051 and 2052.
Natural Science must include one lab course in Biology, Chemistry, Earth Science or Physics.

E. Additional General Education Electives ........................................................................................................... 7 cr
Students may choose additional elective credits from Categories A-D to meet the general education requirements.

II. Business Core Requirements ............................................................................................................................ 24 Credits

<table>
<thead>
<tr>
<th>Course</th>
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<td>BUS 2217</td>
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<td>BUS 2218</td>
<td>4</td>
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<tr>
<td>BUS 2212</td>
<td>4</td>
</tr>
<tr>
<td>BUS 2227</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2234 or BUS 2235</td>
<td>3 or 4</td>
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<tr>
<td>AIS 2220</td>
<td>3</td>
</tr>
<tr>
<td>AIS 1220</td>
<td>3</td>
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III. Business Electives ........................................................................................................................................... 10 Credits
Recommended electives:

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ECON 2215</td>
<td>4</td>
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<tr>
<td>BUS 2232</td>
<td>3</td>
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</tbody>
</table>

TOTAL ................................................................................................................................................................. 64 Credits

The Business Administration curriculum provides an option for students who want maximum transferability of course work. The program is designed to prepare students for careers in marketing, management, sales, advertising, retailing, wholesaling, and related fields.

Business Administration (Associate in Science Degree), Suggested Program Guide

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117</td>
<td>SPCH 1114</td>
</tr>
<tr>
<td>MATH 1111 or higher</td>
<td>Humanities/Fine Art Elective</td>
</tr>
<tr>
<td>BUS 2217</td>
<td>BUS 2218</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>BUS 2201</td>
</tr>
<tr>
<td>Open Elective</td>
<td>AIS 2220</td>
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</table>

<table>
<thead>
<tr>
<th>Semester III</th>
<th>Semester IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 2214 or 1101</td>
<td>BUS 2227</td>
</tr>
<tr>
<td>BUS 2212</td>
<td>BUS 2234 or AIS 2350</td>
</tr>
<tr>
<td>BUS 2232</td>
<td>AIS 1220</td>
</tr>
<tr>
<td>Humanities/Fine Art Elective</td>
<td>General Education Elective</td>
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<tr>
<td>Science Elective</td>
<td>Open Elective</td>
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</table>

Education For Life and Work
BUSINESS COMPUTER APPLICATIONS  
Certificate Program

Core Requirements ................................................................................................................................................. 11 Credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>AIS 1320</td>
<td>Word Processing I</td>
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<tr>
<td>AIS 2350</td>
<td>Microcomputer Business Applications</td>
<td>3 cr</td>
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<tr>
<td>AIS 1510</td>
<td>Exploring the Internet</td>
<td>3 cr</td>
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<tr>
<td>AIS 1500</td>
<td>Introduction to Desktop Publishing</td>
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TOTAL .................................................................................................................................................................... 11 Credits
BUSINESS MANAGEMENT
Associate in Applied Science Degree

I. General Education/Studies Requirements .......................................................................................................................................................................................... 20 Credits

A. Written and Oral Communications .................................................................................................................. 7 credits
   ENGL 1117 or ENGL 1917 Reading and Writing Critically I 4 cr
   SPCH 1114 Fundamentals of Speech 3 cr

B. Humanities and Fine Arts ............................................................................................................................... 3 credits
   SPCH 1130 Interpersonal Communications

C. History and Social Sciences ............................................................................................................................. 3 credits
   ECON 1101 or ECON 1901 Introduction to Economics
   ECON 1901 Introduction to Economics: Honors

D. Mathematics and/or Natural Sciences ........................................................................................................... 3 credits
   Mathematics must be 1000 level or above
   Natural Science must include one lab course in Biology, Chemistry, Earth Science or Physics

E. Additional General Education Electives ....................................................................................................... 4 credits
   Students must complete a total of 20 credits of general education with at least three credits from each of the categories A-D

II. Business Core Requirements: ........................................................................................................................... 17 Credits

   AIS 2220 Business Communications 3 cr
   BUS 1101 Introduction to Business 3 cr
   AIS 1220 Human Relations in Organizations 3 cr
   BUS 2217 or Financial Accounting, ACCT 1810 Applied Principles of Accounting I 4 cr
   AIS 2350 Microcomputer Applications 3 cr
   GSCL 2870 Employment Strategies 1 cr

III. Management Emphasis ...................................................................................................................................... 14-17 Credits

   BUS 2232 Principles of Management 3 cr
   BUS 2227 Business Law 3 cr
   BUS 2201 Principles of Marketing 3 cr
   BUS 2218 or Managerial Accounting
   ACCT 1811 Applied Principles II 4 cr
   BUS 2290 Current Topics in Business 1-4 cr

IV. Health or Physical Education .......................................................................................................................... 3 Credits
   Any combination of Health (except Holistic Health) and/or Physical Education Courses 1100-1199.

V. Open Electives ...................................................................................................................................................... 7-10 Credits

TOTAL ................................................................................................................................................. 64 Credits

Purpose: The Business Management Program is designed to provide an overview of the practical and theoretical knowledge needed to help manage organizations. The program is designed to provide opportunities for students to implement and test the skills they learn.

Business Management (Associate in Applied Science Degree), Suggested Program Guide

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
</tr>
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<tbody>
<tr>
<td>ENGL 1117 or 1917</td>
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<tr>
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<tr>
<td>ECON 1101</td>
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<tr>
<td>Math or Science Elective</td>
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<tr>
<td>BUS 1101</td>
<td>3 cr</td>
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<tr>
<td>Semester III</td>
<td>Semester IV</td>
</tr>
<tr>
<td>BUS 2217 or ACCT 1810</td>
<td>4 cr</td>
</tr>
<tr>
<td>AIS 2220</td>
<td>3 cr</td>
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<td>BUS 2227</td>
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<td>Open Electives</td>
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### BUSINESS MANAGEMENT
Certificate Program

<table>
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<tr>
<th>Core Requirements</th>
<th>Description</th>
<th>Credits</th>
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<tr>
<td>BUS 1101</td>
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<td>BUS 2214</td>
<td>Retailing</td>
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<tr>
<td>BUS 2215</td>
<td>Salesmanship</td>
<td>3 cr</td>
</tr>
<tr>
<td>BUS 2232</td>
<td>Principles of Management</td>
<td>4 cr</td>
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**TOTAL** ......................................................................................................................... 11 Credits
BUSINESS MANAGEMENT – MARKETING EMPHASIS
Associate in Applied Science Degree

I. General Education/Studies Requirements ................................................................. 20 Credits

A. Written and Oral Communications ...................................................................... 7 cr
   ENGL 1117 or ENGL 1917 Reading and Writing Critically I, 4 cr
   SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts .................................................................................. 3 cr
   SPCH 1130 Interpersonal Communications, 3 cr

C. History and Social Sciences ................................................................................ 3 cr
   ECON 1101 or ECON 1901 Introduction to Economics, 3 cr

D. Mathematics and/or Natural Sciences ................................................................. 3 cr
   Mathematics must be 1000 level or above
   Natural Science must be a lab course in Biology, Chemistry, Earth Science or Physics

E. Additional General Education Electives ......................................................... 4 cr
   Students must complete a total of 20 credits of general education with at least three credits from each of the
   categories A-D.

II. Business Core Requirements ................................................................................. 17 Credits

   AIS 2220 Business Communications 3 cr
   BUS 1101 Introduction to Business 3 cr
   AIS 1220 Human Relations in Organizations 3 cr
   BUS 2217 or ACCT 1810 Financial Accounting 4 cr
   JOUR 1132 Principles of Advertising 3 cr
   BUS 2214 Retailing 3 cr
   BUS 2290 Current Topics in Business 1-4 cr
   AIS 2220 Human Relations in Organizations 3 cr

III. Marketing Emphasis ......................................................................................... 12-15 Credits

   BUS 2201 Principles of Marketing 3 cr
   BUS 2215 Salesmanship 3 cr
   JOUR 1132 Principles of Advertising 3 cr
   BUS 2214 Retailing 3 cr
   BUS 2290 Current Topics in Business 1-4 cr

IV. Health or Physical Education .............................................................................. 3 Credits
   Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

V. Open Electives .................................................................................................. 9-12 Credits

TOTAL ............................................................................................................... 64 Credits

Business Management-Marketing Emphasis, Suggested Program Guide

Semester I

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Semester II

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<td>JOUR 1132</td>
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<td>AIS 1220</td>
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<td>Health/Human Performance</td>
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Semester III

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Semester IV

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# CARPENTRY
Diploma Program

## I. General Education/Studies Requirements

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<tr>
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<th>Course Title</th>
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<td>Applied Technical Math</td>
<td>3 cr</td>
</tr>
<tr>
<td>GSCL 1870</td>
<td>Employment Strategies</td>
<td>1 cr</td>
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## II. Professional Core

<table>
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<tbody>
<tr>
<td>CR 1614</td>
<td>Carpentry Theory I</td>
<td>1 cr</td>
</tr>
<tr>
<td>CR 1610</td>
<td>Residential Blueprint Reading</td>
<td>1 cr</td>
</tr>
<tr>
<td>CR 1612</td>
<td>Shop Practice I</td>
<td>2 cr</td>
</tr>
<tr>
<td>CR 1613</td>
<td>Site Layout</td>
<td>1 cr</td>
</tr>
<tr>
<td>CR 1622</td>
<td>Carpentry Theory II</td>
<td>3 cr</td>
</tr>
<tr>
<td>CR1625</td>
<td>Footings and Foundations</td>
<td>1 cr</td>
</tr>
<tr>
<td>CR 1623</td>
<td>Rough Framing</td>
<td>3 cr</td>
</tr>
<tr>
<td>CR 1627</td>
<td>Roof Systems</td>
<td>2 cr</td>
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<tr>
<td>CR 1637</td>
<td>Exterior Finishing</td>
<td>2 cr</td>
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<tr>
<td>CR 1632</td>
<td>Construction Estimating</td>
<td>3 cr</td>
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<tr>
<td>CR 1512</td>
<td>Shop Practices II</td>
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<td>CR 1636</td>
<td>Interior Finishing</td>
<td>6 cr</td>
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<tr>
<td>CR 1634</td>
<td>Carpentry Theory III</td>
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</table>

**TOTAL** 33 Credits

**PURPOSE:** The Carpentry major is designed to prepare students for careers as carpenters in residential and commercial construction, factories, cabinet shops, and building maintenance fields. Instruction includes courses in theory and shop practice in the proper uses of hand and power tools and machines, building footings and foundations, site layout, rough framing, exterior and interior finishing, blueprint reading, and cost estimating. The primary activity of the program is the building of a house. This house building experience includes laying out the house on the lot, building the footing forms, rough framing, shingling the roof, insulating, hanging the drywall, and trimming out the house. About two-thirds of the instruction is spent in the lab working on “mock-ups” or at the job site working on the house. Job opportunities exist with independent home builders, commercial contractors, lumberyards, furniture manufacturers, and cabinet making shops. Graduates typically start as entry level carpenters. With further education and work experience, they can become journeyman carpenters, foremen, or may start their own business.

**Course Sequence**

<table>
<thead>
<tr>
<th>Summer</th>
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<th>Spring</th>
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<td>CR 1622</td>
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<tr>
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<td>CR 1623</td>
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<tr>
<td>CR 1613</td>
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<td>1</td>
<td>CR 1627</td>
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<td>CR 1637</td>
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</table>
COMPUTER AIDED DRAFTING TECHNOLOGY
Associate of Applied Science Degree Program

I. General Education/Studies Requirements .......................................................................................... 20 Credits

A. Written and Oral Communication ................................................................................................. 7 cr
   ENGL 1117 or ENGL 1917 Reading and Writing Critically I 4 cr
   SPCH 1114 Fundamentals of Speech 3 cr

B. Humanities and Fine Arts ........................................................................................................... 3 cr
   Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater.

C. History and Social Sciences ....................................................................................................... 3 cr
   Electives from Anthropology, Economics, Geography, History, Political Science, Psychology, or Sociology

D. Mathematics and Natural Sciences ............................................................................................ 5 cr
   MATH 1101 Math for Technology (Semester 1) 1 cr
   MATH 1102 College Math (Semester 1) 4 cr

E. Elective from any discipline in categories A, B, C, and D above ............................................. 2 cr

II. Core Requirements ...................................................................................................................... 52 Credits

<table>
<thead>
<tr>
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<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>1</td>
<td>CAD 1230</td>
<td>CAD II</td>
<td>3 cr</td>
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<tr>
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<td>ET 1224</td>
<td>Engineering Drafting I</td>
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<tr>
<td>1</td>
<td>CAD 1223</td>
<td>Technical Drafting I</td>
<td>2 cr</td>
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<td>Engineering Drafting II</td>
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<tr>
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<td>CAD 1229</td>
<td>Technical Drafting II</td>
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<td>2</td>
<td>CAD 1123</td>
<td>Technical Illustration</td>
<td>2 cr</td>
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<tr>
<td>2</td>
<td>MET 1146</td>
<td>Mfg Mat’l and Processes II</td>
<td>4 cr</td>
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<tr>
<td>2</td>
<td>CAD 1146</td>
<td>Schematic &amp; PCB Layout</td>
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<td>CAD 1120</td>
<td>Welding Technology</td>
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<tr>
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<td>MET 1123</td>
<td>Mfg Mat’l and Processes I</td>
<td>2 cr</td>
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<tr>
<td>3</td>
<td>CAD 2335</td>
<td>Working Drawings and Design</td>
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<tr>
<td>3</td>
<td>CAD 2339</td>
<td>Three-Dimensional CAD</td>
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<td>3</td>
<td>CAD 2323</td>
<td>Advanced Dimensioning</td>
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<tr>
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<td>MET 2358</td>
<td>Machine Design</td>
<td>5 cr</td>
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<td>3</td>
<td>CAD 2324</td>
<td>Special Projects or Elective</td>
<td>2 cr</td>
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<tr>
<td>4</td>
<td>MET 2458</td>
<td>Product Design</td>
<td>5 cr</td>
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<tr>
<td>4</td>
<td>CAD 2423</td>
<td>Hyd/Pneumatic Drafting</td>
<td>2 cr</td>
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<td>CAD 2424</td>
<td>Special Projects or Elective</td>
<td>2 cr</td>
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</table>

TOTAL ........................................................................................................................................... 72 Credits

PURPOSE: The CAD Technology major is designed to prepare students for careers where they will translate the ideas, rough sketches, specifications, and calculations of engineers and designers into working plans which are used in producing a product as well as calculating the strength, reliability, and cost of materials. Drafters make drawings to instruct workers how to fabricate products, build or erect structures, and repair equipment in such fields as mechanical, machine, electrical, and electronics drafting. Instruction is provided using computer-aided drafting (CAD) equipment. Related courses such as technical math, quality control supplement the many drafting and design courses. Employment opportunities exist in large and small mechanical and electronic industries and engineering firms. Federal, state, and local governmental agencies also employ drafters. Graduates can advance into positions such as checkers, designers, associate engineers, inspectors, supervisors, sales, and purchasing personnel.
COMPUTER AIDED DRAFTING TECHNOLOGY  
Diploma Program

I. General Education/Studies Requirements ................................................................. 11 Credits

A. Required

- MATH 1030 Principles of Technical Math I (Semester 1) 3 cr
- MATH 1032 Principles of Technical Math II (Semester 2) 3 cr
- MATH 2051 Statistical Process Control Theory 1 cr
- MATH 2052 Statistical Process Control Lab 1 cr

B. Electives 3 cr

must be in 2 disciplines other than math

II. Core Requirements ........................................................................................................ 58 Credits

Semester 1

- ET 1235 CAD I 3 cr
- CAD 1235 CAD II 3 cr
- ET 1224 Engineering Drafting I 2 cr
- CAD 1223 Technical Drafting I 2 cr
- MET 1224 Engineering Drafting II 2 cr
- CAD 1229 Technical Drafting II 2 cr

Semester 2

- CAD 1123 Technical Illustration 2 cr
- MET 1123 Mfg Mat’l and Processes I 2 cr
- MET 1146 Mfg Mat’l and Processes II 4 cr
- CAD 1146 Schematic & PCB Layout 4 cr
- CAD 1120 Welding Technology 2 cr

Semester 3

- CAD 2335 Working Drawings and Design 3 cr
- CAD 2339 Three Dimensional CAD 3 cr
- CAD 2323 Advanced Dimensioning 2 cr
- MET 2358 Machine Design 5 cr
- CAD 2324 Special Projects or Elective 2 cr
- CAD 2435 Mechanics 3 cr

Semester 4

- MET 2458 Product Design 5 cr
- CAD 2423 Hyd/Pneumatic Drafting 2 cr
- CAD 2424 Special Projects or Elective 2 cr
- CAD 2439 HVAC Drafting 3 cr

TOTAL .................................................................................................................................. 69 Credits

PURPOSE: The CAD Technology major is designed to prepare students for careers where they will translate the ideas, rough sketches, specifications, and calculations of engineers and designers into working plans which are used in producing a product as well as calculating the strength, reliability, and cost of materials. Drafters make drawings to instruct workers how to fabricate products, build or erect structures, and repair equipment in such fields as mechanical, architectural, machine, electrical, and electronics drafting. Instruction is provided using computer-aided drafting (CAD) equipment. Related courses such as technical math, quality control supplement the many drafting and design courses. Employment opportunities exist in large and small mechanical and electronic industries and engineering firms. Federal, state, and local governmental agencies also employ drafters. Graduates can advance into positions such as checkers, designers, associate engineers, inspectors, supervisors, sales, and purchasing personnel.

Rochester Community and Technical College
COMPUTER INFORMATION SYSTEMS
Associate in Science Degree Program

This A.S. degree is intended primarily for students planning to transfer to Winona State University (WSU) in the 2 Plus 2 program in Computer Information Systems. Students are encouraged to consult with faculty advisors and counselors at both RCTC and WSU for assistance in planning their course of study.

I. General Education/Studies Requirements ................................................................. 30 Credits
   A. Written and Oral Communications
      ENGL 1117, 1118 or ENGL 1917, 1918 Reading & Writing Critically I & II 8 cr
      SPCH 1114 Fundamentals of Speech 3 cr
   B. Humanities and Fine Arts
      From the following disciplines, with a minimum of 2 credits from each of two areas: Art, English/Literature, Foreign Languages, Humanities, Journalism, Music, Philosophy, Theater, Speech 6 cr
   C. History and Social Sciences
      ECON 2214 Principles of Economics: Micro, 4 cr
      From the following disciplines, a minimum of 2 credits in one area: Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology 6 cr
   D. Mathematics and/or Natural Sciences
      MATH 2218 Discrete Math 4 cr
      From the following disciplines, at least one lab course: Biology, Chemistry, Earth Science, or Physics 3 cr

II. Professionally-Related Requirements ................................................................. 30 Credits
   COMP 1150 Introduction to Computer Science 3 cr
   COMP 2233 or 2297 Structured COBOL 4 cr
   COMP 2243 Intro to Programming & Problem Solving 4 cr
   COMP 2247 Algorithms and Data Structures 4 cr
   COMP 2247 Algorithms and Data Structures 4 cr
   COMP 2297 RPG Programming I 4 cr
   BUS 2217, 2218 Principles of Accounting I & II 8 cr
   MATH 2208 or MATH 1119 Applied Calculus for Business & Economics 3 cr
   MATH 2208 or MATH 1119 Applied Calculus for Business & Economics 3 cr

IV. Health and Physical Education ............................................................................. 4 Credits
   Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).
   HLTH & PHED Health & Physical Education. 4 cr
   WSU requires at least 2 credits of Physical Education

TOTAL .......................................................................................................................... 64 Credits

Computer Information Systems (Associate in Science Degree), Suggested Program Guide

<table>
<thead>
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<th>Semester I</th>
<th>Semester II</th>
</tr>
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<tbody>
<tr>
<td>ENGL 1117 or 1917</td>
<td>4 cr</td>
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<td>SPCH 1114</td>
<td>3 cr</td>
</tr>
<tr>
<td>COMP 1150</td>
<td>3 cr</td>
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<td>MATH 1119</td>
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<tr>
<td>Hum/Fine Arts Elective</td>
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<tr>
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<th>Semester IV</th>
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<tr>
<td>BUS 2217</td>
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<tr>
<td>COMP 2243</td>
<td>4 cr</td>
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<td>ECON 2214</td>
<td>4 cr</td>
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<td>Hum/Fine Arts Elective</td>
<td>3 cr</td>
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<tr>
<td>PHED Electives</td>
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COMPUTER SCIENCE
Associate in Science Degree Program

This A.S. degree is intended primarily for students planning to transfer to Winona State University (WSU) in the 2 Plus 2 program in Computer Science. Students are encouraged to consult with faculty advisors and counselors at both RCTC and WSU for assistance in planning their course of study.

I. General Education/Studies Requirements ....................................................................................... 30 Credits
   A. Written and Oral Communications
      ENGL 1117, 1118 or ENGL 1917, 1918 Reading & Writing Critically I & II 8 cr
      ENGL 1917, 1918 Reading & Writing Critically I & II: Honors 8 cr
      SPCH 1114 Fundamentals of Speech 3 cr
   B. Humanities and Fine Arts
      From the following disciplines, with a minimum of 2 credits from each of two areas: Art, English/Literature, Foreign Languages, Humanities, Journalism, Music, Philosophy, Theater, Speech 6 cr
   C. History and Social Sciences
      From the following disciplines, a minimum of 2 credits from each of two areas: Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology 6 cr
   D. Mathematics and/or Natural Sciences
      MATH 2218 Discrete Math 4 cr
      From the following disciplines, at least one lab course: Biology, Chemistry, Earth Science, or Physics 3 cr

II. Professionally-Related Business Requirements ................................................................................... 21 Credits
    COMP 1150 Introduction to Computer Science 3 cr
    COMP 2243 Intro to Programming & Problem Solving 4 cr
    COMP 2247 Algorithms and Data Structures 4 cr
    MATH 1127, 1128 Calculus I & II 10 cr

III. Professionally-Related and/or Open Electives ............................................................................... 9 Credits
     Any courses numbered 1000-level or above
     Suggested electives, but not limited to:
     COMP 1112 Introduction to Computers, with Applications 3 cr
     COMP 2233 or ENGL 1109 Technical Report Writing 4 cr
     COMP 2297 RPG Programming I 4 cr
     ENGR 1152 Logic Design 4 cr
     ENGR 1153 Microprocessors 4 cr
     AIS 1510 Exploring the Internet 3 cr

IV. Health and Physical Education .............................................................................................. 4 Credits
    HLTH & PHED Health & Physical Education 4 cr
    WSU requires at least 2 credits of Physical Education

TOTAL ....................................................................................................................................................... 64 Credits

Computer Science (Associate in Science Degree), Suggested Program Guide

Semester I
ENGL 1117 or 1917 4 cr
SPCH 1114 3 cr
MATH 1127 5 cr
COMP 1150 3 cr
PHED Elective 1 cr
Total 16

Semester II
ENGL 1118 or 1918 4 cr
HUM/Fine Arts Elective 3 cr
Professional Elective 3 cr
PHED Elective 1 cr
Total 16

Semester III
COMP 2243 4 cr
Science Elective 3 cr
Hum/Fine Arts Elective 3 cr
Professional Elective 3 cr
HIST/SOC Sci Elective 3 cr
Total 16

Semester IV
COMP 2247 4 cr
MATH 2218 3 cr
HIST/SOC Sci Elective 3 cr
HLTH/PHED Electives 2 cr
Total 16
### COMPUTER SKILLS
Certificate Program

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>COMP 1120</td>
<td>Introduction to Computer with Appl</td>
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<tr>
<td>COMP 1150</td>
<td>Introduction to Computer Science</td>
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<tr>
<td>COMP 2243</td>
<td>Introduction to Prog. &amp; Prob. Solving</td>
<td>4 cr</td>
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</table>

Total: 10 Credits
CHILD DEVELOPMENT
Associate in Applied Science Degree Program

I. General Education/Studies Requirements (numbered 1000 or higher) ............................................ 20 Credits

A. Written and Oral Communications ..................................................... minimum of 4 cr
   ENGL 1117 (or 1917) Reading and Writing Critically I, 4 cr

B. Humanities and Fine Arts ..................................................................... minimum of 3 cr
   Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater.

C. History and Social Sciences ................................................................... minimum of 3 cr
   Electives from Anthropology, Economics, Geography, History, Political Science, Psychology, or Sociology

D. Mathematics and Natural Sciences ...................................................... minimum of 3 cr
   Mathematics must be 1000 level or above
   Natural Science must be a lab course in Biology, Chemistry, Earth Science or Physics

E. Electives from any discipline in categories A, B, C and D above ....................... 7 cr

II. Professional Core .................................................................................................... 46 Credits

   CD1200 Professional Relations in Early Childhood Careers 3 cr
   CD1210 Foundations of Child Development 3 cr
   CD1220 Child Safety, Health, & Nutrition 4 cr
   CD1230 Guidance: Managing the Physical/Social Env. 4 cr
   CD1240 Family & Community Relations 3 cr
   CD1310 or Infant/Toddler Development & Learning 4 cr
   CD1312 or Preschool Development & Learning 4 cr
   CD1314 School-Age Development & Learning 4 cr
   CD1340 Planning & Implementing Curriculum 4 cr
   CD2510 Internship 3 cr
   CD2530 or Children with Difficult Behaviors 3 cr
   CD2560 or Language & Literature Experiences 3 cr
   CD2570 or Multicultural Learning Experiences 3 cr
   CD2580 Creative Development Experiences 3 cr
   CD2600 Professional Leadership 3 cr
   CD2620 Inclusion: Special Needs & Mixed Age Groups 3 cr
   CD2640 Program Planning 3 cr
   CD2810 Practicum 1 3 cr
   CD2840 Practicum 2 3 cr

III. Electives .................................................................................................................. 2 Credits

TOTAL ........................................................................................................................................ 68 Credits

Purpose: The Child Development Careers major is designed to provide students with a comprehensive, basic curriculum needed to work in careers with children from infancy to twelve years of age in a variety of settings. Opportunities to gain necessary child care skills and competencies are provided by way of observation and practical experience in a well-equipped, on-site child development center for children ages 2-5, as well as classroom lecture/labs and practical experiences in community-based care facilities. Upon graduation students will be directly involved with the guidance and provision of educational/creative experiences appropriate to nursery schools, special education programs, Head Start, elementary schools, or as a provider of in-home care (nanny), or as a licensed family child care provider. A child development assistant also works directly with other trained staff and/or parents. Graduates are also qualified to work in a variety of child and family service related programs such as social service agencies, child care resource and referral programs or as paraprofessionals in private and public school settings. Graduates of the program may seek further education to earn a degree in early childhood education or take further courses to improve their earning potential and job position.
CHILD DEVELOPMENT
Diploma Program

I. General Education/Studies Requirements ....................................................................................... 4 Credits
Must be distributed across a minimum of 2 disciplines

II. Professional Core ......................................................................................................................... 28 Credits
CD1200 Professional Relations in Early Childhood Careers 3 cr
CD1210 Foundations of Child Development 3 cr
CD1220 Child Safety, Health, & Nutrition 4 cr
CD1230 Guidance: Managing the Physical/ Social Environment 4 cr
CD1240 Family & Community Relations 3 cr
CD1310 or Infant/Toddler Development & Learning 4 cr
CD1312 or Preschool Development & Learning 4 cr
CD1314 or School-Age Development & Learning 4 cr
CD1340 Planning & Implementing Curriculum 4 cr
CD2510 Internship 3 cr

III. Electives ........................................................................................................................................ 2 Credits

TOTAL ................................................................................................................................................ 34 Credits

Purpose: The Child Development Careers major is designed to provide students with a comprehensive, basic curriculum needed to work in careers with children from infancy to twelve years of age in a variety of settings. Opportunities to gain necessary child care skills and competencies are provided by way of observation and practical experience in a well-equipped, on-site child development center for children ages 2-5, as well as classroom lecture/labs and practical experiences in community-based care facilities. Upon graduation students will be directly involved with the guidance and provision of educational/creative experiences appropriate to nursery schools, special education programs, Head Start, elementary schools, or as a provider of in-home care (nanny), or as a licensed family child care provider. A child development assistant also works directly with other trained staff and/or parents. Graduates of the program may seek further education to earn a degree in early childhood education or take further courses to improve their earning potential and job position.

CHILD DEVELOPMENT
Certificate Program

Professional Core ........................................................................................................................................ 17 Credits
CD1200 Professional Relations in Early Childhood Careers 3 cr
CD1210 Foundations of Child Development 3 cr
CD1220 Child Safety, Health, & Nutrition 4 cr
CD1230 Guidance: Managing the Physical/ Social Environment 4 cr
CD1240 Family & Community Relations 3 cr

TOTAL ................................................................................................................................................. 17 Credits

Purpose: The Child Development Certificate Program prepares students for assistant teacher or paraprofessional positions. Students graduating from this program meet the Minnesota Department of Human Services (DHS) requirements for assistant teachers in child care centers. In addition to these education requirements, DHS Rule 3 requires 2080 hours of work experience as a supervised aide or volunteer in order to be hired as an assistant teacher. Graduates of the program may seek further education to earn a degree in early childhood education or take further courses to improve their earning potential and job position.
CHIROPRACTIC TECHNICIAN
Paraprofessional Diploma Program

I. General Education/Studies Requirements ....................................................................................... 4 or 5 Credits
   ENGL 1117         Reading & Writing Critically I  4 cr
   or ENGL 1630      College English               3 cr
   or ENGL 1917      Reading & Writing Critically I: Honors 4 cr
   GSCL 1676         Computer Basics              1 cr

II. Professional Core ........................................................................................................... 36 Credits
   CT 1520          Chiropractic Anatomy & Terminology  4 cr
   CT 1522          Chiropractic: Science, Philosophy & Ethical Stand 3 cr
   CT 1540          Chiropractic Radiology Positioning  4 cr
   CT 1526          Chiropractic Clinic Procedures    3 cr
   CT 1543          Chiropractic Exam and Diagnosis   3 cr
   CT 1538          Chiropractic Insurance Processing  3 cr
   CT 1720          Chiropractic Patient Education   2 cr
   CT 1722          Conjunctive Therapy             4 cr
   CT 1534          Introduction to Chiropractic Radiology Dynamics 3 cr
   CT 1521          Chiropractic Concepts of Motivating Health 2 cr
   CT 1730*         Chiropractic Internship:
                    Preparation, Interviews and Updates  5 cr

*Need advisor approval.

TOTAL ......................................................................................................................................... 40-41 Credits

Keyboarding Skill Prerequisite: Student must be able to demonstrate keyboarding skill at 30 gross words per minute, 1 error per minute, based on two three-minute straight copy tests, “average” or “normal” difficulty (usually approximately 1.4 syllabic intensity) prior to graduation. Advisor approval necessary.

CPR Prerequisite: Student must be CPR certified prior to graduation. Advisor approval necessary.

PURPOSE: This major provides students with laboratory/practicum and theory to prepare students for careers assisting doctors of chiropractic. Instruction includes general courses such as basic English, chiropractic anatomy and terminology, chiropractic clinic procedures, philosophy of chiropractic science, radiology, chiropractic concepts of public health, nutrients and vitamin supplementation. An internship at the end of the program enables students to integrate and apply knowledge and skills learned throughout the program in area chiropractic clinics. Most job opportunities for graduates will exist in chiropractic offices and clinics. Some graduates may find employment in other health discipline clinics and in the field of sports medicine. The program meets the department of health requirements to prepare a student for state testing in radiation safety. This program also meets the requirements of the American Chiropractic Registry of Radiological Technologists. Students that wish to test for ACRRT certification may do so after successfully completing the required courses.

COURSE SEQUENCE:

<table>
<thead>
<tr>
<th>FALL Semester I</th>
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<th>ANY SEMESTER</th>
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*This course will run two weeks over Spring Semester.

Students may choose one of the following courses (with advisor input):

- ENGL 1630            3 cr
- ENGL 1117            4 cr
- ENGL 1917            4 cr

Students may begin the Chiropractic Technician program Fall or Spring Semesters in a full-time or part-time option (see next page for course sequence).

— Continued on Next Page —
### CHIROPRACTIC TECHNICIAN

Paraprofessional Diploma Program — Continued

#### Alternative Sequence:  Fall or Spring Semesters in a full-time or part-time option:

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<thead>
<tr>
<th>Full-Time/One-Year Option</th>
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<th>FALL</th>
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<td>3 cr</td>
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#### Part-Time/Two-Year Option

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<td>CT 1722</td>
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<td>ENGL 1117 or 4 cr</td>
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<tr>
<td>ENGL 1917</td>
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#### Spring-Start Students Full-Time

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<tr>
<td>ENGL 1117 or 4 cr</td>
<td>CT 1522</td>
<td>3 cr</td>
</tr>
<tr>
<td>ENGL 1917</td>
<td>4 cr</td>
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#### Spring-Start Students Part-Time

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<td>CT 1538, 3 cr</td>
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<td>CT 1720, 2 cr</td>
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<td>CT 1526, 3 cr</td>
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<td>ENGL 1917, 4 cr</td>
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<td>CT 1543, 3 cr</td>
<td>TOTAL, 10 cr</td>
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</table>
CIVIL ENGINEERING TECHNOLOGY
Associate In Science Degree

Program Accreditation: Technology Accreditation Comm., Accreditation Board for Engineering and Technology (ABET)

I. General Education/Studies Requirements ................................................................................................................. 33 Credits

A. Written and Oral Communication .......................................................................................................................... 7 cr
   ENGL 1117 or  Reading and Writing Critically I  4 cr
   ENGL 1917  Reading and Writing Critically I: Honors  3 cr
   ENGL 1109  Technical Report Writing  3 cr

B. Humanities and Fine Arts ........................................................................................................................................ 4 cr
   SPCH 1114  Fundamentals of Speech  3 cr
   Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre  1 cr

C. Mathematics and Natural Sciences ......................................................................................................................... 18 cr
   MATH 1101  Math for Technology  1 cr
   MATH 1102, 1104  College Math I and II  9 cr
   PHYS 1107, 1108  Technical Physics I and II  8 cr

D. History and Social Sciences ..................................................................................................................................... 4 cr
   Electives from Anthropology, Economics, Geography, History, Political Science, Psychology, or Sociology.  4 cr

II. Professionally-Related Requirements .................................................................................................................. 32 Credits

   ET 1110  Introduction to Problem Solving Techniques  2 cr
   ET 1224  Engineering Drawing  2 cr
   ET 1235  Computer Aided Drafting (CAD) I  3 cr
   ET 2140  Introductory Statics and Strength of Materials,  3 cr
   ET 2145  Fluid Mechanics  2 cr
   CET 1210, 2110, 2210  Surveying I, II, III  11 cr
   CET 1120  Soils Technology and Construction Materials  4 cr
   CET 2230  Introduction to Structural Design  2 cr
   CET 2231  Municipal and Highway Design  3 cr

TOTAL .......................................................................................................................................................... 65 Credits

Purpose: This program has been designed to prepare graduates to assist engineers in the technical aspects of the design and construction of engineering works. The course work provides background for detail engineering functions. This program also provides the opportunity, should the student wish, to transfer to a four-year college or university to complete a Bachelor’s degree in Industrial or Engineering Technology.

Admissions: Entrance requirements include three years of high school English and two years of high school algebra. High school physics or the equivalent at the college level is strongly recommended.

Registration and Sequence: Engineering, science and mathematics courses must be taken in the sequence specified on the Degree Program Sheet, available from the coordinator for the Civil Engineering Technology Program.

Program Completion: Graduates may receive certification by examination through the National Institute of Certification in Engineering Technologies (NICET).

Civil Engineering Technology Course Sequence
Length 18 months

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<tr>
<th>Fall – 1</th>
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<th>Spring – 2</th>
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<td>ET 1224</td>
<td>2</td>
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<tr>
<td>ENGL 1117</td>
<td>4</td>
<td>ET 1235</td>
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<td>MATH 1101</td>
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</table>
CLINICAL NEUROPHYSIOLOGY TECHNOLOGY (CNT)
Associate in Applied Science Degree Program
An Affiliated Program with the Mayo School of Health-Related Sciences

I. General Education/Studies Requirements .................................................................25 Credits
   A. Written and Oral Communication .......................................................................4 cr
      ENGL 1117 Reading & Writing Critically I, 4 cr
      (or ENGL 1917 Reading & Writing Critically I: Honors, if qualified)
   B. Humanities and Fine Arts ..................................................................................3 cr
      SPCH 1114 Fundamentals of Speech, 3 cr
   C. History and Social Sciences .............................................................................3 cr
      PSYC 1611 Psychology of Adjustment, 3 cr
   D. Mathematics and Natural Sciences ..................................................................15 cr
      CHEM 1117 General Chemistry, 4 cr
      BIOL 1217, 1218 Anatomy and Physiology I & II, 8 cr
      PHYS 1102 Physics for the Health Sciences, 3 cr

II. Computer Science Requirements ........................................................................1 Credit
    GSCL 1676 Computer Basics, 1 cr

III. Mayo Clinic CNT Core Requirements ...............................................................55 Credits
     Months 1-12 *RCTC course; all other courses are Mayo courses.
     *CNT 1101 Orientation to CNT 1 cr
     CNT 1102 CNT Techniques I 4 cr
     CNT 1103 CNT Techniques II 2 cr
     CNT 1104 CNT Techniques III 2 cr
     CNT 1105 CNT Techniques IV 2 cr
     CNT 1110 Electronics and Instrumentation for CNT 3 cr
     CNT 1112 Applied Concepts I 2 cr
     CNT 1113 Applied Concepts II 2 cr
     CNT 1114 Orientation to the Clinical Laboratory 2 cr
     CNT 2210 Neurophysiology Lecture Series, Part I 2 cr
     TOTAL 22 cr
     Months 13-24
     CNT 2211 Neurophysiology Lecture Series, Part II 6 cr
     CNT 2212 Clinical Practice I ** 6 cr
     CNT 2213 Clinical Practice II ** 6 cr
     CNT 2214 Clinical Practice III ** 3 cr
     CNT 2215 Clinical Practice IV ** 3 cr
     CNT 2216 Clinical Practice V ** 6 cr
     CNT 2217 Clinical Practice VI ** 3 cr
     TOTAL 33 cr

TOTAL .......................................................................................................................81 Credits

Note: Student will need to complete a CPR for Healthcare Provider course or HLTH 1110 before beginning summer semester at the Mayo Clinic.

CLINICAL NEUROPHYSIOLOGY TECHNOLOGY COURSE SEQUENCE
LENGTH: 24 months

<table>
<thead>
<tr>
<th>Fall Semester (RCTC)</th>
<th>Spring Semester (RCTC &amp; Mayo)</th>
<th>Summer Semester (Mayo)</th>
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<td>BIOL 1218 4 cr</td>
<td>CNT 1103 2 cr</td>
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<td>CHEM 1117 4 cr</td>
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<td>SPCH 1114 3 cr</td>
<td>PSYC 1611 3 cr</td>
<td>CNT 1105 2 cr</td>
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<td>PHYS 1102 3 cr</td>
<td>CNT 1102 4 cr</td>
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— Continued on Next Page —
CLINICAL NEUROPHYSIOLOGY TECHNOLOGY (CNT)
Associate in Applied Science Degree Program — Continued

YEAR 2 Courses will be taken during the Fall, Spring, and Summer Semesters

Months 13-24

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<th>Course</th>
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<td>CNT 2217**</td>
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</tbody>
</table>

** Clinical Hours: 60 hours = 1 semester credit
** Each Clinical Practice is working in a different lab

ADDITIONAL NOTES:

Purpose: This program educates graduates to work under the supervision of physicians to perform tests that assist physicians in the diagnosis and evaluation of diseases of the brain and peripheral nervous system and disorders of sleep and wakefulness. The technologist must be able to analyze data on-line making certain that it is viable and interpretable. Neurodiagnostic studies are performed in a laboratory, emergency room, operating room, intensive care unit, special monitoring units or at the patient’s bedside.

The areas of study are electroencephalography, nerve conduction studies, polysomnography, autonomic testing and evoked potentials. Electroencephalography, spontaneous electrical activity of the brain recorded from the scalp, can determine changes in brain activity useful in diagnosing brain disorders. Nerve conduction studies, stimulus-induced responses recorded from peripheral and muscle nerves in the face, arms or legs, test to see how fast and how well the nerves send messages. Polysomnography, spontaneous activity recorded from the lungs, brain, muscle and heart, diagnosis and treats sleep-related disorders such as narcolepsy and sleep apnea. Autonomic testing measures involuntary nervous system function that controls blood pressure, heart rate, sweating and influence pain. Evoked potentials, stimulus induced responses from the sensory system, measures central nerve conduction time in disorders such as multiple sclerosis.

Admission: Students are admitted into this program through the Mayo School of Health-Related Sciences Clinical Neurophysiology Technology Program. The application for admission to the CNT Program, Mayo School of Health-Related Sciences must be obtained from the Mayo School of Health-Related Sciences and submitted no later than March 1. Following appointment to the program by the Mayo School of Health-Related Sciences, students must apply to RCTC. Admission is competitive. It is based on previous education, work experience, goal statement, letters of reference, and interview. Science and math courses must be completed within the previous five years.

Program Entrance Requirements: (1) High School diploma or the equivalent; (2) High School keyboarding and basic computer competence, high school biology and chemistry are required, high school physics is recommended, or completion of the RCTC or college transfer equivalents; (3) High School algebra II or RCTC MATH 0099 or the equivalent; (4) graduation in the upper one-half of the high school graduating class with a 2.8 GPA or better. The science and math prerequisites must be taken within the past five years prior to application.

Proof of completion of a CPR course is required prior to beginning CNT 1114 and must be current through either the American Heart Association Cardiopulmonary Resuscitation and Emergency Cardiac Care for Health Care Provider or the Red Cross Basic Life Support Course.

Registration and Sequence of Courses: This is a 24-month program consisting of 81 credits. During the first two semesters at RCTC, students will take general education courses as well as CNT courses. After that time all the coursework is at the Mayo Medical Center. Course sequences are specified on the Degree Program Sheet.

Program Completion: Those who complete the program will be awarded a Certificate of Completion by Mayo and an Associate in Applied Science Degree by RCTC.
CONSERVATION: FISHERIES AND WILDLIFE OPTION
Associate in Science Degree Program

I. General Education/Studies Requirements .................................................................................... 34 or 37 Credits
Courses must be selected from those approved to partially satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog course listings.

A. Written and Oral Communications ........................................................................... 7 cr
ENGL 1117 (or 1917) Reading & Writing Critically I, 4 cr
SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts ........................................................................................... 6 cr
From the following disciplines, 2 credits from at least 2 areas: Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre.

C. History and Social Sciences ......................................................................................... 6 cr
ECON 2214 Principles of Economics - Micro, 4 cr
From the disciplines of Anthropology, Geography, History, Political Science, Psychology, Sociology, 2 cr

D. Mathematics and Natural Sciences ................................................................ 15 or 18 cr
MATH 1127, 1128 or Calculus I & II, 10 cr
MATH 1113, 1119 Finite Math with College Algebra, Applied Calculus for Business and Economics, 7 cr
BIOL 1220 Concepts of Biology, 4 cr
BIOL 2100 Plant Biology, 4 cr

II. Professionally-related Requirements ................................................................................. 27 or 30 Credits

BIOL 2200 General Zoology 4 cr
CHEM 1127, 1128 General Inorganic Chemistry I & II 8 cr
PHYS 1117, 1118 or Introductory Physics I & II 10 cr
ESCI 1114, PHYS 1101 Physical Geology, Introductory Physics 7 cr
Professionally-related electives, (courses numbered 1000-level or above.) 5 or 11 cr

TOTAL ...................................................................................................................................................... 64 Credits

Additional Notes: The colleges to which most RCTC students transfer to continue their work in conservation for all three options are the University of Minnesota - St. Paul campus, and the University of Wisconsin at Stevens Point. Students planning to transfer to other institutions should consult with faculty advisors and counselors for assistance in planning their course of study.
CONSERVATION: FOREST RESOURCES, NATURAL RESOURCES & ENVIRONMENTAL STUDIES, RECREATIONAL RESOURCE MANAGEMENT, & URBAN FORESTRY OPTIONS
Associate in Science Degree Program

The Associate in Science degree in Conservation has three options: (1) Fisheries and Wildlife; (2) Wood & Paper Science; and (3) Forest Resources, Natural Resources & Environmental Studies, Recreational Resource Management and Urban Forestry.

I. General Education/Studies Requirements ........................................................................................................................................... 31 Credits
Courses must be selected from those approved to partially satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog course listings.

A. Written and Oral Communications ............................................................................................................................. 7 cr
   ENGL 1117 (or 1917) Reading & Writing Critically I, 4 cr
   SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts ..................................................................................................................................... 6 cr
   From the following disciplines, 2 credits from at least 2 areas: Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre.

C. History and Social Sciences ..................................................................................................................... 7 cr*
   ECON 2214 Principles of Economics - Micro, 4 cr
   SOC 1614 Introduction to Sociology, 3 cr

D. Mathematics and Natural Sciences ............................................................................................................. 11 cr
   MATH 1119 Applied Calculus for Businesses and Economics, 3 cr
   MATH 2208 Fundamentals of Statistics, 4 cr
   BIOL 1220 Concepts of Biology, 4 cr

II. Professionally-related Requirements .................................................................................................................. 33 Credits
   BIOL 2100 Plant Biology, 4 cr
   CHEM 1127, 1128 General Inorganic Chemistry I & II, 8 cr*
   PHYS 1101 Introductory Physics I, 3 cr
   ESCI 1114 Physical Geology, 4 cr
   Professionally-related Electives, (courses numbered 1000-level or above), 14 cr

TOTAL .................................................................................................................................................................... 64 Credits

Additional Notes: The colleges to which most RCTC students transfer to continue their work in conservation for all three options are the University of Minnesota – St. Paul campus, and the University of Wisconsin at Stevens Point. Students planning to transfer to other institutions should consult with faculty advisors and counselors for assistance in planning their course of study.

*Recreation, Resource Management requires CHEM 1117 instead of CHEM 1127 and 1128 and PSYC 2611.
*Urban Forestry requires POLS 1617, American Government.
CONSERVATION: WOOD & PAPER SCIENCE OPTION
Associate in Science Degree Program

The Associate in Science degree in Conservation has three options: (1) Fisheries and Wildlife; (2) Wood & Paper Science; and (3) Forest Resources, Natural Resources & Environmental Studies, Recreational Resource Management and Urban Forestry.

I. General Education/Studies Requirements ....................................................................................... 36 Credits

Courses must be selected from those approved to partially satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog course listings.

A. Written and Oral Communications ........................................................................... 7 cr

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<tr>
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<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
<td>3 cr</td>
</tr>
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</table>

B. Humanities and Fine Arts ........................................................................................... 6 cr

From the following disciplines, 2 credits from at least 2 areas: Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre.

C. History and Social Sciences ....................................................................................... 12 cr

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<td>ECON 2214</td>
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<td>ECON 2215</td>
<td>Principles of Economics – Macro</td>
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<tr>
<td>PSYC 2618</td>
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D. Mathematics and Natural Sciences ........................................................................ 11 cr*

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<th>Title</th>
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<tr>
<td>MATH 1119</td>
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<td>3 cr</td>
</tr>
<tr>
<td>CHEM 1127, 1128</td>
<td>General Inorganic Chemistry I &amp; II</td>
<td>8 cr</td>
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II. Professionally-related Requirements ..................................................................... 28 Credits

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<tr>
<td>BIOL 2100</td>
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<td>BIOL 1220</td>
<td>Concepts of Biology</td>
<td>4 cr</td>
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<td>MATH 2208</td>
<td>Fundamentals of Statistics</td>
<td>4 cr</td>
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<tr>
<td>PHYS 1117, 1118</td>
<td>Introductory Physics I &amp; II</td>
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<td>COMP 1150</td>
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<td>Professionally-related electives (courses numbered 1000-level or above.)</td>
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TOTAL ....................................................................................................................................................... 64 Credits

Additional Notes: The colleges to which most RCTC students transfer to continue their work in conservation for all three options are the University of Minnesota – St. Paul campus, and the University of Wisconsin at Stevens Point. Students planning to transfer to other institutions should consult with faculty advisors and counselors for assistance in planning their course of study.

*Forest Products Management Specialization – MATH 1127 and MATH 1128 (replaces MATH 1119)
*Paper Science and Engineering Specialization – MATH 1127, 1128, 2237, 2238, CHEM 2227, 2228
# DENTAL ASSISTANT
## Diploma Program

**Program Accreditation:** American Dental Association, Commission on Dental Accreditation, in compliance with the standards set forth by the ADA Council on Dental Education

## I. General Education/Studies Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<td>ENGL 1630</td>
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<tr>
<td>or ENGL 1117</td>
<td>Reading &amp; Writing Critically I</td>
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<tr>
<td>or ENGL 1917</td>
<td>Reading &amp; Writing Critically I: Honors</td>
<td>4 cr</td>
</tr>
<tr>
<td>PSYC 1611</td>
<td>Psychology of Adjustment</td>
<td>3 cr</td>
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**NOTE:** English and Psychology must be completed prior to clinical classes in second semester.

## II. Professional Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DA 1205</td>
<td>Introduction to Dental Assisting</td>
<td>1 cr</td>
</tr>
<tr>
<td>DA 1210</td>
<td>Dental Science I</td>
<td>3 cr</td>
</tr>
<tr>
<td>DA 1215</td>
<td>Dental Practice Management</td>
<td>2 cr</td>
</tr>
<tr>
<td>DA 1220</td>
<td>Chairside Assisting I</td>
<td>5 cr</td>
</tr>
<tr>
<td>DA 1225</td>
<td>Dental Infection Control</td>
<td>2 cr</td>
</tr>
<tr>
<td>DA 1230</td>
<td>Preventive Dentistry</td>
<td>2 cr</td>
</tr>
<tr>
<td>DA 1250</td>
<td>Dental Science II</td>
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<tr>
<td>DA 1255</td>
<td>Dental Materials</td>
<td>4 cr</td>
</tr>
<tr>
<td>DA 1260</td>
<td>Chairside Assisting II</td>
<td>4 cr</td>
</tr>
<tr>
<td>DA 1265*</td>
<td>Expanded Functions</td>
<td>7 cr</td>
</tr>
<tr>
<td>DS 1300</td>
<td>Dental Radiology</td>
<td>3 cr</td>
</tr>
<tr>
<td>DA 1280</td>
<td>Dental Assisting Internship</td>
<td>7 cr</td>
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</table>

**TOTAL** .......................................................... 42 Credits

*Prerequisite Course Requirement GSCL 1000, Community CPR/First Aid & Safety

**Purpose:** The Dental Assistant major is designed to provide the student with the technical knowledge, manual skills, clinical experiences, communication skills, and positive attitudes toward work required to make the graduate a valuable member of the dental health care profession. The Dental Assistant Program may be completed in one year as a full-time student, or in two years as a part-time student.

The dental assistant may assist the dentist at chairside, perform expanded functions and dental laboratory procedures, or act as a receptionist or an office manager. The program prepares the student to function in both general and specialty dental practices.

Clinical experience is obtained in the technically current dental clinic. The clinic has twelve operatories equipped for four-handed dentistry, a recirculatory/sterilization room, a darkroom for processing x-rays, and a complete dental laboratory. Patients come to the dental clinic for tooth polishing, fluoride treatments, dental x-rays, pit and fissure sealants and personal oral care instruction. A dentist is on staff to aid in the direct instruction and supervision of students, along with dentists from the community who give guest presentations. In the summer semester, students will further their clinical experience through three assigned internships in different dental offices in southeastern Minnesota.

Graduates of the Dental Assistant Program are eligible to take a national certification exam and a state registration exam to become a Certified and Registered Dental Assistant. Opportunities for employment include general or specialty dental practices, health clinics, dental schools, hospitals, and government agencies. Excellent opportunities for graduates to continue their education exist in schools offering dental hygiene, dental laboratory technician, and other dental programs.

— Continued on Next Page —
**DENTAL ASSISTANT**  
**Diploma Program — Continued**

**RECOMMENDED COURSE SEQUENCING:**

**ONE YEAR/FULL-TIME OPTION:**

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
<th>Summer Sessions</th>
</tr>
</thead>
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<tr>
<td><strong>FALL</strong></td>
<td><strong>SPRING</strong></td>
<td><strong>SUMMER</strong></td>
</tr>
<tr>
<td>DA 1205</td>
<td>DA 1250</td>
<td>DA 1280</td>
</tr>
<tr>
<td>1 cr</td>
<td>3 cr</td>
<td>7 cr</td>
</tr>
<tr>
<td>DA 1210</td>
<td>DA 1255</td>
<td></td>
</tr>
<tr>
<td>3 cr</td>
<td>4 cr</td>
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</tr>
<tr>
<td>DA 1215</td>
<td>DA 1260</td>
<td></td>
</tr>
<tr>
<td>2 cr</td>
<td>4 cr</td>
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<td>DA 1265</td>
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</tr>
<tr>
<td>5 cr</td>
<td>7 cr</td>
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</tr>
<tr>
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<td>DS 1300</td>
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<td>2 cr</td>
<td>3 cr</td>
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</tr>
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<tr>
<td>or ENGL 1117</td>
<td>4 cr</td>
<td></td>
</tr>
<tr>
<td>or ENGL 1917</td>
<td>3-4 cr</td>
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<tr>
<td>PSYC 1611</td>
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**TWO YEAR/PART-TIME OPTION:**

**First Year:**

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<th><strong>SUMMER</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 1205</td>
<td>DA 1250</td>
<td>DA 1280</td>
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<tr>
<td>1 cr</td>
<td>3 cr</td>
<td>7 cr</td>
</tr>
<tr>
<td>DA 1210</td>
<td>DA 1255</td>
<td></td>
</tr>
<tr>
<td>3 cr</td>
<td>4 cr</td>
<td></td>
</tr>
<tr>
<td>DA 1215</td>
<td>PSYC 1611</td>
<td></td>
</tr>
<tr>
<td>2 cr</td>
<td>3 cr</td>
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</tr>
<tr>
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<tr>
<td>3 cr</td>
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<tr>
<td>or ENGL 1117</td>
<td>4 cr</td>
<td></td>
</tr>
<tr>
<td>or ENGL 1917</td>
<td>3-4 cr</td>
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<tr>
<td>TOTAL 13 cr</td>
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**Second Year:**

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<th><strong>SUMMER</strong></th>
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</thead>
<tbody>
<tr>
<td>DA 1220</td>
<td>DA 1260</td>
<td>DA 1280</td>
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<tr>
<td>5 cr</td>
<td>4 cr</td>
<td>7 cr</td>
</tr>
<tr>
<td>DA 1225</td>
<td>DA 1265</td>
<td></td>
</tr>
<tr>
<td>2 cr</td>
<td>7 cr</td>
<td></td>
</tr>
<tr>
<td>DA 1230</td>
<td>DS 1300</td>
<td></td>
</tr>
<tr>
<td>2 cr</td>
<td>3 cr</td>
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<td>TOTAL 9 cr</td>
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**SPRING SEMESTER START**

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<td>3 cr</td>
<td></td>
</tr>
<tr>
<td>PSYC 1611</td>
<td>TOTAL 7 cr</td>
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<tr>
<td>3 cr</td>
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<tr>
<td>TOTAL 6 or 7 cr</td>
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</table>
DENTAL ASSISTANT – EXPANDED FUNCTIONS OPTION
Certificate Program

Program Accreditation:  Expanded Functions curriculum is approved by the Minnesota Board of Dentistry.

Professional Core .......................................................................................................................................................... 12 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Semester</th>
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<tbody>
<tr>
<td>DA 1225</td>
<td>Dental Infection Control</td>
<td>2 cr</td>
<td>Fall Semester</td>
</tr>
<tr>
<td>DA 1265</td>
<td>Expanded Functions</td>
<td>7 cr</td>
<td>Spring Semester</td>
</tr>
<tr>
<td>DS 1300</td>
<td>Dental Radiology</td>
<td>3 cr</td>
<td>Spring Semester</td>
</tr>
</tbody>
</table>

TOTAL: ..................................................................................................................................................................... 12 Credits

Purpose:
This certificate program focuses specifically on Minnesota Expanded Functions for Dental Assistants. Approved curriculum includes academic and laboratory/clinical experience in all Minnesota Dental Assistant Expanded Functions. For entry into this certificate program, the applicant must currently be a Certified Dental Assistant, certified by the Dental Assisting National Board, Inc. and hold a current CPR/First Aid Certificate from the American Red Cross. Upon successful completion of the certificate requirements, the student is eligible to take the Minnesota Registration Examination for Dental Assistants.

Clinical experience is obtained in the technically current dental clinic. The clinic has twelve operatories equipped for four-handed dentistry, a recirculation/sterilization room, a darkroom for processing x-rays, a dental reception area, and a complete dental laboratory. Patients come to the dental clinic for tooth polishing, fluoride treatments, dental x-rays, pit and fissure sealants and preventive oral care instruction. A dentist is on staff to aid in the direct instruction and supervision of students.

Prerequisites:
1. Currently a Certified Dental Assistant (Certified by the Dental Assisting National Board, Inc.)
2. Minimum of a “C” letter grade in DA 1225 Dental Infection Control, prior to enrolling in DA 1265, DS 1300.
3. Current certification in American Red Cross, Adult, Child, and Infant CPR, and American Red Cross First Aid.
4. Hepatitis B vaccine.
5. Physical exam.
6. Approved background check.
**Program Accreditation:** American Dental Association, Commission on Dental Accreditation

### I. General Education/Studies Requirements .......................................................................................32 Credits
**A. Written and Oral Communications .............................................................................. 4 cr**
- ENGL 1117 Reading & Writing Critically I, 4 cr
- or ENGL 1917 Reading & Writing Critically I: Honors, 4 cr

**B. Humanities and Fine Arts ........................................................................................... 3 cr**
- SPCH 1114 Fundamentals of Speech, 3 cr

**C. History and Social Sciences ......................................................................................... 6 cr**
- PSYC 1611 Psychology of Adjustment, 3 cr
- SOC 1114 Introduction to Sociology, 3 cr

**D. Mathematics and Natural Sciences .......................................................................... 19 cr**
- BIOL 1217 Anatomy and Physiology I, 4 cr
- BIOL 1218 Anatomy and Physiology II, 4 cr
- BIOL 2021 General Microbiology, 4 cr
- CHEM 1117 General Chemistry, 4 cr
- NUTR 1211 Principles of Nutrition, 3 cr

### II. Professional Core ........................................................................................................... 48 Credits
- DH 1512 Oral Anatomy 4 cr
- DH 1510 Principles of Dental Hygiene I 2 cr
- DH 1520 Principles of Dental Hygiene II 2 cr
- DH 1511 Dental Hygiene Practice I 3 cr
- DH 1521 Dental Hygiene Practice II 5 cr
- DS 1300 Dental Radiology 3 cr
- DH 1523 Oral Pathology 2 cr
- DH 1524 Periodontology 2 cr
- DH 2530 Principles of Dental Hygiene III 3 cr
- DH 2540 Principles of Dental Hygiene IV 3 cr
- DH 2531 Dental Hygiene Practice III 6 cr
- DH 2541 Dental Hygiene Practice IV 6 cr
- DH 2532 Pain Control 2 cr
- DH 2533 Dental Pharmacology 2 cr
- DH 2542 Community Dental Health

**TOTAL .......................................................................................................................................................80 Credits**

**Purpose:** The goal of the program is to provide academic and clinical educational opportunities for capable individuals to acquire the knowledge, skills, and attitudes necessary for the professional practice of dental hygiene. The program prepares individuals for a variety of career opportunities in private dental offices, schools, hospitals, clinics, and public health agencies. Members of the dental hygiene profession act as allied personnel to the dentist and make it possible for more complete preventive dental services to be provided to the public. The dental hygienist provides direct patient care and functions as an integral member of the dental team.

**COURSE SEQUENCE:**

**Year One**

<table>
<thead>
<tr>
<th>Summer Session</th>
<th>Fall Semester</th>
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<tbody>
<tr>
<td>CHEM 1117</td>
<td>DH 1512</td>
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<tr>
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<td>BIOL 1217</td>
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</table>

**Year Two**

<table>
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<td>BIOL 2021</td>
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<td>4 cr</td>
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<td>NUTR 1211</td>
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**Education For Life and Work**
## DENTAL HYGIENE
**Associate in Applied Science Degree Program — Continued**

<table>
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<tr>
<th>Year One</th>
<th>Year Two</th>
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<td><strong>Spring Semester</strong></td>
<td><strong>Spring Semester</strong></td>
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<tr>
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<td>2 cr</td>
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<td>3 cr</td>
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<td>15 cr</td>
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<td>PSYC 1611</td>
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</tr>
<tr>
<td>TOTAL</td>
<td>17 cr</td>
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</tbody>
</table>

**Registration and Sequence of Courses:** General education credits may be taken prior to entering the Dental Hygiene Program. The dental hygiene courses are a four semester sequence and must be taken without a break in registration.

**Program Completion:** Those who complete the program will be awarded an Associate in Applied Science Degree by RCTC. Graduates are eligible to take the licensure exams which are required in all 50 states for the practice of dental hygiene.

**Prerequisites to Application:**
1. Minimum overall GPA of 2.00
2. Raw science GPA of 2.25
   - Raw science GPA = Any and all earned or attempted grade points in BIOL 1217, 1218, 2021 and CHEM 1117 (or equivalents) times the number of credits divided by the total number of credits.
3. No less than 8 credits of basic sciences completed to include BIOL 1217, CHEM 1117.
4. All basic science courses must be completed within the past five years.
5. All program curriculum courses completed must be completed with a minimum grade of C. This is to include all transfer courses.
6. Application is valid for the current year only and must include an official copy of transcripts from high school and each institution of higher education attended. The application fee will only be assessed one time.
7. Application deadline is March 15.
8. Sixteen students will be admitted annually.

**Program Selection Process:**
1. Number of dental hygiene program basic science credits completed (with a continued minimum 2.25 raw science GPA) x 3 points per credit.
2. Number of dental hygiene program general education credits completed (with a continued minimum 2.00 GPA) x 1 point per credit.
3. Date of application for current academic year (beginning September 1).
4. If all criteria are equal and the date of application is the same, cumulative grade point average of dental hygiene program credits will be used as a tie breaker.
5. The selection process for admission will be completed by May 1.
6. Admission will be based on individual merit, without regard for race, creed, color, sex, age, marital status, national origin or physical handicap.

Although all of the above requirements are necessary for admittance, please be advised that having all the requirements does not imply acceptance into the dental hygiene program. The dental hygiene program receives many applications annually for the 16 available positions thus, admission is competitive.
DIGITAL ARTS: COMPUTER ART & DESIGN EMPHASIS
Digital Arts: Computer Art & Design Emphasis
Associate in Science Degree

I. General Education/Studies Requirements ........................................................................................................... 33 Credits

A. Written and Oral Communications .................................................................................................................. 7 cr
   ENGL 1117 Reading & Writing Critically I, 4 cr or
   ENGL 1917 Reading & Writing Critically I: Honors
   SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities & Fine Arts ................................................................................................................................. 14 cr
   ART 1111 Ancient Art, 3 cr
   ART 1112 Renaissance to Modern Art, 3 cr
   ART 1134 Drawing, 3 cr
   ART 1121 Design, 3 cr
   Plus 2 credits choice from English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater.

C. History & Social Sciences ............................................................................................................................... 6 cr
   A minimum of 3 credits from each of 2 areas:
   Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology

D. Mathematics & Natural Sciences .................................................................................................................. 6 cr
   From the following disciplines, with a minimum of 3 credits from each of 2 areas:
   Biology, Chemistry, Earth Science, Math, Physical Science, Physics

II. Professionally-related Digital Arts Requirements and Electives ........................................................................ 30 Credits
   Required:
   ART 1120 Computer as a Creative Tool 3 cr
   ART 1124 Graphic Design I 3 cr or
   ART 1130 Computer Graphics I 3 cr
   #ART 2224 Graphic Design II 3 cr or
   #ART 2230 Computer Graphics II 3 cr
   DIGI 1117 Introduction to Digital Arts 3 cr
   DIGI 2217 Digital Projects I 3 cr
   Electives:
   AIS 1510 Exploring the Internet 3 cr
   AIS 2350 Microcomputer Business Applications 3 cr or
   COMP 1112 Introduction to Computers 3 cr
   ART 1131 Presentation Graphics 3 cr
   ART 1232 Designing for the Internet 3 cr
   ART 2237 Animation & 3D Modeling 3 cr
   DIGI 2218 Digital Projects II 3 cr
   DIGI 2240 Intro to Multimedia 3 cr
   DIGI 2241 Intermediate Multimedia 3 cr
   DIGI 2247 Internship 1-3 cr
   ART 1124 Graphics Design I 3 cr or
   ART 1130 Computer Graphics 3 cr
   #ART 2224 Graphic Design II 3 cr or
   #ART 2230 Computer Graphics II 3 cr

III. Health and Physical Education Requirements ................................................................................................. 1 Credit
   Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).
   TOTAL .........................................................................................................................................................64 Credits

Fall 1    Spring 1    Fall 2    Spring 2
ART 1121  3       ENGL 1117 or 1917  4       ART 1111  3       DIGI 2217  3
ART 1124 or 1130  ART 2224 or 2230  3       HUM Elective  3       DIGI Elective  3
ART 1134  3       DIGI Elective  3       DIGI Elective  3       ART 1112  3
DIGI 1117  3       SPCH 1114  3       HIST/SS Elective  3       SCI/MATH Elective  3
ART 1120  3       SCI/MATH  3       DIGI Elective  3       DIGI Elective  3
HIST/SS Elective  3     HLTH/PHED Elective  1

Total  17 Total  16 Total  16 Total  16
# Programs of Study

## DIGITAL ARTS: COMPUTER GRAPHICS

### Certificate Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ART 1120</td>
<td>Computer As Creative Tool</td>
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</tr>
<tr>
<td>ART 1130</td>
<td>Computer Graphics I</td>
<td>3 cr</td>
</tr>
<tr>
<td>ART 1134</td>
<td>Drawing I</td>
<td>3 cr</td>
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<tr>
<td>ART 2230</td>
<td>Computer Graphics II</td>
<td>3 cr</td>
</tr>
<tr>
<td>ART 2237</td>
<td>Animation and 3D Modeling</td>
<td>3 cr</td>
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<tr>
<td>DIGI 2240</td>
<td>Intro to Multimedia</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2241</td>
<td>Intermediate Multimedia</td>
<td>3 cr</td>
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**TOTAL**: 24 Credits

## DIGITAL ARTS: GRAPHIC DESIGN

### Certificate Program

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<td>ART 1120</td>
<td>Computer As Creative Tool</td>
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<tr>
<td>ART 1121</td>
<td>Basic Design</td>
<td>3 cr</td>
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<tr>
<td>ART 1124</td>
<td>Graphics Design I</td>
<td>3 cr</td>
</tr>
<tr>
<td>ART 1131</td>
<td>Presentation Graphics</td>
<td>3 cr</td>
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<tr>
<td>ART 2224</td>
<td>Graphics Design II</td>
<td>3 cr</td>
</tr>
<tr>
<td>ART 2232</td>
<td>Designing for the Internet</td>
<td>3 cr</td>
</tr>
<tr>
<td>ART 2240</td>
<td>Introduction to Multimedia</td>
<td>3 cr</td>
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**TOTAL**: 24 Credits
# DIGITAL ARTS: MULTIMEDIA EMPHASIS
## Associate in Science Degree

### I. General Education/Studies Requirements

<table>
<thead>
<tr>
<th>Section</th>
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<tbody>
<tr>
<td><strong>A. Written &amp; Oral Communications</strong></td>
<td>8 cr</td>
</tr>
<tr>
<td>ENGL 1117 Reading &amp; Writing Critically I, 4 cr or</td>
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<tr>
<td>ENGL 1917 Reading &amp; Writing Critically I: Honors</td>
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<tr>
<td>ENGL 1118 Reading &amp; Writing Critically II, 4 cr or</td>
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</tr>
<tr>
<td>ENGL 1918 Reading &amp; Writing Critically II: Honors</td>
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</tr>
<tr>
<td><strong>B. Humanities &amp; Fine Arts</strong></td>
<td>9 cr</td>
</tr>
<tr>
<td>ART 1121 Graphic Design I, 3 cr</td>
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</tr>
<tr>
<td>ART 1130 Computer Graphics I, 3 cr</td>
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<tr>
<td>SPCH 1130 Interpersonal Speech, 3 cr</td>
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<tr>
<td><strong>C. History and Social Science</strong></td>
<td>6 cr</td>
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<tr>
<td>Minimum 3 credits from each of 2 areas: Anthropology, Economics, History, Political Science, Psychology, Sociology</td>
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<tr>
<td><strong>D. Mathematics and Natural Sciences</strong></td>
<td>6 cr</td>
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<tr>
<td>Minimum 3 credits from each of 2 areas: Biology, Chemistry, Earth Science, Mathematics, Physical Science, Physics</td>
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### II. Professionally-related Required Courses

<table>
<thead>
<tr>
<th>Required:</th>
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<tbody>
<tr>
<td>DIGI 1117 Introduction to Digital Arts</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2211 Digital Video Composition I</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2212 Digital Video Composition II</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2217 Digital Projects</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2240 Intro to Multimedia</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2241 Intermediate Multimedia</td>
<td>3 cr</td>
</tr>
<tr>
<td>MUSC 1621 Digital Audio Production I</td>
<td>2 cr</td>
</tr>
<tr>
<td><strong>Electives:</strong></td>
<td></td>
</tr>
<tr>
<td>AIS 1510 Exploring the Internet</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2350 Microcomputer Business Applications</td>
<td>3 cr or</td>
</tr>
<tr>
<td>COMP 1112 Intro to Computers</td>
<td>3 cr</td>
</tr>
<tr>
<td>ART 1232 Designing for the Internet</td>
<td>3 cr</td>
</tr>
<tr>
<td>ART 2237 Animation and 3D Modeling</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 1127 Business Audio Production</td>
<td>2 cr</td>
</tr>
<tr>
<td>DIGI 2218 Digital Projects II</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2247 Internship</td>
<td>1-3 cr</td>
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### III. Health and Physical Education Requirements

<table>
<thead>
<tr>
<th>Credit Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199)</td>
<td>4 cr</td>
</tr>
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</table>

**TOTAL** 64 Credits

### Recommended Course Sequence

<table>
<thead>
<tr>
<th>Fall 1</th>
<th>Spring 1</th>
<th>Fall 2</th>
<th>Spring 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIGI 1117</td>
<td>3</td>
<td>DIGI 2212</td>
<td>3</td>
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<tr>
<td>ENGL 1117</td>
<td>4</td>
<td>ENGL 1118</td>
<td>4</td>
</tr>
<tr>
<td>DIGI 2211</td>
<td>3</td>
<td>ART 1121</td>
<td>3</td>
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<tr>
<td>PHED 1100</td>
<td>4</td>
<td>ART 1130</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 1621</td>
<td>2</td>
<td>MATH/SCI</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td><strong>Total</strong></td>
<td>16</td>
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# Programs of Study

## DIGITAL ARTS: MULTIMEDIA TECHNOLOGY

**Certificate Program**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 1124</td>
<td>Graphic Design I</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 1117</td>
<td>Introduction to Digital Arts</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2211</td>
<td>Digital Video Composition I</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2212</td>
<td>Digital Video Composition II</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2240</td>
<td>Introduction to Multimedia</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2241</td>
<td>Intermediate Multimedia</td>
<td>3 cr</td>
</tr>
<tr>
<td>DIGI 2217 or 2247</td>
<td>Digital Projects I or Internship (1-3cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>MUSC 1621</td>
<td>Audio Production I</td>
<td>2 cr</td>
</tr>
</tbody>
</table>

**TOTAL** .................................................................................................................. 18-20 Credits
DIGITAL ARTS: MUSIC TECHNOLOGY EMPHASIS
Associate in Science Degree

I. General Education/Studies Requirements ................................................................................................................. 28 Credits

A. Written and Oral Communication ............................................................................................................................. 7 cr
   ENGL 1117 Reading & Writing Critically I, 4 cr or
   ENGL 1917 Reading & Writing Critically: Honors
   SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts ............................................................................................................................................. 9 cr
   Minimum 4 credits: MUSC 1401, 1402, or 1450, 1460, 4 cr
   MUSC 1501 Music Theory I, 3 cr
   Minimum 2 credits: Art, English Literature, Foreign Language, Humanities, Journalism, Philosophy, Speech/Theatre

C. History and Social Sciences ........................................................................................................................................ 6 cr
   Minimum 3 credits from each of 2 areas:
   Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology

D. Mathematics and Natural Sciences .......................................................................................................................... 6 cr
   Minimum of 6 credits: Biology, Chemistry, Earth Science, Math, Physical Science, Physics

II. Professionally-related Course Requirements ............................................................................................................. 33 Credits

   Required:
   DIGI 1117 Introduction to Digital Arts 3 cr
   DIGI 2247 Internship 1-3 cr
   MUSC 1502 Music Theory II 3 cr
   MUSC 1521 Sight-Singing/Ear Training I 2 cr
   MUSC 1522 Sight-Singing/Ear Training II 2 cr
   MUSC 1601 Electronic Music Synthesis I 2 cr
   MUSC 1621 Digital Audio Production I 2 cr
   MUSC 1622 Digital Audio Production II 2 cr
   MUSC 2501 Music Theory III 3 cr
   MUSC 2502 Music Theory IV 3 cr

   Electives:
   AIS 2350 Microcomputer Business Applications 3 cr or
   COMP 1112 Intro to Computers 3 cr
   DIGI 1127 Business Audio Production 2 cr
   DIGI 2217 Digital Projects I 3 cr
   DIGI 2218 Digital Projects II 3 cr
   MUSC 1201 History and Survey of Music Literature I 3 cr or
   MUSC 1221 Popular Music in the United States 3 cr
   MUSC 1202 History and Survey of Music Literature II 3 cr
   MUSC 1602 Electronic Music Synthesis II 2 cr

III. Health and Physical Education Requirements ......................................................................................................... 3 Credits
   Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

TOTAL ...........................................................................................................................................................................64 Credits
### DIGITAL ARTS: MUSIC TECHNOLOGY Certificate Program

**Core Requirements**  
28 Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DIGI 1117</td>
<td>Introduction to Digital Arts</td>
<td>3 cr</td>
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<tr>
<td>MUSC 1201</td>
<td>Music Literature I, or</td>
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<tr>
<td>MUSC 1202</td>
<td>Music Literature II, or</td>
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</tr>
<tr>
<td>MUSC 1221</td>
<td>Popular Music in the United States</td>
<td>3 cr</td>
</tr>
<tr>
<td>MUSC 1401</td>
<td>Class Piano I</td>
<td>2 cr</td>
</tr>
<tr>
<td>MUSC 1460</td>
<td>Applied Instrumental-Piano</td>
<td>2 cr</td>
</tr>
<tr>
<td>MUSC 1421</td>
<td>Class Voice, or</td>
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</tr>
<tr>
<td>MUSC 1450</td>
<td>Applied Music-Vocal</td>
<td>2 cr</td>
</tr>
<tr>
<td>MUSC 1501</td>
<td>Music Theory I</td>
<td>3 cr</td>
</tr>
<tr>
<td>MUSC 1502</td>
<td>Music Theory II</td>
<td>3 cr</td>
</tr>
<tr>
<td>MUSC 1521</td>
<td>Sight-Singing/Ear Training-I</td>
<td>2 cr</td>
</tr>
<tr>
<td>MUSC 1522</td>
<td>Sight-Singing/Ear Training-II</td>
<td>2 cr</td>
</tr>
<tr>
<td>MUSC 1601</td>
<td>Electronic Music Synthesis I</td>
<td>2 cr</td>
</tr>
<tr>
<td>MUSC 1621</td>
<td>Audio Production I</td>
<td>2 cr</td>
</tr>
<tr>
<td>MUSC 1622</td>
<td>Audio Production II</td>
<td>2 cr</td>
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**TOTAL**  
28 Credits
ELECTRONICS ENGINEERING TECHNOLOGY
Associate in Applied Science Degree Program

I. General Education/Studies Requirements ....................................................................................... 28 Credits
   A. Written and Oral Communications ...................................................................................... 4 credits
      ENGL 1117 or ENGL 1917  Reading & Writing Critically I, 4 cr.
   B. Humanities and Fine Arts ...................................................................................................... 3 credits
      SPCH 1114  Fundamentals of Speech, 3 cr.
   C. Mathematics and Natural Science .................................................................................. 18 credits
      MATH 1101  Math for Technology, 1 cr.
      MATH 1102  College Math, 4 cr.
      MATH 1104  College Calculus for Technology Programs, 5 cr.
      PHYS 1107  Technical Physics I, 4 cr.
      PHYS 1108  Technical Physics II, 4 cr.
   D. History and Social Sciences .................................................................................................. 3 credits
      Electives from Anthropology, Geography, History,
      Political Science, Psychology, Sociology

II. Professionally-related Requirements ......................................................................................... 28 Credits
   ELEC 1005  Electricity I 4 cr
   ELEC 1010  Electricity II 4 cr
   ELEC 1015  Electronics I 4 cr
   ELEC 1025  Digital I 4 cr
   ELEC 2005  Advanced Electricity Circuits 2 cr
   ELEC 2010  Advanced Electronics 2 cr
   ELEC 2020  Electronic Design 4 cr
   ELEC 2025  Microprocessors I 4 cr

III. Electronic Electives .................................................................................................................. 10 Credits
   ELEC 1020  Electronics II 4 cr
   ELEC 1030  Technical DOS 2 cr
   ELEC 1035  Technical Windows 2 cr
   ELEC 1040  Technical Works 2 cr
   ELEC 1045  Programming Applications I 3 cr
   ELEC 1050  Schematic Capture 2 cr
   ELEC 1055  Electronics Shop 1 cr
   ELEC 1060  Quality Soldering 2 cr
   ELEC 2015  Digital II 4 cr
   ELEC 2030  Microprocessors II 4 cr
   ELEC 2035  Microprocessors III 4 cr
   ELEC 2040  Networking concepts 3 cr
   ELEC 2045  Programming Applications II 3 cr
   ELEC 2050  Programmable Logic Controller 2 cr

TOTAL ....................................................................................................................................................... 66 Credits

ELECTRONICS ENGINEERING TECHNOLOGY COURSE SEQUENCE - LENGTH: 18 Months

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<th>Fall</th>
<th>Spring</th>
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<td>PHYS 1107</td>
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<td>ELEC 1015</td>
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ADDITIONAL NOTES:
Purpose: This program has been designed to prepare graduates to serve as electronic engineering technicians working
directly with design, test, research and development in industry. This program also provides the opportunity for the student
to transfer to a four-year college or university and complete a Bachelor’s degree in Electronics Engineering Technology. The
two-year program achieves a balance between fundamental theory and practical applications of theory as related to electronics.
## ELECTRONICS TECHNICIAN
### Diploma Program

### I. General Education/Studies Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tr>
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**A. Mathematics and Natural Sciences**

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<th>Course Title</th>
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<tr>
<td>MATH 1101</td>
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<tr>
<td>MATH 1102</td>
<td>College Math</td>
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</table>

**B. Electives**

Electives must come from two of three distributions: Humanities and Fine Arts, History and Social Sciences, Written and Oral Communications.

### II. Professional Core

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>ELEC 1005</td>
<td>Electricity I</td>
<td>4 cr</td>
</tr>
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<td>ELEC 1010</td>
<td>Electricity II</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 1015</td>
<td>Electronics I</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 1020</td>
<td>Electronics II</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 1025</td>
<td>Digital I</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 2015</td>
<td>Digital II</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 2025</td>
<td>Microprocessors I</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 2035</td>
<td>Microprocessors III</td>
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<tr>
<td>ELEC 2020</td>
<td>Electronic Design</td>
<td>4 cr</td>
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### III. Technical Electives

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<tbody>
<tr>
<td>ELEC 2005</td>
<td>Advanced Electricity Circuits</td>
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<tr>
<td>ELEC 2010</td>
<td>Advanced Electronics Circuits</td>
<td>2 cr</td>
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<tr>
<td>ELEC 1055</td>
<td>Electronics Shop</td>
<td>1 cr</td>
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<tr>
<td>ELEC 2055</td>
<td>Internship</td>
<td>2 cr</td>
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<tr>
<td>ELEC 2030</td>
<td>Microprocessors II</td>
<td>2 cr</td>
</tr>
<tr>
<td>ELEC 2040</td>
<td>Networking Essentials</td>
<td>2 cr</td>
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<tr>
<td>ELEC 1045</td>
<td>Programming Applications I</td>
<td>3 cr</td>
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<tr>
<td>ELEC 2045</td>
<td>Programming Applications II</td>
<td>3 cr</td>
</tr>
<tr>
<td>ELEC 2050</td>
<td>Programmable Logic Controllers</td>
<td>2 cr</td>
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<tr>
<td>ELEC 1060</td>
<td>Quality Soldering</td>
<td>2 cr</td>
</tr>
<tr>
<td>ELEC 1050</td>
<td>Schematic Capture</td>
<td>2 cr</td>
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<tr>
<td>ELEC 1030</td>
<td>Technical DOS</td>
<td>2 cr</td>
</tr>
<tr>
<td>ELEC 1035</td>
<td>Technical Windows</td>
<td>2 cr</td>
</tr>
<tr>
<td>ELEC 1040</td>
<td>Technical Works</td>
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**TOTAL**

64 Credits

### Course Sequence – Length: 18 months

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<tr>
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<th>First Spring Semester</th>
<th>Second Fall Semester</th>
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<td>MATH 1101 1</td>
<td>ELEC 1010 4</td>
<td>ELEC 1015 4</td>
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<td>ELEC 1060 2</td>
<td>MATH 1102 4</td>
<td>ELEC 2015 4</td>
<td>ELEC 1020 4</td>
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<td>ELEC 1035 2</td>
<td>ELEC 1005 4</td>
<td>ELEC 2025 4</td>
<td>ELEC 2035 3</td>
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<tr>
<td>ELEC 1040 2</td>
<td>ELEC 1025 4</td>
<td>ELEC 2050 2</td>
<td>ELEC 2020 4</td>
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<td>ELEC 1045 3</td>
<td>ELEC 2040 3</td>
<td>ELEC 2055 2</td>
<td>ELEC 2030 2</td>
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<tr>
<td>ELEC 1050 2</td>
<td>ELEC 1050 2</td>
<td>ELEC 2043 3</td>
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</table>

**Purpose:** The Electronics Technician major is designed to prepare students for careers in the installation and repair of computerized electronic equipment and a variety of other digital equipment. Instruction includes theory and lab practice in DC/AC electricity, semi-conductors, analog technology, digital technology, microprocessor technology, drafting, and math. About one-half of the instruction time is spent in the electronics lab performing experiments. Job opportunities exist with manufacturers of electronic components, service centers, and field engineering. Graduates typically start as entry level technicians. With further education and/or work experience, they can become a field engineer, lead technician, systems engineer, or supervisor/manager.
HEALTH UNIT COORDINATOR
Certificate Program

I. General Education/Studies Requirements ....................................................................................... 4 or 5 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GSCL 1676</td>
<td>Computer Basics</td>
<td>1 cr</td>
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<tr>
<td>ENGL 1630</td>
<td>Applied College English</td>
<td>3 cr</td>
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<tr>
<td>or ENGL 1117</td>
<td>Reading and Writing Critically I</td>
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II. Professional Core ........................................................................................................... 18 Credits

<table>
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<tbody>
<tr>
<td>HUC 1510</td>
<td>Introduction to Health Unit Coordinating</td>
<td>3 cr</td>
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<tr>
<td>HUC 1515</td>
<td>Station Procedures I</td>
<td>3 cr</td>
</tr>
<tr>
<td>HUC 1516</td>
<td>Station Procedures II</td>
<td>3 cr</td>
</tr>
<tr>
<td>HUC 1519</td>
<td>HUC Communications and Professional Issues</td>
<td>3 cr</td>
</tr>
<tr>
<td>HUC 1524</td>
<td>Intro to Medications for the Health Unit Coordinator</td>
<td>2 cr</td>
</tr>
<tr>
<td>HUC 1529</td>
<td>Health Unit Coordinator Internship</td>
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III. Other ...................................................................................................................... 3 Credits

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<tr>
<td>AIS 1600</td>
<td>Introduction to Medical Terminology</td>
<td>2 cr</td>
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TOTAL ............................................................................................................................................. 25 or 26 Credits (depending on English choice)

PROGRAM SEQUENCE

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<th>Semester II</th>
<th>Any Semester</th>
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<tr>
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<td>HUC 1519</td>
<td>ENGL 1630</td>
</tr>
<tr>
<td>3 cr</td>
<td>3 cr</td>
<td>3 cr</td>
</tr>
<tr>
<td>HUC 1515</td>
<td>HUC 1516</td>
<td>or ENGL 1117</td>
</tr>
<tr>
<td>3 cr</td>
<td>3 cr</td>
<td>4 cr</td>
</tr>
<tr>
<td>HUC 1524</td>
<td>HUC 1529</td>
<td>AIS 1020</td>
</tr>
<tr>
<td>2 cr</td>
<td>4 cr</td>
<td>1 cr</td>
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</tr>
<tr>
<td>8 cr</td>
<td>10 cr</td>
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<td>TOTAL</td>
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<td></td>
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<td>7 or 8 cr</td>
</tr>
</tbody>
</table>

PURPOSE: The Health Unit Coordinator major is designed to prepare students for careers in health care facilities which require the performance of a variety of office and communication skills. These duties include making special arrangements to meet client needs, scheduling appointments and tests according to doctors’ orders, monitoring and ordering supplies, and transcribing doctors’ orders to charts and other communication devices. Communicating effectively by telephone and in person with clients, visitors, and facility staff is an important part of the job. Employment may be found in hospitals, nursing homes, clinics, and in other health care facilities.
### HORTICULTURE TECHNOLOGY

**FLORICULTURE/GARDEN CENTER OPTION**

**Associate of Applied Science Degree Program**

#### I. General Education/Studies Requirements

- **A. Written and Oral Communication** 3 cr
- **B. Humanities and Fine Arts** 3 cr
- **C. Mathematics and Natural Sciences** 3 cr
- **D. History and Social Sciences** 3 cr
- **E. Electives in any of the above disciplines** 8 cr

**TOTAL:** 20 Credits

#### II. Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HORT 1310</td>
<td>Soil Science</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 1323</td>
<td>Introduction to Horticulture</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 1315</td>
<td>Plant Materials I-Woody Plants</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 1318</td>
<td>Introduction to Turfgrass Mgmt</td>
<td>2 cr</td>
</tr>
<tr>
<td>HORT 2331</td>
<td>Greenhouse Operations &amp; Mgmt</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 1316</td>
<td>Applied Plant Biology for Horticulture Careers</td>
<td>2 cr</td>
</tr>
<tr>
<td>HORT 2338</td>
<td>Landscape Design I</td>
<td>2 cr</td>
</tr>
<tr>
<td>HORT 1320</td>
<td>Plant Materials II-Herbaceous Plants</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 2330</td>
<td>Plant Propagation</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 2350</td>
<td>Integrated Plant/Pest Management</td>
<td>2 cr</td>
</tr>
<tr>
<td>HORT 2348</td>
<td>Horticulture Business Management</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 2399</td>
<td>Horticulture Seminar</td>
<td>1 cr</td>
</tr>
<tr>
<td>HTFL 1311</td>
<td>Basic Floral Arrangement/Design</td>
<td>2 cr</td>
</tr>
<tr>
<td>HTFL 1321</td>
<td>Advanced Floral Design</td>
<td>2 cr</td>
</tr>
<tr>
<td>HTFL 2341</td>
<td>Greenhouse Crop Production</td>
<td>4 cr</td>
</tr>
<tr>
<td>HTFL 2342</td>
<td>Interior Plants and Plantscaping</td>
<td>3 cr</td>
</tr>
<tr>
<td>HTFL 2302</td>
<td>Floriculture/Garden Center Internship*</td>
<td>2 cr</td>
</tr>
<tr>
<td>HTFL 2304</td>
<td>Floriculture/Garden Center Internship*</td>
<td>4 cr</td>
</tr>
</tbody>
</table>

* 4 credits Internship required

**TOTAL:** 45 Credits

#### III. Technical Electives

Any course prefixed HTLS, HORT 2301, HORT 2302 Directed Study

**TOTAL:** 2 Credits

**TOTAL:** 67 Credits

---

**COURSE SEQUENCE**

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<thead>
<tr>
<th>Year 1/1st Semester</th>
<th>Year 1/2nd Semester</th>
<th>Year 2/1st Semester</th>
<th>Year 2/2nd Semester</th>
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</thead>
<tbody>
<tr>
<td>HORT 1310</td>
<td>HORT 1323</td>
<td>HORT 2331</td>
<td>HTFL 2341</td>
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<td>HORT 1316</td>
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<td>HORT 1318</td>
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</tr>
<tr>
<td>HTFL 1311</td>
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**ADDITIONAL REQUIREMENTS:** HTFL 2302/2304 – Floriculture/Garden Center Internship (4 cr.); Technical Electives (from HTLS Courses or Directed Study 2301/2302) (2 cr.); General Education/General Studies: Diploma (8 cr.); A.A.S. (20 cr.)*

**GENERAL EDUCATION REQUIREMENTS:** Diploma – 8 credits to be selected from Communications; Humanities and Fine Arts; History and Social Sciences; Math or Natural Sciences. A.A.S. Degree – 20 credits – Written and Oral Communications (3 cr.); Humanities and Fine Arts (3 cr.); Mathematics or Natural Sciences (3 cr.); History and Social Sciences (3 cr.); Electives in any of the above listed A.A.S. Degree disciplines (8 cr.).

**PURPOSE:** The Horticulture Technology Careers program offers two major options: Floriculture/Garden Center Technician and Landscape, Golf Course, Grounds Maintenance Technician. The Diploma or A.A.S. is available in each major.

The Horticulture Technology curriculum provides students with the general education and technical skills to meet the demand for employment opportunities in Landscaping, Golf Course & Grounds Maintenance, as well as in Floriculture and Garden Center businesses. Well trained personnel are needed to meet the customer demands for horticulture goods and services. Today’s customers of horticulture products and services are more knowledgeable and demanding. They seek quality products and numerous services. These demands are the basis of employment opportunities in Horticulture Technology Careers. Specialization and departmentalization have created an increased need for skillfully trained personnel. Many employment opportunities in horticulture allow for advancement to supervisory and managerial positions. Businesses of horticulture products or services require skilled employees and managers to be successful. Upon graduation, depending on the curriculum option, a student could perform in the following occupational areas: floral designer, grower, shop manager, garden center manager, technician, salesperson, greenhouse owner/operator, technician; horticulture equipment/supplies sales; public recreation grounds maintenance technician; golf course maintenance; grounds maintenance owner/operator; lawn care/landscape maintenance owner/operator; landscape construction, design, sales, equipment/materials sales; nursery field supervisor, technician; nursery/garden center owner/operator; turf and sod grower, retailer.
# HORTICULTURE TECHNOLOGY
## FLORICULTURE/GARDEN CENTER OPTION
### Diploma Program

#### I. General Education/Studies Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
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#### II. Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HORT 1310</td>
<td>Soil Science</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 1323</td>
<td>Introduction to Horticulture</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 1315</td>
<td>Plant Materials I-Woody Plants</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 1318</td>
<td>Introduction to Turfgrass Mgmt</td>
<td>2 cr</td>
</tr>
<tr>
<td>HORT 2331</td>
<td>Greenhouse Operations &amp; Mgmt</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 1316</td>
<td>Applied Plant Biology for Horticulture Careers</td>
<td>2 cr</td>
</tr>
<tr>
<td>HORT 2338</td>
<td>Landscape Design I</td>
<td>2 cr</td>
</tr>
<tr>
<td>HORT 1320</td>
<td>Plant Materials II-Herbaceous Plants</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 2330</td>
<td>Plant Propagation</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 2350</td>
<td>Integrated Plant/Pest Management</td>
<td>2 cr</td>
</tr>
<tr>
<td>HORT 2348</td>
<td>Horticulture Business Management</td>
<td>3 cr</td>
</tr>
<tr>
<td>HORT 2399</td>
<td>Horticulture Seminar</td>
<td>1 cr</td>
</tr>
<tr>
<td>HTFL 1311</td>
<td>Basic Floral Arrangement/Design</td>
<td>2 cr</td>
</tr>
<tr>
<td>HTFL 1321</td>
<td>Advanced Floral Design</td>
<td>2 cr</td>
</tr>
<tr>
<td>HTFL 2341</td>
<td>Greenhouse Crop Production</td>
<td>4 cr</td>
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<tr>
<td>HTFL 2342</td>
<td>Interior Plants and Plantscaping</td>
<td>3 cr</td>
</tr>
<tr>
<td>HTFL 2302</td>
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<td>2 cr</td>
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<tr>
<td>HTFL 2304</td>
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* 4 credits Internship required

#### III. Technical Electives

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<th>Course Code</th>
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**TOTAL**: 55 Credits

### COURSE SEQUENCE

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<td>HORT 1316</td>
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<td>HORT 1315</td>
<td>HORT 2350</td>
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<td>HORT 2399</td>
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<td>HORT 1318</td>
<td>HTFL 1321</td>
<td>HORT 2348</td>
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<tr>
<td>HORT 1311</td>
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**ADDITIONAL REQUIREMENTS:**
- HTFL 2302/2304 – Floriculture/Garden Center Internship (4 cr.); Technical Electives (from HTLS Courses or Directed Study 2301/2302) (2 cr.); General Education/General Studies: Diploma (8 cr.); A.A.S. (20 cr.) *

**GENERAL EDUCATION REQUIREMENTS:**
- **Diploma – 8 credits** to be selected from Communications; Humanities and Fine Arts; History and Social Sciences; Math or Natural Sciences.  
- **A.A.S. Degree – 20 credits** – Written and Oral Communications (3 cr.); Humanities and Fine Arts (3 cr.); Mathematics or Natural Sciences (3 cr.); History and Social Sciences (3 cr.); Electives in any of the above listed A.A.S. Degree disciplines (8 cr.).

**PURPOSE:** The Horticulture Technology Careers program offers two major options: Floriculture/Garden Center Technician and Landscape, Golf Course, Grounds Maintenance Technician. The Diploma or A.A.S. is available in each major.

The Horticulture Technology curriculum provides students with the general education and technical skills to meet the demand for employment opportunities in Landscaping, Golf Course & Grounds Maintenance, as well as in Floriculture and Garden Center businesses. Well trained personnel are needed to meet the customer demands for horticulture goods and services. Today’s customers of horticulture products and services are more knowledgeable and demanding. They seek quality products and numerous services. These demands are the basis of employment opportunities in Horticulture Technology Careers. Specialization and departmentalization have created an increased need for skillfully trained personnel. Many employment opportunities in horticulture allow for advancement to supervisory and managerial positions. Businesses of horticulture products or services require skilled employees and managers to be successful. Upon graduation, depending on the curriculum option, a student could perform in the following occupational areas: floral designer, grower, shop manager, garden center manager, technician, salesperson, greenhouse owner/operator, technician; horticulture equipment/supplies sales; public recreation grounds maintenance technician; golf course maintenance; grounds maintenance owner/operator; lawn care/landscape maintenance owner/operator; landscape construction, design, sales, equipment/materials sales; nursery field supervisor, technician; nursery/garden center owner/operator; turf and sod grower, retailer.
Programs of Study

HORTICULTURE TECHNOLOGY
LANDSCAPE, GOLF COURSE & GROUNDS MAINTENANCE OPTION
Associate of Applied Science Degree Program

I. General Education/Studies Requirements ....................................................................................... 20 Credits
   A. Written and Oral Communication 3 cr
   B. Humanities and Fine Arts 3 cr
   C. Mathematics and Natural Sciences 3 cr
   D. History and Social Sciences 3 cr
   E. Electives in any of the above disciplines 8 cr

II. Core Requirements ........................................................................................................... 47 Credits
   HORT 1310 Soil Science 3 cr
   HORT 1323 Introduction to Horticulture 3 cr
   HORT 1315 Plant Materials I-Woody Plants 3 cr
   HORT 1318 Introduction to Turfgrass Mgmt 2 cr
   HORT 2331 Greenhouse Operations & Mgmt 3 cr
   HORT 1316 Applied Plant Biology for Horticulture Careers 2 cr
   HORT 2338 Landscape Design I 2 cr
   HORT 1320 Plant Materials II-Herbaceous Plants 3 cr
   HORT 2330 Plant Propagation 3 cr
   HORT 2350 Integrated Plant/Pest Management 2 cr
   HORT 2348 Horticulture Business Management 3 cr
   HORT 2399 Horticulture Seminar 1 cr
   HTLS 1322 Turf and Grounds Management 4 cr
   HTLS 2347 Landscape Design II 2 cr
   HTLS 2343 Landscape Installation/Construction 4 cr
   HTLS 2345 Golf Course Field Operations 3 cr
   HTLS 2302 Landscape, Golf Course & Grounds Main. Internship* 2 cr
   HTLS 2304 Landscape, Golf Course & Grounds Main. Internship * 4 cr
   * 4 credits Internship required

III. Technical Electives ........................................................................................................ 2 Credits
   Any course prefixed HTLS
   HORT 2301, HORT 2302 Directed Study

TOTAL ...................................................................................................................................................... 69 Credits

COURSE SEQUENCE

<table>
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<th>Year 1/1st Semester</th>
<th>Year 1/2nd Semester</th>
<th>Year 2/1st Semester</th>
<th>Year 2/2nd Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 1310</td>
<td>HORT 1323</td>
<td>HORT 2331</td>
<td>HTLS 2347</td>
</tr>
<tr>
<td>HORT 1316</td>
<td>HORT 1320</td>
<td>HORT 2330</td>
<td>HTLS 2343</td>
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<td>HORT 1315</td>
<td>HTLS 1322</td>
<td>HORT 2338</td>
<td>HTLS 2345</td>
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<tr>
<td>HORT 1318</td>
<td>HORT 2350</td>
<td>HORT 2348</td>
<td>HORT 2399</td>
</tr>
</tbody>
</table>

ADDITIONAL REQUIREMENTS: HTLS 2302/2304 Landscape/Golf Course/Grounds Maintenance Internship (4 cr.); Technical Electives (from HTFL Courses or Directed Study 2301/2302) (2 cr.); General Education/General Studies: Diploma (8 cr.); A.A.S. (20 cr.)

GENERAL EDUCATION REQUIREMENTS: Diploma – 8 credits to be selected from Communications; Humanities and Fine Arts; History and Social Sciences; Math or Natural Sciences. A.A.S. Degree – 20 credits – Written and Oral Communications (3 cr.); Humanities and Fine Arts (3 cr.); Mathematics or Natural Sciences (3 cr.); History and Social Sciences (3 cr.); Electives in any of the above listed A.A.S. Degree disciplines (8 cr.).

PURPOSE: The Horticulture Technology Careers program offers two major options: Floriculture/Garden Center Technician and Landscape, Golf Course, Grounds Maintenance Technician. The Diploma or A.A.S. is available in each major.

The Horticulture Technology curriculum provides students with the general education and technical skills to meet the demand for employment opportunities in Landscaping, Golf Course & Grounds Maintenance, as well as in Floriculture and Garden Center businesses. Well trained personnel are needed to meet the customer demands for horticulture goods and services. Today’s customers of horticulture products and services are more knowledgeable and demanding. They seek quality products and numerous services. These demands are the basis of employment opportunities in Horticulture Technology Careers. Specialization and departmentalization have created an increased need for skillfully trained personnel. Many employment opportunities in horticulture allow for advancement to supervisory and managerial positions. Businesses of horticulture products or services require skilled employees and managers to be successful. Upon graduation, depending on the curriculum option, a student could perform in the following occupational areas: floral designer, grower, shop manager, garden center manager, technician, salesperson, greenhouse owner/operator, technician; horticulture equipment/supplies sales; public recreation grounds maintenance technician; golf course maintenance grounds owner/operator; lawn care/landscape maintenance owner/operator; landscape construction, design, sales, equipment/materials sales; nursery field supervisor, technician; nursery/garden center owner/operator; turf and sod grower, retailer.
HORTICULTURE TECHNOLOGY
LANDSCAPE, GOLF COURSE & GROUNDS MAINTENANCE OPTION
Diploma Program

I. General Education/Studies Requirements ....................................................................................... 8 Credits
   To be selected from Communications, Humanities and Fine Arts, History and Social Sciences, Math or Natural Sciences.

II. Core Requirements ........................................................................................................... 47 Credits
   - HORT 1310 Soil Science 3 cr
   - HORT 1323 Introduction to Horticulture 3 cr
   - HORT 1315 Plant Materials I-Woody Plants 3 cr
   - HORT 1318 Introduction to Turfgrass Mgmt 2 cr
   - HORT 2331 Greenhouse Operations & Mgmt 3 cr
   - HORT 1316 Applied Plant Biology for Horticulture Careers 2 cr
   - HORT 2338 Landscape Design I 2 cr
   - HORT 1320 Plant Materials II-Herbaceous Plants 3 cr
   - HORT 2350 Integrated Plant/Pest Management 2 cr
   - HORT 2348 Horticulture Business Management 3 cr
   - HORT 2399 Horticulture Seminar 1 cr
   - HTLS 1322 Turf and Grounds Management 4 cr
   - HTLS 2347 Landscape Design II 2 cr
   - HTLS 2343 Landscape Installation/Construction 4 cr
   - HTLS 2345 Golf Course Field Operations 3 cr
   - HTLS 2302 Landscape, Golf Course & Grounds Maintenance Internship* 2 cr
   - HTLS 2304 Landscape, Golf Course & Grounds Maintenance Internship* 4 cr
   * 4 credits Internship required

III. Technical Electives ........................................................................................................ 2 Credits
   Any course prefixed HTFL
   HORT 2301, HORT 2302 Directed Study

TOTAL ...................................................................................................................................................... 57 Credits

COURSE SEQUENCE
<table>
<thead>
<tr>
<th>Year 1/1st Semester</th>
<th>Year 1/2nd Semester</th>
<th>Year 2/1st Semester</th>
<th>Year 2/2nd Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 1310</td>
<td>HORT 1323</td>
<td>HORT 2331</td>
<td>HTFL 2347</td>
</tr>
<tr>
<td>HORT 1316</td>
<td>HORT 1320</td>
<td>HORT 2330</td>
<td>HTFL 2343</td>
</tr>
<tr>
<td>HORT 1315</td>
<td>HORT 1322</td>
<td>HORT 2338</td>
<td>HORT 2345</td>
</tr>
<tr>
<td>HORT 1318</td>
<td>HTFL 2350</td>
<td>HORT 2348</td>
<td>HORT 2399</td>
</tr>
</tbody>
</table>

ADDITIONAL REQUIREMENTS: HTLS 2302/2304 Landscape/Golf Course/Grounds Maintenance Internship (4 cr.); Technical Electives (from HTFL Courses or Directed Study 2301/2302) (2 cr.); General Education/General Studies: Diploma (8 cr.); A.A.S. (20 cr.)

GENERAL EDUCATION REQUIREMENTS: Diploma – 8 credits to be selected from Communications; Humanities and Fine Arts; History and Social Sciences; Math or Natural Sciences. A.A.S. Degree – 20 credits – Written and Oral Communications (3 cr.); Humanities and Fine Arts (3 cr.); Mathematics or Natural Sciences (3 cr.); History and Social Sciences (3 cr.); Electives in any of the above listed A.A.S. Degree disciplines (8 cr.).

PURPOSE: The Horticulture Technology Careers program offers two major options: Floriculture/Garden Center Technician and Landscape, Golf Course, Grounds Maintenance Technician. The Diploma or A.A.S. is available in each major.

The Horticulture Technology curriculum provides students with the general education and technical skills to meet the demand for employment opportunities in Landscaping, Golf Course & Grounds Maintenance, as well as in Floriculture and Garden Center businesses. Well trained personnel are needed to meet the customer demands for horticulture goods and services. Today’s customers of horticulture products and services are more knowledgeable and demanding. They seek quality products and numerous services. These demands are the basis of employment opportunities in Horticulture Technology Careers. Specialization and departmentalization have created an increased need for skillfully trained personnel. Many employment opportunities in horticulture allow for advancement supervisory and managerial positions. Businesses of horticulture products or services require skilled employees and managers to be successful. Upon graduation, depending on the curriculum option, a student could perform in the following occupational areas: floral designer, grower, shop manager, garden center manager, technician, salesperson, greenhouse owner/operator, technician; horticulture equipment/supplies sales; public recreation grounds maintenance technician; golf course maintenance; grounds maintenance owner/operator; lawn care/landscape maintenance owner/operator; landscape construction, design, sales, equipment/materials sales; nursery field supervisor; technician; nursery/garden center owner/operator; turf and sod grower, retailer.
**HUMAN SERVICES SPECIALIST**

**Associate in Science Degree Program**

<table>
<thead>
<tr>
<th>I. General Education/Studies Requirements</th>
<th>30 Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Communication</td>
<td>7 cr</td>
</tr>
<tr>
<td>ENGL 1117 Reading and Writing Critically I, 4 cr</td>
<td></td>
</tr>
<tr>
<td>or ENGL 1917 Reading and Writing Critically I: Honors, 4 cr</td>
<td></td>
</tr>
<tr>
<td>SPCH 1114 Fundamentals of Speech, 3 cr</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Humanities and Fine Arts</th>
<th>4 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. History and Social Sciences</th>
<th>9 cr</th>
</tr>
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<tbody>
<tr>
<td>PSYC 2618 General Psychology, 3 cr</td>
<td></td>
</tr>
<tr>
<td>PSYC 2626 Human Growth &amp; Development, 3 cr</td>
<td></td>
</tr>
<tr>
<td>SOC 1614 Introduction to Sociology, 3 cr</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Mathematics and/or Natural Sciences</th>
<th>4 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1110 Human Biology, 4 cr</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>E. Electives</th>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2208 recommended for student articulating to a 4 year social work program.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Core Requirements</th>
<th>31 Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Services Technician Diploma Program Professional Core requirements and GSCL 1104 or PSYC 1611 fulfill these 31 credits.</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL | 61 Credits |

**ADDITIONAL NOTES:**

**PURPOSE:** This program is designed to provide an opportunity for individuals interested in working in human services to continue their education, gain increased knowledge and fulfill career advancement objectives. An Associate in Science Degree will be earned upon completing the Human Services Technician Diploma program and the required general education courses.

**OCCUPATIONAL OBJECTIVES:** The human services profession offers various employment options for qualified persons. Possible career choices include such job titles as mental health worker, case manager, resident counselor, unit coordinator, job coach and chemical dependency technician. Employment opportunities exist in state, county private, and community related human service programs providing services to individuals focusing on areas of chemical dependency, mental impairments, mental health issues, geriatrics, and/or physical impairments.
HUMAN SERVICES TECHNICIAN
Diploma Program

I. General Education/Studies Requirements ....................................................................................... 7 or 8 Credits
   ENGL 1630 College English 3 cr
   or ENGL 1117 Reading and Writing Critically I 4 cr
   or ENGL 1917 Reading and Writing Critically I: Honors 4 cr
   GSCL 1000 CPR/First Aid & Safety 1 cr
   GSCL 1104 Applied Psychology 3 cr
   or PSYC 1611 Psychology of Adjustment 3 cr

II. Professional Core ........................................................................................................... 28 Credits
   HS 1511 Medication Admin for Unlicensed Personnel 2 cr
   HS 1522 Introduction to Human Services 3 cr
   HS 1530 Health Issues 2 cr
   HS 1532 Therapeutic Techniques 2 cr
   HS 1550 Abnormal Psychology Theory 2 cr
   HS 1560 Chemical Dependency Theory 2 cr
   HS 1570 Developmental Disabilities Theory 2 cr
   NA 1600* Nursing Assistant/Home-Health Aide Theory 3 cr
   NA 1601* Nursing Assistant/Home-Health Aide Clinical 1 cr

   *Field Experience
   HS 1555* Mental Health Field Experience 3 cr
   HS 1565* Chemical Dependency Field Experience 3 cr
   HS 1575* Developmental Disabilities Field Experience 3 cr

TOTAL ............................................................................................................................................. 35 or 36 Credits

*Must complete the Criminal Background study required by the Minnesota Department of Human Services and qualify for direct client contact.

PURPOSE: The Human Services major is designed to prepare students for a variety of careers in human services areas. As team members, graduates will provide health care, treatment, rehabilitation, and behavioral direction for individuals or groups of clients. The three major employment areas include those relating to mental health, developmental disabilities, and chemical dependency. Opportunities for employment include, but are not limited to, state, private, and community human service agencies, nursing homes, and public schools. Instruction includes courses related to providing personal care, communication skills, behavioral and rehabilitation techniques. Emphasis is placed on the three specialty areas. Human services professionals complement the curriculum as guest speakers and by providing guidance during field experiences. Career ladder opportunities are built into the curriculum plan. Students have the option upon satisfactorily completing 12 credits of selected courses to stop out as a Mental Health Assistant, Chemical Health Assistant, or a Developmental Disabilities Assistant. (Refer to options) Graduates wishing to continue their education in the human services field may receive college credit with the approval of the receiving institution. Rochester Community and Technical College offers an associate of science degree in human services.

— Continued on Next Page —
HUMAN SERVICES TECHNICIAN
Diploma Program — Continued

COURSE SEQUENCE:
FULL TIME/ONE YEAR OPTION - 35 or 36 Credits

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA 1600 3 cr</td>
<td>HS 1511 2 cr</td>
</tr>
<tr>
<td>NA 1601 1 cr</td>
<td>HS 1530 2 cr</td>
</tr>
<tr>
<td>HS 1522 3 cr</td>
<td>HS 1550 2 cr</td>
</tr>
<tr>
<td>HS 1532 2 cr</td>
<td></td>
</tr>
<tr>
<td>HS 1560 2 cr</td>
<td></td>
</tr>
<tr>
<td>HS 1570 2 cr</td>
<td></td>
</tr>
<tr>
<td>Field Experience 3 cr</td>
<td>Field Experience 6 cr</td>
</tr>
<tr>
<td>(one of the following)</td>
<td>(two of the following):</td>
</tr>
<tr>
<td>HS 1555 or</td>
<td></td>
</tr>
<tr>
<td>HS 1565 or</td>
<td></td>
</tr>
<tr>
<td>HS 1575</td>
<td></td>
</tr>
<tr>
<td>ENGL 1630 or</td>
<td>GSCL 1000 1 cr</td>
</tr>
<tr>
<td>ENGL 1117 or</td>
<td>PSYC 1611 3 cr</td>
</tr>
<tr>
<td>ENGL 1917 or</td>
<td>TOTAL 16 cr</td>
</tr>
<tr>
<td>TOTAL 19 or 20 cr</td>
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</table>

PART TIME/TWO YEAR OPTION - 35 or 36 Credits
FIRST YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA 1600 3 cr</td>
<td>HS 1530 2 cr</td>
</tr>
<tr>
<td>NA 1601 1 cr</td>
<td>HA 1575 3 cr</td>
</tr>
<tr>
<td>HS 1522 3 cr</td>
<td>GSCL 1104 or 3 cr</td>
</tr>
<tr>
<td>HS 1570 2 cr</td>
<td>PSYC 1611 3 cr</td>
</tr>
<tr>
<td>TOTAL 9 cr</td>
<td>TOTAL 8 cr</td>
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</table>

SECOND YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS 1532 2 cr</td>
<td>HS 1511 2 cr</td>
</tr>
<tr>
<td>HS 1560 2 cr</td>
<td>HS 1550 2 cr</td>
</tr>
<tr>
<td>HS 1565 3 cr</td>
<td>HS 1555 3 cr</td>
</tr>
<tr>
<td>ENGL 1630 or</td>
<td>GSCL 1000 1 cr</td>
</tr>
<tr>
<td>ENGL 1117 or</td>
<td></td>
</tr>
<tr>
<td>ENGL 1917 or</td>
<td></td>
</tr>
<tr>
<td>TOTAL 10 or 11 cr</td>
<td>TOTAL 8 cr</td>
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</tbody>
</table>

HUMAN SERVICES TECHNICIAN
Chemical Health Assistant
Certificate Option

Core Requirements .................................................................................................................12 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA 1600</td>
<td>Nursing Assistant/Home-Health Aide Theory</td>
<td>3 cr</td>
</tr>
<tr>
<td>NA 1601</td>
<td>Nursing Assistant/Home-Health Aide Clinical</td>
<td>1 cr</td>
</tr>
<tr>
<td>HS 1511</td>
<td>Medication Administration for Unlicensed Personnel</td>
<td>2 cr</td>
</tr>
<tr>
<td>HS 1560</td>
<td>Chemical Dependency</td>
<td>2 cr</td>
</tr>
<tr>
<td>HS 1565*</td>
<td>Chemical Health Field Experience</td>
<td>3 cr</td>
</tr>
<tr>
<td>GSCL 1000</td>
<td>CPR/First Aid</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

TOTAL ....................................................................................................................................12 Credits
## DEVELOPMENTAL DISABILITIES ASSISTANT Certificate Option

**Core Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA 1600</td>
<td>Nursing Assistant/Home-Health Aide Theory</td>
<td>3 cr</td>
</tr>
<tr>
<td>NA 1601</td>
<td>Nursing Assistant/Home-Health Aide Clinical</td>
<td>1 cr</td>
</tr>
<tr>
<td>HS 1511</td>
<td>Medication Administration for Unlicensed Personnel</td>
<td>2 cr</td>
</tr>
<tr>
<td>HS 1570</td>
<td>Developmental Disabilities</td>
<td>2 cr</td>
</tr>
<tr>
<td>HS 1575*</td>
<td>Developmental Disabilities Field Experience</td>
<td>3 cr</td>
</tr>
<tr>
<td>GSCL 1000</td>
<td>CPR/First Aid</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

**TOTAL** .......................................................... 12 Credits

*Must complete the Background Study by the MN Department of Human Services to qualify for direct client contact.

## MENTAL HEALTH ASSISTANT Certificate Option

**Core Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA 1600</td>
<td>Nursing Assistant/Home-Health Aide Theory</td>
<td>3 cr</td>
</tr>
<tr>
<td>NA 1601</td>
<td>Nursing Assistant/Home-Health Aide Clinical</td>
<td>1 cr</td>
</tr>
<tr>
<td>HS 1511</td>
<td>Medication Administration for Unlicensed Personnel</td>
<td>2 cr</td>
</tr>
<tr>
<td>HS 1550</td>
<td>Abnormal Psychology</td>
<td>2 cr</td>
</tr>
<tr>
<td>HS 1555*</td>
<td>Mental Health Field Experience</td>
<td>3 cr</td>
</tr>
<tr>
<td>GSCL 1000</td>
<td>CPR/First Aid</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

**TOTAL** .......................................................... 12 Credits
# LAW ENFORCEMENT
## Associate in Science Degree Program

**Program Accreditation:** Minnesota Board of Peace Officer Standards and Training (POST)

## I. General Education/Studies Requirements

### A. Written and Oral Communications

ENGL 1117  
Reading and Writing Critically I, 4 cr

### B. Humanities and Fine Arts

SPCH 1130  
Interpersonal Communications, 3 cr

Additional credits from Art, English Literature, Humanities, Journalism, Music, Philosophy, or Speech/Theater, 2 cr

### C. History and Social Sciences

SOC 1614  
Introduction to Sociology, 3 cr

PSYC 1611  
Psychology of Adjustment, 3 cr

SOC 2625  
Minority Group Relations, 3 cr

Political Science elective, 3 cr

History elective, 3 cr

### D. Mathematics and Natural Sciences

MATH 1111  
Contemporary Concepts, 3 cr

or higher level MATH class

Biology, Chemistry, Earth Science, or Physics elective, 3 cr

## II. Professionally-related Requirements

### Law Enforcement Core

LAWE 1105  
Introduction to Law Enforcement, 3 cr

LAWE 1110  
Police Report Writing, 2 cr

LAWE 1112  
Introduction to Criminal Investigations, 3 cr

LAWE 2117  
Minnesota Statutes, 3 cr

LAWE 2120  
Human Behavior for Law Enforcement, 2 cr

LAWE 2122  
Criminal Procedure, 3 cr

LAWE 2125  
Community Policing and Service, 1 cr

EMC 1121  
First Responder, 3 cr

SKILLS  
Transfer credits from skills providers, 10 cr

Note: Enrollment in LAWE 1110, 1112, 2117, 2120, 2122, 2125, SKILLS, and EMC1121 requires the signature of the Law Enforcement Program Coordinator.

### Alexandria Technical College or Hibbing Community College

## III. Health and Physical Education Requirements

Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

### TOTAL

64 Credits

Admission into the Law Enforcement Program is complete upon satisfaction of Minnesota Board of Peace Officer Standards and Training requirements. These requirements include a Criminal history background check, physician’s approval, and psychologist approval. Students who have felony or gross misdemeanor records are not eligible for enrollment in the program. All law enforcement students will be required to attend an orientation session each semester. Orientation sessions will cover POST Board rules and program requirements.

### Recommended Course Sequence

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAWE 1105 4 cr</td>
<td>SPCH 1130 3 cr</td>
<td>PHED 1 cr</td>
<td>PHED 1 cr</td>
</tr>
<tr>
<td>ENGL 1117 4 cr</td>
<td>PSYC 1611 3 cr</td>
<td>EMC 1121 3 cr</td>
<td>SKILLS 10 cr</td>
</tr>
<tr>
<td>SOC 1614 3 cr</td>
<td>POLS 3 cr</td>
<td>SOC 2625 3 cr</td>
<td>LAWE 2120 2 cr</td>
</tr>
<tr>
<td>MATH 3 cr</td>
<td>HIST 3 cr</td>
<td>LAWE 1110 2 cr</td>
<td>LAWE 2122 3 cr</td>
</tr>
<tr>
<td>HUM 2 cr</td>
<td>SCI 3 cr</td>
<td>LAWE 1112 3 cr</td>
<td>LAWE 2125 1 cr</td>
</tr>
<tr>
<td>PHED 1 cr</td>
<td>PHED 1 cr</td>
<td>LAWE 2117 3 cr</td>
<td>16</td>
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<td>16</td>
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</tbody>
</table>

Rochester Community and Technical College
MACHINE TOOL TECHNOLOGY
Diploma Program

I. General Education/Studies Requirements ....................................................................................... 8 Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1030</td>
<td>Principles of Technical Math (First Year—First Semester)</td>
<td>3 cr</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>5 cr</td>
</tr>
</tbody>
</table>

5 credits of electives may be selected from the list below, and are not to interfere with core courses being taught. Any classes not listed must have instructor’s permission.

First Year—Semester 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1032</td>
<td>Principles of Technical Math 2</td>
<td>3 cr</td>
</tr>
<tr>
<td>COMP 1112</td>
<td>Introduction to Computer with Applications</td>
<td>3 cr</td>
</tr>
<tr>
<td>GSCL 1550</td>
<td>Introduction to Windows</td>
<td>2 cr</td>
</tr>
<tr>
<td>TT 1900</td>
<td>Welding</td>
<td>2 cr</td>
</tr>
<tr>
<td>ENGL 0940</td>
<td>Introduction to College Writing: Sentence to Paragraph</td>
<td>3 cr</td>
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</table>

Second Year—Semester 1 & 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSCL 2870</td>
<td>Employment Strategies</td>
<td>1 cr</td>
</tr>
<tr>
<td>GSCL 1000</td>
<td>Community CPR/First Aid and Safety</td>
<td>1 cr</td>
</tr>
<tr>
<td>HLTH 1102</td>
<td>Industrial Safety &amp; First Aid</td>
<td>2 cr</td>
</tr>
<tr>
<td>HLTH 1110</td>
<td>Cardiopulmonary Resuscitation</td>
<td>1 cr</td>
</tr>
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</table>

II. Core Requirements ......................................................................................................... 61 Credits

First Year—Semester 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT 1510</td>
<td>Machine Tool Theory I</td>
<td>3 cr</td>
</tr>
<tr>
<td>MT 1512</td>
<td>Blueprint Reading I</td>
<td>2 cr</td>
</tr>
<tr>
<td>MT 1550</td>
<td>Machine Shop Lab I</td>
<td>10 cr</td>
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</table>

First Year—Semester 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MT 1530</td>
<td>Machine Tool Theory II</td>
<td>2 cr</td>
</tr>
<tr>
<td>MT 1538</td>
<td>Blueprint Reading II</td>
<td>2 cr</td>
</tr>
<tr>
<td>MT 1580</td>
<td>Machine Shop Lab II</td>
<td>8 cr</td>
</tr>
<tr>
<td>MT 1540</td>
<td>Basic CNC Programming &amp; Operation</td>
<td>3 cr</td>
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</table>

Second Year—Semester 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT 2600</td>
<td>Precision Machine Theory I</td>
<td>3 cr</td>
</tr>
<tr>
<td>MT 2620</td>
<td>CNC Operation Lab I</td>
<td>5 cr</td>
</tr>
<tr>
<td>MT 2630</td>
<td>CNC Programming I</td>
<td>2 cr</td>
</tr>
<tr>
<td>MT 2645</td>
<td>Precision Machine Lab I</td>
<td>5 cr</td>
</tr>
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</table>

Second Year—Semester 2

<table>
<thead>
<tr>
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<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT 2650</td>
<td>Precision Machine Theory II</td>
<td>3 cr</td>
</tr>
<tr>
<td>MT 2657</td>
<td>Precision Machine Lab II</td>
<td>4 cr</td>
</tr>
<tr>
<td>MT 2670</td>
<td>CNC Operation Lab II</td>
<td>5 cr</td>
</tr>
<tr>
<td>MT 2680</td>
<td>CNC Programming II</td>
<td>2 cr</td>
</tr>
<tr>
<td>MT 2667</td>
<td>Machine Tool Special Projects</td>
<td>2 cr</td>
</tr>
</tbody>
</table>

TOTAL ...................................................................................................................................... 69 Credits

Purpose: The Machine Tool Technology program is designed to prepare students for the manufacturing and tooling trades. The student will learn basic skills needed to set up and operate lathes, milling machines, saws, drills, inspection equipment, heat treatment equipment, computer numerical control (CNC) machines, electrical discharge machining (EDM) ram and wire. Programming of CNC machines, job planning, geometric dimensioning and tolerancing, statistical process control, blueprint reading, and machining theory is also a large part of this program. Job opportunities exist in large numbers in machine shops, job shops, tool and die shops, pattern shops, mold shops, and CNC machining shops. Graduates start out as machine operators, inspectors, apprentice mold or tool makers, and CNC technicians. With experience, the machinist can advance to foreman, supervisor, CNC programmer, manufacturing engineer, shop owners, sales, etc.
# Programs of Study

## MECHANICAL ENGINEERING TECHNOLOGY
### Associate of Science Degree Program

### I. General Education/Studies Requirements

36 Credits

<table>
<thead>
<tr>
<th>A. Written and Oral Communication</th>
<th>7 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1109 Technical Report Writing</td>
<td>3 cr</td>
</tr>
<tr>
<td>ENGL 1117 Reading and Writing Critically</td>
<td>4 cr</td>
</tr>
<tr>
<td>ENGL 1917 English Honors I (if qualified)</td>
<td>4 cr</td>
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</table>

<table>
<thead>
<tr>
<th>B. Humanities and Fine Arts</th>
<th>5 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPCH 1114 Fundamentals of Speech</td>
<td>3 cr</td>
</tr>
<tr>
<td>Electives from Art, English Literature, Humanities, Foreign Language, Journalism, Music, Philosophy, Speech/Theater</td>
<td>2 cr</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>C. History and Social Sciences</th>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives from Anthropology, Economics, Geography, History, Political Science, Psychology, or Sociology</td>
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<table>
<thead>
<tr>
<th>D. Mathematics and Natural Sciences</th>
<th>20 cr</th>
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<tbody>
<tr>
<td><strong>First Year—First Semester</strong></td>
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</tr>
<tr>
<td>MATH 1101 Math for Technology</td>
<td>1 cr</td>
</tr>
<tr>
<td>MATH 1102 College Math</td>
<td>4 cr</td>
</tr>
<tr>
<td><strong>First Year—Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>MATH 1104 College Calculus for Technology Programs</td>
<td>5 cr</td>
</tr>
<tr>
<td>MATH 2051 Statistical Process Control Theory</td>
<td>1 cr</td>
</tr>
<tr>
<td>MATH 2052 Statistical Process Control Lab</td>
<td>1 cr</td>
</tr>
<tr>
<td><strong>Second Year—First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>PHYS 1107 Technical Physics I</td>
<td>4 cr</td>
</tr>
<tr>
<td><strong>Second Year—Second Semester</strong></td>
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</tr>
<tr>
<td>PHYS 1108 Technical Physics II</td>
<td>4 cr</td>
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### II. Professional Core

28 Credits

<table>
<thead>
<tr>
<th>First Year—First Semester</th>
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<tbody>
<tr>
<td>ET 1235 CAD I</td>
<td>3 cr</td>
</tr>
<tr>
<td>ET 1224 Engineering Drafting I</td>
<td>2 cr</td>
</tr>
<tr>
<td>MET 1224 Engineering Drafting II</td>
<td>2 cr</td>
</tr>
<tr>
<td>ET 1110 Introduction to Problem Solving Techniques</td>
<td>2 cr</td>
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</table>

<table>
<thead>
<tr>
<th>First Year—Second Semester</th>
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</thead>
<tbody>
<tr>
<td>MET 1123 Mfg Mat’l and Processes I</td>
<td>2 cr</td>
</tr>
<tr>
<td>MET 1146 Mfg Mat’l and Processes II</td>
<td>4 cr</td>
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<tr>
<td>ET 2140 Introductory Statistics and Strength of Mat’ls</td>
<td>3 cr</td>
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<thead>
<tr>
<th>Second Year—First Semester</th>
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<tbody>
<tr>
<td>MET 2358 Machine Design</td>
<td>5 cr</td>
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<table>
<thead>
<tr>
<th>Second Year—Second Semester</th>
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</tr>
</thead>
<tbody>
<tr>
<td>MET 2458 Product Design</td>
<td>5 cr</td>
</tr>
</tbody>
</table>

### TOTAL

64 Credits

**Purpose:** This program has been designed to prepare graduates to transfer to a four-year college or university and complete a Bachelor of Science Degree in Industrial or Engineering Technology.
# MEDICAL ASSISTANT
## Diploma Program

**Program Accreditation:** Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants’ Endowment (AAMAE).

## General Education/Studies Requirements
- **HUM 1114** Ethics and Its Application in Health Care 1 cr
- **PSYC 1611** Psychology of Adjustment 3 cr

## Professional Core
- **MA 1070** Medical Laboratory Procedures I 4 cr
- **MA 1170** Medical Sciences I 4 cr
- **MA 1270** Clinical Procedures I 2 cr
- **AIS 1600** Introduction to Medical Terminology 2 cr
- **AIS 2530** Word Processing - Short Course 1 cr
- **GSCL 1000** Community CPR/First Aid and Safety 1 cr
- **MA 1100** Orientation to MA Externship 1 cr
- **MA 1080** Medical Laboratory Procedures II 2 cr
- **MA 1180** Medical Sciences II 3 cr
- **MA 1280** Clinical Procedures II 4 cr
- **AIS 1660** Introduction to Medical Transcription 2 cr
- **AIS 1640** Medical Insurance and Coding 2 cr
- **AIS 2650** Medical Office Procedures 3 cr
- **MA 1840** Medical Assistant Externship 6 cr

**TOTAL** 41 Credits

### SEMESTER SEQUENCE

<table>
<thead>
<tr>
<th>FALL Semester I</th>
<th>SPRING Semester II</th>
<th>SUMMER Summer Session</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MA 1070</strong> 4 cr</td>
<td><strong>MA 1100</strong> 1 cr</td>
<td><strong>MA 1840</strong> 6 cr</td>
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<tr>
<td><strong>MA 1170</strong> 4 cr</td>
<td><strong>MA 1080</strong> 2 cr</td>
<td><strong>TOTAL</strong> 6 cr</td>
</tr>
<tr>
<td><strong>MA 1270</strong> 2 cr</td>
<td><strong>MA 1180</strong> 3 cr</td>
<td></td>
</tr>
<tr>
<td><strong>AIS 1600</strong> 2 cr</td>
<td><strong>MA 1280</strong> 4 cr</td>
<td></td>
</tr>
<tr>
<td><strong>AIS 2530</strong> 1 cr</td>
<td><strong>AIS 1660</strong> 2 cr</td>
<td></td>
</tr>
<tr>
<td><strong>GSCL 1000</strong> 1 cr</td>
<td><strong>AIS 1640</strong> 2 cr</td>
<td></td>
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<tr>
<td><strong>PSYC 1611</strong> 3 cr</td>
<td><strong>AIS 2650</strong> 3 cr</td>
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</tr>
<tr>
<td><strong>TOTAL</strong> 17 cr</td>
<td><strong>HUM 1114</strong> 1 cr</td>
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<td></td>
<td><strong>TOTAL</strong> 18 cr</td>
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</tr>
</tbody>
</table>

**Purpose:** Medical Assistants are a primary link between the physician and patient. The MA is a multi-skilled allied health professional who assists the physician in many ways to provide quality patient care. The profession requires a wide range of skills for responsibilities in two categories: clinical and secretarial-management. The duties include: scheduling and receiving patients; obtaining patient data; correspondence, reports, and manuscripts; handling telephone calls; overseeing insurance matters and fee collections; purchasing and maintaining supplies and office equipment; administering medications, assisting with examinations and treatment; instrument sterilization procedures; performing basic laboratory procedures; performing certain diagnostic tests; assisting with minor surgery; providing patient education.

**Admissions:** Entrance requirements include: minimum of one year high school typing/keyboarding, biology, algebra and English OR the college equivalent. Students must meet the minimum score on the College Placement Test for English, or they will need to successfully complete ENGL 0910 Basic Grammar and Usage. If required, this course may be taken concurrently with Fall courses so as not to interfere with the one-year sequencing.

**Registration and Sequence:** Medical Assistant Courses must be taken in the sequence specified on the Program Sheet available from the coordinator or the counseling staff.

**Program Completion:** Students who successfully complete the Medical Assistant Program will receive a diploma. Graduates may earn the Associate Degree in the Liberal Arts program by completing the required additional course work in the group distribution requirements.
**MEDICAL OFFICE CLERK**  
Diploma Program

### I. General Education/Studies Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1630</td>
<td>College English</td>
<td>3 cr</td>
</tr>
<tr>
<td>GSCL 2870</td>
<td>Employment Strategies</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

### II. Professionally-Related Business Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1220</td>
<td>Human Relations in Organizations</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 1320</td>
<td>Word Processing I</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 1600</td>
<td>Intro to Medical Terminology</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 1610</td>
<td>Body Systems/Diseases</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 1630</td>
<td>Computerized Medical Data Management</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 1640</td>
<td>Medical Insurance and Coding</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 1660</td>
<td>Intro to Medical Transcription</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 2220</td>
<td>Business Communications</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2350</td>
<td>Microcomputer Business Applications</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2610</td>
<td>Medical Specialties/Pharmacology</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 2640</td>
<td>Medical Word Processing</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2650</td>
<td>Medical Office Procedures</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**NOTE:** **KEYBOARDING PREREQUISITE:** Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1030 Keyboarding. This class will not count toward the required credits for the program.

**TOTAL** 34 Credits

**Medical Office Clerk, Diploma Program, Course Sequence**

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>AIS1030</em></td>
<td>AIS 1630</td>
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<tr>
<td>AIS 1220</td>
<td>AIS 1640</td>
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<td>AIS 1320</td>
<td>AIS 1660</td>
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<tr>
<td>AIS 1600</td>
<td>AIS 2220</td>
</tr>
<tr>
<td>AIS 1610</td>
<td>AIS 2610</td>
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<tr>
<td>AIS 2350</td>
<td>AIS 2640</td>
</tr>
<tr>
<td>ENGL 1630</td>
<td>AIS 2650</td>
</tr>
<tr>
<td>GSCL 2870</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

*This course is recommended for students keyboarding less than 55 wpm.

**Purpose:** This program is designed to prepare students for clerical positions in medical offices, clinics, and hospitals. The medical clerk is trained in medical terminology and transcription as well as in insurance coding and medical data management. Students will learn how diseases affect the body and which drugs and other treatments are used to treat illnesses.
MEDICAL SECRETARY
Associate in Science Degree Program

I. General Education/Studies Requirements ..................................................................................................30 Credits

A. Written and Oral Communications .............................................................................................................4 cr
   ENGL 1117 or ENGL 1917 Reading & Writing Critically I
   ENGL 1117 or ENGL 1917 Reading & Writing Critically I: Honors

B. Humanities and Fine Arts .........................................................................................................................Minimum of 4 cr
   Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater

C. History and Social Sciences .....................................................................................................................Minimum of 6 cr
   PSYC 1611 Psychology of Adjustment, 3 cr
   SOC 1614 or SOC 1914 Introduction to Sociology, 3 cr
   SOC 1614 Introduction to Sociology: Honors
   Electives from Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology

D. Mathematics and/or Natural Sciences ........................................................................................................Minimum of 4 cr
   BIOL 1107 Fundamentals of Anatomy & Physiology, 4 cr
   Mathematics must be 1111 college level or above, except MATH 2051 and 2952.
   Electives from Biology, Chemistry, Earth Science, or Physics. (Must include a lab course).

E. General Education Electives ....................................................................................................................Minimum of 12 cr
   Additional electives from the above disciplines to achieve 30 credits of general education

II. Professionally-Related Business Requirements .........................................................................................34 Credits

   AIS 1220 Human Relations in Organizations 3 cr
   AIS 1320 Word Processing I 3 cr
   AIS 1600 Introduction to Medical Terminology 2 cr
   AIS 1610 Body Systems/Diseases 2 cr
   AIS 1670 Medical Transcription I 3 cr
   AIS 1680 Medical Transcription II 3 cr
   AIS 2200 Information Resource Management 3 cr
   AIS 2220 Business Communications 3 cr
   AIS 2350 Microcomputer Business Applications 3 cr
   AIS 2610 Medical Specialties/Pharmacology 2 cr
   AIS 2640 Medical Word Processing 3 cr
   AIS 2650 Medical Office Procedures 3 cr
   GSCL 2870 Employment Strategies 1 cr

NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm.
Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

TOTAL ........................................................................................................................................ At Least 64 Credits

Medical Secretary, A.S., Course Sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>*AIS 1030 1 cr</td>
<td>AIS 1220 3 cr</td>
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<tr>
<td>AIS 1320 3 cr</td>
<td>AIS 1610 2 cr</td>
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<tr>
<td>AIS 1600 2 cr</td>
<td>AIS 2200 3 cr</td>
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<tr>
<td>ENGL 1117 4 cr</td>
<td>AIS 2350 3 cr</td>
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<tr>
<td>ELECTIVES (See Advisor)</td>
<td>PSYC 1611 3 cr</td>
</tr>
<tr>
<td>ELECTIVES (See Advisor)</td>
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</tr>
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</table>

*This course recommended for students keyboarding less than 55 wpm.

<table>
<thead>
<tr>
<th>Semester III</th>
<th>Semester IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1670 3 cr</td>
<td>AIS 1680 3 cr</td>
</tr>
<tr>
<td>AIS 2220 3 cr</td>
<td>AIS 2610 2 cr</td>
</tr>
<tr>
<td>AIS 2640 3 cr</td>
<td>AIS 2650 3 cr</td>
</tr>
<tr>
<td>BIOL 1107 4 cr</td>
<td>SOC 1614 3 cr</td>
</tr>
<tr>
<td>GSCL 2870 1 cr</td>
<td>ELECTIVES (See Advisor)</td>
</tr>
<tr>
<td>ELECTIVES (See Advisor)</td>
<td></td>
</tr>
</tbody>
</table>

Purpose: This program prepares students for employment in the medical field as secretaries to physicians and surgeons in hospitals, clinics, or medical groups. Extensive training is provided in medical terminology, medical transcription, and office technology. Students will learn how diseases affect the body and which drugs and other treatments are used to treat illnesses. This degree program is also designed with additional general education requirements for those students who may wish to transfer to another program/institution.
MEDICAL SECRETARY
Associate in Applied Science Degree Program

I. General Education/Studies Requirements ................................................................. 20 Credits
   A. Written and Oral Communications ......................................................... Minimum of 4 cr
      ENGL 1117 or Reading & Writing Critically I
      ENGL 1917 Reading & Writing Critically I: Honors
   B. Humanities and Fine Arts ................................................................. Minimum of 3 cr
      Electives from Art, English Literature, Foreign Language, Humanities,
      Journalism, Music, Philosophy, Speech/Theater
   C. History and Social Sciences ......................................................... Minimum of 6 cr
      PSYC 1611 Psychology of Adjustment, 3 cr
      SOC 1614 or Introduction to Sociology, 3 cr
      SOC 1914 Introduction to Sociology: Honors
      Electives from Anthropology, Economics, Geography, History,
      Political Science, Psychology, Sociology
   D. Mathematics and/or Natural Sciences ....................................... Minimum of 3 cr
      BIOL 1107 Fundamentals of Anatomy & Physiology, 4 cr
      Mathematics must be 1000 level or above. Electives from Biology,
      Chemistry, Earth Science, or Physics. (Must include a lab course).
   E. Electives: additional electives from the above disciplines to achieve 20 credits of
      General education.

II. Professionally-Related Business Requirements ....................................................... 37 Credits
   ACCT 1115 Small Business Accounting 3 cr
   AIS 1220 Human Relations in Organizations 3 cr
   AIS 1320 Word Processing I 3 cr
   AIS 1600 Introduction to Medical Terminology 2 cr
   AIS 1610 Body Systems/Diseases 2 cr
   AIS 1670 Medical Transcription I 3 cr
   AIS 1680 Medical Transcription II 3 cr
   AIS 2200 Information Resource Management 3 cr
   AIS 2220 Business Communications 3 cr
   AIS 2350 Microcomputer Business Applications 3 cr
   AIS 2610 Medical Specialties/Pharmacology 2 cr
   AIS 2640 Medical Word Processing 3 cr
   AIS 2650 Medical Office Procedures 3 cr
   GSCL 2870 Employment Strategies 1 cr

NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm.
Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

III. Health and/or Physical Education ................................................................. 3 Credits
      Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

TOTAL ........................................................................................................ At Least 64 Credits

Medical Secretary, A.A.S., Course Sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
<th>Semester IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>*AIS 1030</td>
<td>1 cr</td>
<td>AIS 1220</td>
<td>3 cr</td>
</tr>
<tr>
<td>ACCT 1115</td>
<td>3 cr</td>
<td>AIS 1610</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 1320</td>
<td>3 cr</td>
<td>AIS 2350</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 1600</td>
<td>2 cr</td>
<td>PSYC 1611</td>
<td>3 cr</td>
</tr>
<tr>
<td>ENGL 1117</td>
<td>4 cr</td>
<td>ELECTIVES (See Advisor)</td>
<td>GSCL 2870</td>
</tr>
<tr>
<td>ENGL 1917</td>
<td></td>
<td>ELECTIVES (See Advisor)</td>
<td></td>
</tr>
</tbody>
</table>

ELECTIVES (See Advisor)

*This course recommended for students keyboarding less than 55 wpm.

Purpose: This program prepares students for employment in the medical field as secretaries to physicians and surgeons, in hospitals, clinics, or medical groups. Extensive training is provided in medical terminology, medical transcription and office technology. Students will learn how diseases affect the body and which drugs and other treatments are used to treat illnesses. This degree program is also designed with additional general education requirements for those students who may wish to transfer to another program/institution.
MEDICAL TRANSCRIPTIONIST
Diploma Program

I. General Education/Studies Requirements .......................................................................................4 Credits
ENGL 1630 College English, 3 cr
GSCL 2870 Employment Strategies, 1 cr

II. Professionally-Related Business Requirements ................................................................................ ......30 Credits
AIS 1220 Human Relations in Organizations 3 cr
AIS 1320 Word Processing I 3 cr
AIS 1600 Intro to Medical Terminology 2 cr
AIS 1610 Body Systems/Diseases 2 cr
AIS 1670 Medical Transcription I 3 cr
AIS 1680 Medical Transcription II 3 cr
AIS 2220 Business Communications 3 cr
AIS 2350 Microcomputer Business Applications 3 cr
AIS 2610 Medical Specialties/Pharmacology 2 cr
AIS 2640 Medical Word Processing. 3 cr
AIS 2650 Medical Office Procedures 3 cr

NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1050 Keyboarding. This class will not count toward the required credits for the program.

TOTAL .......................................................................................................................................................34 Credits

Medical Transcriptionist Diploma Course Sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1030 1 cr</td>
<td>AIS 1680 3 cr</td>
</tr>
<tr>
<td>AIS 1220 3 cr</td>
<td>AIS 2220 3 cr</td>
</tr>
<tr>
<td>AIS 1320 3 cr</td>
<td>AIS 2350 3 cr</td>
</tr>
<tr>
<td>AIS 1600 2 cr</td>
<td>AIS 2610 2 cr</td>
</tr>
<tr>
<td>AIS 1610 2 cr</td>
<td>AIS 2640 3 cr</td>
</tr>
<tr>
<td>AIS 1670 3 cr</td>
<td>AIS 2650 3 cr</td>
</tr>
<tr>
<td>ENGL 1630 3 cr</td>
<td></td>
</tr>
<tr>
<td>GSCL 2870 1 cr</td>
<td></td>
</tr>
</tbody>
</table>

*This course is recommended for students keyboarding less than 55 w.p.m.

Purpose: This is an intensive program for medical transcription training. It stresses extensive building of medical terminology and a highly developed skill in medical machine transcription as well as general office skills and technology training. Medical letters to referring physicians, along with reports on the medical record regarding the patients’ examinations, operations, and tests are emphasized. Students will learn how diseases affect the body and which drugs and other treatments are used to treat illnesses. Students will be trained for transcriptionist and office support positions in medical offices, clinics, hospitals, insurance companies, and firms who provide medical supplies and equipment.
MEDICAL TRANSCRIPTION
Certificate Program

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1600</td>
<td>Introduction to Medical Terminology</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 1670</td>
<td>Medical Transcription I</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 1680</td>
<td>Medical Transcription II</td>
<td>3 cr</td>
</tr>
<tr>
<td>Elective</td>
<td>Choose one:</td>
<td></td>
</tr>
<tr>
<td>AIS 2220</td>
<td>Business Communications</td>
<td>3 cr</td>
</tr>
<tr>
<td>ENGL 1630</td>
<td>College English</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 1610</td>
<td>Body Systems/Diseases</td>
<td>2 cr</td>
</tr>
<tr>
<td>AIS 2640</td>
<td>Medical Word Processing</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2650</td>
<td>Medical Word Procedures</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

TOTAL: 10-11 Credits
I. General Education/Studies Requirements ....................................................................................... 32 Credits
Courses must be selected from those approved to partially satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog course listings.

A. Written and Oral Communications ........................................................................... 7 cr
   ENGL 1117 (or 1917) Reading & Writing Critically I, 4 cr
   SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts ........................................................................................... 6 cr
   From the following disciplines, 2 credits from at least 2 areas: Art, English Literature, Humanities, Journalism, Music, Philosophy, Speech/Theatre

C. History and Social Sciences ......................................................................................... 6 cr
   PSYC 2618 General Psychology, 4 cr
   From the following disciplines, a minimum of 2 credits: Anthropology, Economics, Geography, History, Political Science, Sociology, 2 cr.

D. Mathematics and Natural Sciences .......................................................................... 13 cr
   CHEM 1127, 1128 General Inorganic Chemistry I & II, 8 cr
   MATH 1127 Calculus I, 5 cr

II. Professionally-related Requirements ......................................................................................... 32 Credits

   BIOL 1220 Concepts of Biology 4 cr
   BIOL 1230 Survey of Life Forms 4 cr
   BIOL 2200 General Zoology 4 cr
   CHEM 2227,2237 Organic Chemistry I & Lab 5 cr
   CHEM 2228,2238 Organic Chemistry II & Lab 5 cr
   PHYS 1117, 1118 Introductory Physics I & II 10 cr

TOTAL ................................................................................................................................................ 64 Credits

The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Medicine student take as many career-enhancing foreign language classes as possible at Rochester Community and Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding the foreign language entrance/exit requirement.
Program Accreditation: National League for Nursing, 350 Hudson Street, New York, NY 10014 (212)989-9393. (NLNAC can be called for information regarding program information, tuition & fees.)

I. General Education/Studies Requirements .......................................................................................30 Credits
   A. Written and Oral Communication ............................................................................. 4 cr
      ENGL 1117 Reading & Writing Critically I, 4 cr
      or ENGL 1917 Reading & Writing Critically I: Honors, 4 cr
   B. Humanities and Fine Arts Electives ........................................................................... 4 cr
      SPCH 1114 Fundamentals of Speech, 3 cr
      or SPCH 1130 Interpersonal Communications, 3 cr
      HUM 1114 Ethics and Its Application in Health, 1 cr
   C. History and Social Sciences ......................................................................................... 6 cr
      SOC 1614 Introduction to Sociology, 3 cr
      or SOC 1914 Introduction to Sociology: Honors, 3 cr
      PSYC 2626 Human Growth & Development, 3 cr
   D. Mathematics and Natural Sciences .......................................................................... 16 cr
      BIOL 1217, BIOL 1218 Anatomy and Physiology I & II, 8 cr
      CHEM 1117 General Chemistry, 4 cr
      BIOL 2021 General Microbiology, 4 cr

II. Nursing Course Requirements .................................................................................................34 Credits
   NURS 1117 Fundamentals of Nursing 6 cr
   NURS 1118 Adult Nursing I 6 cr
   NURS 2217 Adult Nursing II 5 cr
   NURS 2207 Maternal Newborn Nursing 3 cr
   NURS 2208 Mental Health Nursing 3 cr
   NURS 2209 Pediatric Nursing 3 cr
   NURS 2218 Advanced Concepts in Nursing 3 cr
   NURS 2219 Leadership and Management in Nursing 4 cr
   NURS 2220 Professional Practice Issues 1 cr

TOTAL .......................................................................................................................................................64 Credits

RCTC class hours are 50 minutes in length, 1 credit is a minimum of 16 hours of classroom contact. The College has an expectation that students spend two hours of preparatory work for every one hour in the classroom. Nursing clinical assignments are calculated on a ratio of 1:3. Three hours are spent in clinical work for every one credit. Science labs are assigned two hours for one credit.

Nursing Advisor: Students should contact the nursing advisor prior to registering for the nursing program prerequisites and general education courses. After acceptance into the program students are required to complete registration planning with the nursing advisor and have the registration card signed prior to registration each semester.

Nursing (A.D.) Course Sequence
LENGTH: 18 months - Options to extend this program are available.

FALL Semester I SPRING Semester II
NURS 1117 6 cr NURS 1118 6 cr
BIOL 1217 (A&P) 4 cr BIOL 1218 (A&P) 4 cr
CHEM 1117 4 cr BIOL 2021 (Micro) 4 cr
ENGL 1117 or 1917 4 cr PSYC 2626 3 cr
TOTAL 18 cr TOTAL 17 cr

— Continued on Next Page —
## NURSING (A.D.)
### Associate in Science Degree Program — Continued

<table>
<thead>
<tr>
<th>Semester III</th>
<th>Semester IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 2207</td>
<td>3 cr</td>
</tr>
<tr>
<td>NURS 2208</td>
<td>3 cr</td>
</tr>
<tr>
<td>NURS 2217</td>
<td>5 cr</td>
</tr>
<tr>
<td>SOC 1614 or 1914</td>
<td>3 cr</td>
</tr>
<tr>
<td>HUM 1114</td>
<td>1 cr</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15 cr</td>
</tr>
</tbody>
</table>

NURS 1120 Transition for LPNs, 2 credits (Fall & Spring)

**Registration and Sequence:** RCTC Nursing Program Handbook contains all program policies on Admission, Progression, Retention and Re-admission into the program (available for purchase in the bookstore).

**ADDITIONAL NOTES:**

**Purpose:** The associate degree nurse is prepared to practice nursing in situations involving direct patient care, most frequently in the hospital or long-term care facility. Graduates are prepared to function as defined in Minnesota statutes by (a) providing a nursing assessment of the community; (b) providing nursing care supportive to or restorative of life functions such as skilled ministration of nursing care, supervising and teaching nursing personnel, health teaching and counseling, case finding and referral to other health resources; and (c) evaluating these actions. After successful completion of this program, which includes classes at RCTC and care of patients in the Mayo Foundation Hospitals in addition to area nursing homes and selected community agencies, graduates are eligible to apply to write the National Council Licensure Examination - Registered Nurse.

**Admissions:**

(1) **RCTC Admission** - Meet the college admission requirements: a) High school diploma or GED (nursing does not admit PSEOP students); and b) Must submit high school and college transcripts for evaluation.

(2) **Application to the Nursing Program** - Form available from admissions office.
   a) Admission to Fall or Spring semester based on: admission to college, high school diploma or GED, completion of prerequisites, date of application, space available, a minimum 2.5 overall GPA for admission to nursing program, a grade of “C” or better in required program courses.
   b) Prerequisites to admission are: Completion of chemistry, algebra, and biology with a grade of “C” or higher at the high school or taken at the college level within the last five years before beginning the nursing sequence. Math 0098 or ASAP test scores at the appropriate level. High school psychology course with a “B” or better or PSYC 1611 or college transfer equivalent with a grade of “C” or better. High school word processing class, demonstrated word processing competency, or enrollment in word processing class.
   c) Complete a CPR for health professionals course prior to beginning nursing program; must be current through either the American Heart Association Health Care Provider Course or the Red Cross Basic Life Support Course (adult 1 and 2 person and infant and child).

(3) **Admission to the Nursing program** - Admission letter received.
   a) Pay a $100.00 fee to hold place in Nursing program, will be applied to first semester tuition, is refundable if application is withdrawn up to 30 days before semester begins.
   b) Meet the health requirements, forms are sent to students with acceptance to the program: Physical exam, immunizations, hepatitis and annual mantoux.
   c) Document health insurance.
   d) Purchase liability insurance, attached as fee to Nursing course at the college.
   e) Complete Criminal Background Check required by the State of Minnesota.

**Licensed Practical Nurses:** An accelerated track is available for licensed, currently registered LPNs who have graduated from a state-approved school of practical nursing within the last three years or who have been employed in an acute care setting for three of the last five years. LPNs meeting these criteria can receive credit for Nursing 1117 & 1118 (12 credits). For those LPNs not meeting either of these criteria, credit by examination is available for selected nursing courses with approval from the Dean of Nursing. LPNs are advised to meet with the Nursing Department Advisor prior to registration to determine eligibility for the accelerated track. LPNs accepted into the accelerated program will take NURS 1120, Transition for LPNs, 2 credits, then proceed to sophomore level.
Program Approved: State of Minnesota Department of Health

Core Requirements ................................................................................................................................................7 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA1600</td>
<td>Nursing Assistant/Home - Health Aide Theory</td>
<td>3 cr</td>
</tr>
<tr>
<td>NA1601</td>
<td>Nursing Assistant/Home - Health Aide Clinical</td>
<td>1 cr</td>
</tr>
<tr>
<td>NA1602</td>
<td>Hospital Nursing Assistant</td>
<td>2 cr</td>
</tr>
</tbody>
</table>

TOTAL ................................................................................................................................................................ 7 Credits

Note Program Prerequisite: Current CPR prior to attending NA1602. May be Red Cross, American Heart Association or CPR Health Care Provider/First Aid.

Nursing Assistant Optional Components:

A. Long-Term Care Nursing Assistant/Home-Health Aide*
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA1600</td>
<td>Nursing Assistant/Home-Health Aide</td>
<td>3 cr</td>
</tr>
<tr>
<td>NA1601</td>
<td>Nursing Assistant/Home -Health Aide Clinical</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

*Students who successfully complete the Long-Term Care Nursing Assistant/Home-Health Aide Theory and Clinical with the necessary skills and information, are eligible to take the State Nursing Assistant/Home-Health Aide Competency Examination.

B. Hospital Nursing Assistant**
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA1600</td>
<td>Nursing Assistant/Home-Health Aide</td>
<td>3 cr</td>
</tr>
<tr>
<td>NA1601</td>
<td>Nursing Assistant/Home -Health Aide Clinical</td>
<td>1 cr</td>
</tr>
<tr>
<td>NA1602</td>
<td>Hospital Nursing Assistant</td>
<td>2 cr</td>
</tr>
</tbody>
</table>

**If courses taken concurrently, Advisor signature required.

PURPOSE: The Nursing Assistant curriculum is designed to prepare students for careers in health care under the supervision of the licensed nurse. The student will learn the basic entry-level nursing skills to work in health care. The Long-Term Care Nursing Assistant/Home-Health Aide curriculum taken as a separate component provides the student with the necessary information and skills to take the State Competency Evaluation which is required for the Nursing Assistant State Registry. Both components contain a supervised clinical experience. The student will experience clinical in a nursing home in the Long-Term Care component and in the hospital in the Hospital Nursing Assistant component. During the clinical rotation students must relate classroom skills and knowledge to clinical practice. The Long-Term Care Nursing Assistant/Home-Health Aide may provide a career ladder. Successful completion of Long-Term Care Nursing Assistant/Home-Health Aide curriculum is a required component of Hospital Nursing Assistant, Human Services Technician, Practical Nurse And Surgical Technology programs. This curriculum will prepare the health care provider with the necessary skills to seek employment in long-term care, home-health agencies, hospitals or other related service areas. Taking all of the Nursing Assistant components will increase employment opportunities. A Nursing Assistant may be involved in direct patient/resident care or assist with care of the patient/resident unit and/or equipment, charting, record keeping and home-health services.
OFFICE CLERK
Certificate Program

I. General Education/Studies Requirements
----------------------------------------------- 4 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1630</td>
<td>College English</td>
<td>3 cr</td>
</tr>
<tr>
<td>GSCL 2870</td>
<td>Employment Strategies</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

II. Professionally-Related Business Requirements  
----------------------------------------------- 18 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1220</td>
<td>Human Relations in Organizations</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 1230</td>
<td>Machine Transcription</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 1320</td>
<td>Word Processing I</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2220</td>
<td>Business Communications</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2270</td>
<td>Office Procedures</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2350</td>
<td>Microcomputer Business App.</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

TOTAL ............................................................................................................ 22 Credits

NOTE: *AIS 1030    Speed/Accuracy Development    1 cr
*Recommended for students typing less than 55 wpm.

NOTE: KEYBOARDING PREREQUISITE: Students entering this program must be proficient in keyboarding skills at a minimum of 35 net wpm. Students not meeting this requirement should enroll in AIS 1050 keyboarding. This class will not count toward the required credits for the program.

Purpose: This abbreviated program is designed to train or retrain students for basic office clerical positions with emphasis placed on communications and current office technology.
# Program of Study

## PHARMACY TECHNICIAN Diploma

### I. General Education/Studies Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics and Natural Sciences</td>
<td>4 cr</td>
</tr>
<tr>
<td><strong>BIOL 1110</strong> Human Biology</td>
<td>4 cr</td>
</tr>
<tr>
<td>Other Requirements</td>
<td>3 cr</td>
</tr>
<tr>
<td><strong>GSCL 1676</strong> Computer Basics **</td>
<td>1 cr</td>
</tr>
<tr>
<td><strong>GSCL 1415</strong> Medical Terminology</td>
<td>1 cr</td>
</tr>
<tr>
<td><strong>GSCL 2870</strong> Employment Strategies</td>
<td>1 cr</td>
</tr>
</tbody>
</table>

### II. Pharmacy Technician Course Requirements

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHRM 1101</td>
<td>Orientation to Pharmacy Practice</td>
<td>1 cr</td>
</tr>
<tr>
<td>PHRM 1102</td>
<td>Pharmaceutics I</td>
<td>2 cr</td>
</tr>
<tr>
<td>PHRM 1103</td>
<td>Pharmacy Calculations</td>
<td>2 cr</td>
</tr>
<tr>
<td>PHRM 1104</td>
<td>Pharmaceutics II</td>
<td>2 cr</td>
</tr>
<tr>
<td>PHRM 1105</td>
<td>Pharmacy Law and Ethics</td>
<td>2 cr</td>
</tr>
<tr>
<td>PHRM 1106</td>
<td>Pharmacy Management &amp; Inventory Skills</td>
<td>2 cr</td>
</tr>
<tr>
<td>PHRM 1107</td>
<td>Compounding and Unit Dose Lab</td>
<td>3 cr</td>
</tr>
<tr>
<td>PHRM 1108</td>
<td>IV Admixture Lab</td>
<td>3 cr</td>
</tr>
<tr>
<td>PHRM 1109</td>
<td>Outpatient Dispensing Lab</td>
<td>3 cr</td>
</tr>
<tr>
<td>PHRM 1194</td>
<td>Sterile Products Dispensing Externship</td>
<td>2 cr</td>
</tr>
<tr>
<td>PHRM 1195</td>
<td>Unit Dose Dispensing Externship</td>
<td>2 cr</td>
</tr>
<tr>
<td>PHRM 1196</td>
<td>Outpatient Dispensing Externship</td>
<td>2 cr</td>
</tr>
</tbody>
</table>

### III. Other

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIS 2220</strong>* Business Communications</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**TOTAL** .......................................................................................................................................................36 Credits

*Other college level Human Biologies can meet this requirement.

**College word processing course may be substituted.

***College English can meet this requirement.

### Purpose:

The Pharmacy Technician Program is designed to educate support personnel to assume the responsibilities of performing many of the mechanical tasks involved in the operation of a pharmacy. Graduates of this program will be qualified to work in pharmacy settings that may include the community, hospital, home health care and others. Specific duties of the pharmacy technician may include: medication order filling, IV admixture preparation, inventory maintenance, pricing, third party billing, bulk compounding, patient profile maintenance, and other clerical duties.

### PHARMACY TECHNICIAN PROGRAM SEQUENCE

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
<th>Summer Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHRM 1101</td>
<td>PHRM 1105</td>
<td>PHRM 1194</td>
</tr>
<tr>
<td>PHRM 1102</td>
<td>PHRM 1106</td>
<td>PHRM 1195</td>
</tr>
<tr>
<td>PHRM 1103</td>
<td>PHRM 1107</td>
<td>PHRM 1196</td>
</tr>
<tr>
<td>PHRM 1104</td>
<td>PHRM 1108</td>
<td>TOTAL</td>
</tr>
<tr>
<td>PHRM 1109</td>
<td>AIS 2220</td>
<td>2 cr (60 hrs)</td>
</tr>
<tr>
<td>BIOL 1110</td>
<td>GSCL 2870</td>
<td></td>
</tr>
<tr>
<td>GSCL 1415</td>
<td>TOTAL</td>
<td>2 cr (60 hrs)</td>
</tr>
<tr>
<td>GSCL 1676</td>
<td></td>
<td>2 cr (60 hrs)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>6 cr</td>
</tr>
</tbody>
</table>

MATH 0098, 4 credits, required if prerequisite not met.

### NOTE:

Prerequisites: All first semester courses are taken concurrently or prior; second semester courses require that all first semester courses are completed. These courses can be taken at any time: AIS 2220, GSCL 1870. All courses need to be completed prior to Summer Session Externships.

--- Continued on Next Page ---
Registration and Sequence: The Pharmacy Technician courses are sequential and if prerequisites are not met the student must obtain permission of the instructor to register. Transfer courses at the same content level or higher than the general education courses will be accepted as substitutes for those courses.

Admissions:
(1) RCTC Admission - Meet the college admission requirements. Admission to the program is once a year in the Fall and is based on: admission to the College, high school diploma or GED, completion of prerequisites, date of application, 24 spaces available and GPA. A minimum 2.0 GPA in required courses.

(2) Application to the Pharmacy Technician Program - Form available from admissions office.
   a) Students must meet the RCTC admission requirements and be admitted to the College.
   b) Complete the Pharmacy Technician Program application and meet with the advisor. The form is available from the Admissions Office.
   c) Meet the competencies of MATH 0098 through testing or take an Elementary College Algebra Course (MATH 0098) or equivalent.
   d) Physical requirements for the job include the following: Ability to stand for more than 50% of the work hours, repetitive bending, stooping, squatting, working above shoulder level, use of both hands, lifting more than 25 pounds. Ability to distinguish colors and be able to have speech and hearing requirements to work on the telephone. Rotating shift and irregular hours are required and contact with chemicals and alcohol is routine.
   e) Criminal background checks must be completed prior to Externships.
PRACTICAL NURSING
Diploma Program

Pursuant to the Minnesota Board of Nursing, the Practical Nursing major is designed to provide students with the knowledge, skills and attitudes necessary to become licensed and provide direct nursing care to clients in hospitals, nursing homes, medical centers, clinics, doctors' offices, facilities for the mentally and physically handicapped, and in home health care. This educational program includes classroom theory, laboratory experience and supervised clinical experience in area hospitals, nursing homes, clinics and community health care agencies. The last semester of the program, students' clinical rotation includes an internship-like practicum where students obtain integrated clinical experience in eight-hour shifts with correlated classes designed to assist them in making a smooth transition from student role to the role of the graduate practical nurse. This transition role and the variety of relevant clinical experiences in multiple types of settings enhance the students' opportunities as valued members of the health care team. This level of education has provided many graduates the entry-level opportunity in the enhancement of their nursing career. A graduate of this program is eligible to apply to become qualified for the state board licensure examination. The program is approved by the Minnesota Board of Nursing and is fully accredited by the National League for Nursing Accreditation Commission.

Program Prerequisites:
Nursing Assistant/Home-Health Care Theory and Clinical, 4 credits (NA 1600 3 cr and NA 1601 1 cr). CPR-current certificate, level C or basic life support.

COURSE SEQUENCE - Part-time option is available. Students may complete program prerequisites at RCTC (NA 1600, 3 cr; NA 1601, 1 cr; & CPR course). All prerequisites and general education/general studies courses must be completed prior to Fall admission. General education/general studies courses (including PNM 1106) are offered as needed.
PRACTICAL NURSING
Diploma Program — Continued

Program Admission:
1. Meet college admission requirements including GED or high school diploma;
2. Meet program major requirements:
   a. Complete prerequisites and 10 credits of foundation courses.
   b. Students may be advised to take developmental courses in Math and English if college entrance test (ASAP) scores are below recommended levels. Basic Math skills are essential to passing the Pharmacology course.
   c. Submit completed program admission forms including health forms and recent medical examination, required immunizations, evidence of medical insurance and background study clearance as required by the Department of Human Services.
   d. Students should contact the Practical Nursing Program advisor each semester and prior to registering for foundation courses. Advising includes transfer courses and Practical Nursing course plan for full-time and part-time students.

RCTC class hours are 50 minutes in length; 1 credit is a minimum of 16 hours of classroom contact. The College has an expectation that students spend two hours of preparatory work for every one hour in the classroom. Nursing clinical assignments are calculated on a ratio of 1:2; 32 hours are spent in clinical work for every one credit.
RADIOGRAPHY (X-RAY TECHNOLOGY)
Associate in Science Degree Program
An Affiliated Program with the Mayo School of Health-Related Sciences

Program Accreditation: Joint Review Committee on Education in Radiologic Technology

I. General Education/Studies Requirements ................................................................. 30 Credits
A. Written and Oral Communication ................................................................... 4 cr
   ENGL 1117 Reading & Writing Critically I, 4 cr
B. Humanities and Fine Arts ............................................................................... 4 cr
   SPCH 1114 Fundamentals of Speech, 3 cr
   HUM 1114 Ethics and its Application in Health Care, 1 cr
C. History and Social Sciences ............................................................................ 4 cr
   PSYC 2618 General Psychology, 4 cr
D. Mathematics and Natural Sciences ................................................................ 14 cr
   BIOL 1127 Principles of Anatomy & Physiology I, 3 cr
   BIOL 1128 Principles of Anatomy & Physiology II, 3 cr
   PHYS 1102 Physics for the Health Sciences, 3 cr
   PHYS 2202 Radiation Physics, 3 cr
   PHYS 2212 Principles of Radiographic Exposure, 2 cr
E. Electives in General Education ..................................................................... 4 cr
   (Strongly recommend ENGL 1118, Reading and Writing Critically II, 4 cr)

II. Radiography Didactic Course Requirements ..................................................... 29 Credits
   **RCTC Courses; all other courses are Mayo courses
   RADT 101 Upper Limb, Chest, Abdominal Radiography 2 cr
   RADT 102 History & Introduction to Radiography 1 cr
   **RADT 1131 Medical Terminology I 1 cr
   **RADT 1132 Medical Terminology II 1 cr
   **RADT 1140 Patient Care for Radiologic Technologists 2 cr
   RADT 201 Gastrointestinal Radiography 1 cr
   RADT 203 Skeletal Radiography 2 cr
   RADT 204 Urography 1 cr
   RADT 206 Lower Limb Radiography 2 cr
   RADT 207 Mammmography 1 cr
   RADT 208 Radiographic Film Processing 1 cr
   RADT 210 Neurocardiovascular Radiography 2 cr
   RADT 213 Skull Radiography 2 cr
   RADT 214 Factor Analysis 2 cr
   RADT 301 Advanced Radiography Positioning 1 cr
   RADT 302 Advanced Imaging 2 cr
   RADT 303 Radiation Protection/Radiobiology/Quality Control 2 cr
   RADT 304 Pediatric Radiography 1 cr
   RADT 305 Special Modality Imaging 1 cr
   RADT 306 Applied Radiography Topics 1 cr

III. Radiography Clinical Course Requirements ..................................................... 34 Credits
   (All courses in this section are Mayo courses)
   RADT 115 Introduction to Clinical Radiography I (60 hours) 1 cr
   RADT 116 Introduction to Clinical Radiography II (120 hours) 2 cr
   RADT 215 Clinical Practicum I (308 hours) 5 cr
   RADT 216 Clinical Practicum II (513 hours) 8 cr
   RADT 315 Clinical Practicum III (680 hours) 11 cr
   RADT 316 Clinical Practicum IV (410 hours) 7 cr

TOTAL ................................................................................................................................. 93 Credits

— Continued on Next Page —
RADIOGRAPHY (X-RAY TECHNOLOGY)
Associate in Science Degree Program — Continued

Summary:
- Rochester Community and Technical College Didactic Credits: 30 cr
- Mayo School of Health-Related Sciences Didactic Credits: 30 cr
- Mayo School of Health-Related Sciences Clinical Credits: 33 cr
- Total Credits: 93 cr

Radiography Course Sequence (Length: 24 months)

YEAR 1

Fall Semester (September to December)
(RCTC & Mayo)
- ENGL 1117 4 cr
- BIOL 1127 3 cr
- RADT 1131 1 cr
- PSYC 2618 4 cr
- RADT 102 1 cr
- PHYS 1102 3 cr
- RADT 115* 1 cr
- TOTAL 17 cr

Spring Semester (January to May)
(RCTC & Mayo)
- BIOL 1128 3 cr
- RADT 1132 1 cr
- RADT 101 2 cr
- Elective 4 cr
- SPCH 1114 3 cr
- RADT 1140 2 cr
- RADT 116* 2 cr
- TOTAL 17 cr

Summer Semester (June to August)
(Mayo)
- HUM 1114 1 cr
- RADT 204 1 cr
- RADT 203 2 cr
- PHYS 2202 3 cr
- RADT 206 2 cr
- RADT 213 2 cr
- RADT 215* 5 cr
- TOTAL 16 cr

YEAR 2

Fall Semester (September to December)
(Mayo)
- RADT 208 1 cr
- RADT 214 2 cr
- PHYS 2212 2 cr
- RADT 201 1 cr
- RADT 207 1 cr
- RADT 210 2 cr
- RADT 216* 8 cr
- TOTAL 17 cr

Spring Semester (January to May)
(Mayo)
- RADT 301 1 cr
- RADT 302 2 cr
- RADT 303 2 cr
- RADT 304 1 cr
- RADT 305 1 cr
- RADT 315* 11 cr
- TOTAL 18 cr

Summer Semester (June to August)
(Mayo)
- RADT 306 1 cr
- RADT 316* 7 cr
- TOTAL 8 cr

*Clinical Hours: 60 hours = 1 semester credit

ADDITIONAL NOTES:
Purpose: The primary goal of this educational program is to provide academic and clinical educational opportunities for capable men and women to gain and develop the knowledge, skills and attitudes necessary for the ethical and professionally competent practice of radiography.

Admission: Students are admitted into the program only through the Mayo School of Health-Related Sciences Radiography Program. Applicants have a competitive advantage if they graduated in the upper one-half of the high school graduating class, a score above the 50th percentile on a standard aptitude test, and a strong background in mathematics and science. Applicants must have successfully completed ("C" or better) high school algebra II, or college intermediate algebra, or place at a math class beyond this course on a college placement test and high school biology. High school chemistry and physics are strongly recommended. For students without basic computer skills upon entering the program, a computer course (such as COMP 1112, Introduction to Computers with Applications, 3 cr) may be required. The application must be obtained from the Mayo School of Health-Related Sciences and must be submitted no later than January 15. Students must apply for admission to RCTC separately. Admission is competitive. It is based on previous education, work experience, goal statement, letters of reference, and interview. Science and math prerequisites must be completed within the previous five years.

Registration and Sequence of Courses: This is a 24-month program consisting of 61 academic credits and 34 clinical credits. Following appointment to the program by the Mayo School of Health-Related Sciences, students are enrolled in basic science and general education courses at RCTC for two semesters. Students also attend clinical practicums at Mayo during this time. The remaining 15 months are spent at the Mayo Medical Center. During this phase, students will attend an additional 19 courses of study and four major clinical practicums. Courses must be taken in the sequence specified on the Degree Program Sheet.

Program Completion: Those who complete the program will be awarded a Certificate of Completion by Mayo and will be awarded the Associate in Science Degree by RCTC. Graduates will be eligible to take the certification examination administered by the American Registry of Radiologic Technologists.
RESPIRATORY CARE
Associate in Science Degree Program
An Affiliated Program with the Mayo School of Health-Related Sciences

Program Accreditation: Commission on Accreditation of Allied Health Education Programs (CAAHEP) in conjunction with the Committee on Accreditation of Respiratory Care (COARC).

I. General Education/Studies Requirements .................................................................. 35 Credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC).
A. Written and Oral Communication ........................................................................... 4 cr
   ENGL 1117 Reading & Writing Critically I, 4 cr
   or ENGL 1917 Reading & Writing Critically I, Honors, if qualified
B. Humanities and Fine Arts .................................................................................... 4 cr
   Choose from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre.
   SPCH 1114 Introduction to Speech, 3 cr
   HUM 1114 Ethics and Its Application in Health Care, 1 cr
C. History and Social Sciences ................................................................................... 4 cr
   PSYC 2618 General Psychology, 4 cr
D. Mathematics and Natural Sciences ....................................................................... 23 cr
   BIOL 1217, 1218 Anatomy & Physiology I & II, 8 cr
   CHEM 1117, 1118 General Chemistry I & II, 8 cr
   BIOL 2021 General Microbiology, 4 cr
   PHYS 1102 Physics for the Health Sciences, 3 cr

II. Respiratory Therapy ................................................................................................. 43 Credits
   RC 1101 Orientation to Respiratory Care 1 cr
   RC 2201 Introduction to Respiratory Care Clinical Practice 3 cr
   RC 2202 Math & Physics in Respiratory Care 2 cr
   RC 2203 Patient Care Techniques 2 cr
   RC 2205 Medical Terminology & Informatics 1 cr
   RC 2228 Respiratory Care Modalities & Equipment I 5 cr
   RC 2229 Cardiopulmonary Patient Assessment 4 cr
   RC 2230 Respiratory Care Procedures & Equipment II 5 cr
   RC 2231 Advanced Cardiopulmonary Physiology and Pathophysiology 4 cr
   RC 2237 Clinical Practice I 1 cr
   RC 2238 Clinical Practice II 5 cr
   RC 2239 Clinical Practice III 6 cr
   RC 2240 Respiratory Care Seminar: Topics & Cases 2 cr
   RC 2241 Respiratory Care Seminar: Cases & Research 2 cr

TOTAL ........................................................................................................................... 78 Credits

RESPIRATORY CARE COURSE SEQUENCE (LENGTH: 24 months)

<table>
<thead>
<tr>
<th>Summer</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>CHEM 1117 4 cr</td>
<td>BIOL 1217 4 cr</td>
<td>BIOL 1218 4 cr</td>
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<tr>
<td>ENGL 1117 4 cr</td>
<td>PHYS 1102 3 cr</td>
<td>BIOL 2021 4 cr</td>
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<td>CHEM 1118 4 cr</td>
<td>HUM 1114 1 cr</td>
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<td></td>
<td>PSYC 2618 4 cr</td>
<td>SPCH 1114 3 cr</td>
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<td></td>
<td></td>
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<td>TOTAL 8 cr</td>
<td>TOTAL 15 cr</td>
<td>TOTAL 13 cr</td>
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<table>
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<th>Spring</th>
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<tr>
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<td>RC 2229 4 cr</td>
<td>RC 2231 4 cr</td>
</tr>
<tr>
<td>RC 2201 3 cr</td>
<td>RC 2228 5 cr</td>
<td>RC 2230 5 cr</td>
</tr>
<tr>
<td>RC 2237 1 cr</td>
<td>RC 2238 5 cr</td>
<td>RC 2239 6 cr</td>
</tr>
<tr>
<td>RC 2205 1 cr</td>
<td></td>
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<tr>
<td>TOTAL 9 cr</td>
<td>TOTAL 16 cr</td>
<td>TOTAL 17 cr</td>
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RESPIRATORY CARE — Continued

Registration and Sequence of Courses: This is a 24-month program consisting of 78 credits. During the first three semesters (including the first summer session) at RCTC, students will take general education courses with an emphasis on science as well as the Orientation to Respiratory Care. Students must successfully complete all freshman-year courses to be appointed by the Mayo School of Health-Related Sciences to summer session and sophomore year of clinical practice that complete the program. Course sequences are specified on the Degree Program Sheet. For more information and individual program planning please consult with the Respiratory Therapy Program Advisor, Dr. Terry Brown.

Career Decision: Respiratory Therapist:
A decision to become a respiratory therapist should be made only after a very personal commitment is made to become a health care professional with direct patient contact. This decision should not be made lightly because it requires assuming the responsibility of caring for patients who are seriously ill. A career as a respiratory therapist provides exciting and intellectually challenging work with sophisticated life-support systems. Respiratory therapists are important members of the health care team, working with medical direction from pulmonologists and physicians specialized in trauma resuscitation, emergency and critical care, and pulmonary and cardiac rehabilitation.

Respiratory care practitioners typically feel a strong sense of accomplishment and know that their work is important. Registered Respiratory Therapists (RRTs) have a well-defined scope of practice and have been identified by the Medical Board of the National Academy of Sciences as Type B Physician Assistants. Type B Physician Assistants are expected to have more knowledge about their medical specialty than the average physician who is not board certified in that area. Accordingly, RRTs are expected to make recommendations on the respiratory care of patients with pulmonary disorders. This level of interaction with physicians and other members of the health care team can be very rewarding. RRTs are considered to be authorities on the operation of life-support equipment used in critical care areas such as trauma centers and intensive care units. Interfacing mechanical ventilators to critically ill patients in respiratory failure, in order to provide life support, places great intellectual demands on the respiratory therapist. Accordingly, respiratory care professionals have high standards, with specialty board examinations provided by the National Board for Respiratory Care and licensure of respiratory care practitioners by 33 states in the USA. Career opportunities abound for both men and women as staff therapists or managers in critical care, rehabilitation, and education, or as technical specialists for high-tech equipment companies.

ADDITIONAL NOTES:
Purpose: This program combines education at RCTC with clinical and medical/technical instruction on the Mayo Medical Center campus. Respiratory care is a relatively new allied health specialty which provides a wide range of therapeutic and diagnostic services to patients with lung and heart disorders. These would include: oxygen administration, CPR, mechanical ventilator management, administering drugs to the lungs, monitoring cardiopulmonary systems and measuring lung function. The profession is a blend of direct patient care and technology. Employment opportunities include hospitals, clinics and home care.

Program Entrance And Completion Requirements:
Pre-admission Requirements:
I. Students new to RCTC apply for Pre-Admission by indicating Respiratory Care on their RCTC Application. Current or returning RCTC students complete the application for Pre-Admission for Respiratory Care obtained from the RCTC Admissions and Records Office. These applications are due by June 1 of the year the student is applying to the program. Late applications will be considered separately.

II. High school graduates within the last five years need to meet the following criteria:
   a. Graduation from high school/G.E.D.: graduated in upper 50% of his/her high school class.
   b. Prerequisites: Earn C or better in high school chemistry, high school “college algebra”, “algebra II”, and high school biology.

III. Students who graduated from high school over five years prior to the program Summer Semester start date need to complete the math and science prerequisites at RCTC or equivalent courses at another college with a grade of C or better: MATH 0099, CHEM 1101, and BIOL 1101.

IV. Transfer students or students with a baccalaureate degree must meet the following:
   Complete all the math or science prerequisites at RCTC with a grade of C or better: MATH 0099, CHEM 1101, and BIOL 1101 or transfer in equivalent courses from another institution with a grade of C or better. These courses must have been completed within the last five years. Science and math prerequisites and program courses completed longer than five years ago must be repeated.

Admission Requirements:
I. By the end of Fall Semester complete the following courses with a C or better: BIOL 1217, CHEM 1117, CHEM 1118, ENGL 1117, PSYC 2618, and PHYS 1102. The “raw” GPA of the above courses must be a minimum of 2.5. Grades of D, F or I will not be allowed. All mathematics courses and science courses must be completed within five years of entering the program. “Raw” GPA is calculated based on all attempts at these courses within their acceptable time frame.

II. Fifteen people will be admitted to the program following the fall semester based on ranking of “raw” GPA at the conclusion of fall semester. In the case of identical GPAs, the earliest date of initial application will be used.

Appointment Requirements:
I. Students must complete all first year courses with grades of “C” or better and a “raw” science GPA of 2.2 or better.

II. Students will then be appointed to Respiratory Care in the Mayo School of Health Related Sciences.

Policy and Guidelines for Appointment and Retention:
Students are given the Policy and Guidelines document upon appointment to the program. This is a detailed explanation of program entrance policies; requirements for appointment to the sophomore year; guidelines for evaluation, probation and dismissal; policies governing academic deficiency, non-academic deficiency, and conduct deficiency; and procedures for student grievances. Students are responsible for knowing and abiding by the Policy and Guidelines document.

Program Completion: Those who complete the program will be awarded an A.S. Degree by RCTC. Graduates will be eligible to sit for the required credentialing exams to complete registry status administered by the National Board for Respiratory Care (NBRC).
## RETAIL MERCHANDISING
### Associate in Science Degree Program

### I. General Education/Studies Requirements

Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog course listings.

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Communications</strong></td>
<td>4 cr</td>
</tr>
<tr>
<td>ENGL 1117 or Reading and Writing Critically I</td>
<td></td>
</tr>
<tr>
<td>ENGL 1917 or Reading and Writing Critically I: Honors</td>
<td></td>
</tr>
<tr>
<td><strong>B. Humanities and Fine Arts</strong></td>
<td>4 cr</td>
</tr>
<tr>
<td>Electives from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater</td>
<td></td>
</tr>
<tr>
<td><strong>C. Social Sciences</strong></td>
<td>4 cr</td>
</tr>
<tr>
<td>Electives from Anthropology, Geography, History, Political Science, Psychology, Sociology</td>
<td></td>
</tr>
<tr>
<td>ECON 1101 or Introduction to Economics I (Recommended)</td>
<td></td>
</tr>
<tr>
<td>ECON 1901 or Introduction to Economics I: Honors</td>
<td></td>
</tr>
<tr>
<td>ECON 2214 or Principles of Economics: Micro</td>
<td></td>
</tr>
<tr>
<td><strong>D. Mathematics and/or Natural Sciences</strong></td>
<td>4 cr</td>
</tr>
<tr>
<td>Mathematics must be 1111 college level or above, except MATH 2051 and 2052.</td>
<td></td>
</tr>
<tr>
<td>Natural Science must include one lab course in Biology, Chemistry, Earth Science or Physics</td>
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<tr>
<td><strong>E. Additional General Education Electives</strong></td>
<td>14 cr</td>
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<tr>
<td>Choose elective credits from Categories A-D</td>
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<tr>
<td>SPCH 1114 or Fundamentals of Speech (Recommended)</td>
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### II. Professionally-Related Retail Merchandising Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>RMDS 1110 or Introduction to Retail Merchandising</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 1120 or Visual Merchandising</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 1130 or Textiles</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 1140 or Professional Image in Business</td>
<td>2 cr</td>
</tr>
<tr>
<td>RMDS 2220 or Home Furnishings Merchandising</td>
<td>2 cr</td>
</tr>
<tr>
<td>RMDS 2230 or Showmanship and Promotion</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2240 or History of Costume</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2250 or Store Management</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2294 or Internship</td>
<td>2 cr</td>
</tr>
<tr>
<td>BUS 2217 or Financial Accounting</td>
<td>4 cr</td>
</tr>
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</table>

### III. Retail Merchandising, Business and/or Open Electives

Suggested electives, but not limited to:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMDS 2210 or National/Int’l Retail Merchandising Study Tour</td>
<td>1 cr</td>
</tr>
<tr>
<td>RMDS 2221 or Interior Design</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2290 or Retail Merchandising Seminar</td>
<td>1 cr</td>
</tr>
<tr>
<td>RMDS 2294 or Internship</td>
<td>2 cr</td>
</tr>
<tr>
<td>BUS 2214 or Retailing</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

### TOTAL

At least 60 Credits

**Purpose:** The Associate in Science (AS) in Retail Merchandising Program is designed for transfer to a baccalaureate major. The student may use the program to satisfy the first two years of a four-year retail merchandising program. The RCTC Retail Merchandising Program has a transfer agreement with the University of Wisconsin-Stout and Iowa State University. Transfer agreements with North Dakota State University and the University of Minnesota are in the planning stage. The Retail Merchandising Program prepares graduates for mid-management employment and subsequent advancement in the field of apparel and interior decorating. Students are required to do an internship and may participate in student tours to such markets as New York, Paris, London, and Hong Kong, which provide challenging opportunities.

**Occupational Objectives:** The program provides opportunities for careers such as: buyers, department managers, group managers, store managers, manufacturer’s representatives, visual merchandisers, promotions directors, fashion directors, journalists, and human resource managers. Graduates with the interior decorating option may seek employment in retailing, interior studios, consulting, or managing their own businesses.
# Programs of Study

## RETAIL MERCHANDISING
### INTERIOR DECORATING OPTION
### Associate in Science Degree Program

### I. General Education/Studies Requirements

Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog course listings.

A. **Communications**

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>ENGL 1117 or</td>
<td>4 cr</td>
</tr>
<tr>
<td>ENGL 1917</td>
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<tr>
<td>Reading and Writing Critically I</td>
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B. **Humanities and Fine Arts**

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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theater</td>
<td>4 cr</td>
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C. **Social Sciences**

<table>
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<tr>
<th>Electives</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Anthropology, Geography, History, Political Science, Psychology, Sociology</td>
<td>4 cr</td>
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D. **Mathematics and/or Natural Sciences**

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<tr>
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<tbody>
<tr>
<td>Mathematics must be 1111 college level or above, except MATH 2051 and 2052.</td>
<td>4 cr</td>
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E. **Additional General Education Electives**

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<tbody>
<tr>
<td>Elective credits from Categories A-D</td>
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### II. Professionally-Related Interior Decorating Core Requirement

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>RMDS 1120</td>
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<td>RMDS 1130</td>
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<td>RMDS 2221</td>
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<td>RMDS 2250</td>
<td>3 cr</td>
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<td>RMDS 2294</td>
<td>2 cr</td>
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<td>3 cr</td>
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<td>BUS 2217</td>
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<tr>
<td>BUS 2350 or</td>
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<tr>
<td>COMP 1112</td>
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### III. Retail Merchandising, Business and/or Open Electives

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<td>RMDS 2210</td>
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<td>RMDS 2240</td>
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<tr>
<td>RMDS 2290</td>
<td>1 cr</td>
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<td>RMDS 2294</td>
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### TOTAL

At least 60 Credits

Retail Merchandising Interior Decorating Option (AS), Suggested Program Sequence

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<th>Semester - III</th>
<th>Semester - IV</th>
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<td>RMDS 1120</td>
<td>3 or</td>
<td>BUS 2214</td>
<td>RMDS 2250</td>
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<tr>
<td>RMDS 1140</td>
<td>2</td>
<td>RMDS 2294</td>
<td>(RMDS 2294)</td>
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<td>RMDS 2220</td>
<td>2</td>
<td>BUS 2217</td>
<td>BUS 2350</td>
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<td>ENGL 1117</td>
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<td>or COMP 1112</td>
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<td>HUM/FINE ART</td>
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TOTAL 16
RETAIL MERCHANDISING
Associate in Applied Science Degree Program

I. General Education/Studies Requirements ................................................................. 20 Credits
A. Written and Oral Communication ........................................................................ 4 cr
   ENGL 1117 or Reading and Writing Critically I
   ENGL 1917 Reading and Writing Critically I: Honors
B. Humanities and Fine Arts .................................................................................. 3 cr
   Electives from Art, English Literature, Foreign Language, Humanities,
   Journalism, Music, Philosophy, Speech/Theater
C. Social Sciences .................................................................................................... 3 cr
   Electives from Anthropology, Geography, History, Political Science, Psychology, Sociology
   ECON 1101 or Introduction to Economics I (Recommended)
   ECON 1901 or Introduction to Economics I: Honors
   ECON 2214 Principles of Economics: Microeconomics
D. Mathematics and/or Natural Sciences ................................................................. 3 cr
   Mathematics must be 1111 college level or above, except MATH 2051 and 2052.
   Natural Science must include one lab course in Biology, Chemistry, Earth Science or Physics
E. Additional General Education Electives ............................................................. 7 cr
   Choose elective credits from Categories A-D
   SPCH 1114, Fundamentals of Speech (Recommended)

II. Professionally-Related Retail Merchandising Core Requirements .......................... 30 Credits
RMDS 1110 Introduction to Retail Merchandising 3 cr
RMDS 1120 Visual Merchandising 3 cr
RMDS 1130 Textiles 3 cr
RMDS 1140 Professional Image in Business 2 cr
RMDS 2220 Home Furnishings Merchandising 2 cr
RMDS 2230 Showmanship and Promotion 3 cr
RMDS 2240 History of Costume 3 cr
RMDS 2250 Store Management 3 cr
RMDS 2294 Internship 2 cr
BUS 2214 Retailing 3 cr
BUS 1115 or Small Business Accounting 3 cr
BUS 2217 Financial Accounting 4 cr

III. Retail Merchandising, Business and/or Open Electives ...................................... 10 Credits
Suggested electives, but not limited to:
RMDS 2210 National/Intl Retail Merchandising Study Tour 1 cr
RMDS 2221 Interior Design 3 cr
RMDS 2290 Retail Merchandising Seminar 1 cr
RMDS 2294 Internship 2 cr

TOTAL ............................................................................................................................ At least 60 Credits

Purpose: The Retail Merchandising Program prepares graduates for mid-management employment and subsequent advancement in the field of retail and interior decorating. The student may also use the program to satisfy the first two years of a four-year retail merchandising program and/or interior decorating option. Students are required to do an internship and may participate in student tours to such markets as New York, Paris, London, and Hong Kong, which provide challenging opportunities.

Occupational Objectives: The program provides opportunities for careers such as: buyers, department managers, group managers, store managers, manufacturer’s representatives, visual merchandisers, promotions directors, fashion directors, journalists, and human resource managers. Graduates with the interior decorating option may seek employment in retailing, interior studios, consulting, or managing their own businesses.

Retail Merchandising (A. A.S.) - Suggested Program Sequence

<table>
<thead>
<tr>
<th>Semester - I</th>
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<th>Semester - III</th>
<th>Semester - IV</th>
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<tbody>
<tr>
<td>RMDS 1110 3</td>
<td>RMDS 1130 3</td>
<td>RMDS 2220 2</td>
<td>RMDS 2240 3</td>
</tr>
<tr>
<td>RMDS 1120 3</td>
<td>RMDS 1140 2</td>
<td>RMDS 2330 3</td>
<td>RMDS 2250 3</td>
</tr>
<tr>
<td>ENGL 1117 4</td>
<td>Soc Sci Elect 3</td>
<td>BUS 1115 or 3</td>
<td>Gen Ed Elect 1</td>
</tr>
<tr>
<td>HUM/FINE ART 3</td>
<td>Gen Ed Elect 6</td>
<td>BUS 2217 4</td>
<td>Open Electives 7</td>
</tr>
<tr>
<td>TOTAL 15</td>
<td>TOTAL 15</td>
<td>BUS 2214 3</td>
<td>TOTAL 14</td>
</tr>
</tbody>
</table>

Open Electives 3

TOTAL 16
RETAIL MERCHANDISING
INTERIOR DECORATING OPTION
Associate in Applied Science Degree Program

I. General Education/Studies Requirements ................................................................. 20 Credits

A. Written and Oral Communication ........................................................................ 4 cr
   ENGL 1117 or Reading and Writing Critically I
   ENGL 1917 Reading and Writing Critically I: Honors

B. Humanities and Fine Arts .................................................................................... 3 cr
   Electives from Art, English Literature, Foreign Language, Humanities,
   Journalism, Music, Philosophy, Speech/Theatre

C. Social Sciences ..................................................................................................... 3 cr
   Electives from Anthropology, Geography, History, Political Science, Psychology, Sociology
   ECON 1101 or Introduction to Economics I (Recommended)
   ECON 1901 or Introduction to Economics I: Honors
   ECON 2214 Principles of Economics: Micro

D. Mathematics and/or Natural Sciences .................................................................. 3 cr
   Mathematics must be 1111 college level or above, except MATH 2051 and 2052.
   Natural Science must include one lab course in Biology, Chemistry, Earth Science or Physics

E. Additional General Education Electives ............................................................... 7 cr
   Choose elective credits from categories A-D
   SPCH 1114 Fundamentals of Public Speech (Recommended)

II. Professionally-Related Interior Decorating Core Requirements .......................... 27 Credits

RMDS 1120 Visual Merchandising ................................................................. 3 cr
RMDS 1130 Textiles ....................................................................................... 3 cr
RMDS 1140 Professional Image in Business .................................................... 2 cr
RMDS 2220 Home Furnishings Merchandising .............................................. 2 cr
RMDS 2221 Interior Design ............................................................................ 3 cr
RMDS 2250 Store Management ...................................................................... 3 cr
RMDS 2294 Internship ................................................................................... 2 cr
BUS 2214 Retailing ......................................................................................... 3 cr
BUS 1115 or Small Business Accounting ....................................................... 3 cr
BUS 2217 Financial Accounting ................................................................. 4 cr
BUS 2350 or Microcomputer Business Applications .................................. 3 cr
COMP 1112 Introduction to Computers with Applications ......................... 3 cr

III. Retail Merchandising, Business and/or Open Electives ....................................... 13 Credits
   Suggested electives but not limited to:
   RMDS 1110 Introduction to Retail Merchandising ......................................... 3 cr
   RMDS 2210 National/Int'l Retail Merchandising Study Tour ....................... 1 cr
   RMDS 2230 Showmanship and Promotion .................................................. 3 cr
   RMDS 2240 History of Costume .................................................................... 3 cr
   RMDS 2290 Retail Merchandising Seminar .................................................. 1 cr
   RMDS 2294 Internship ............................................................................... 2 cr
   ET 1124 Architectural Drafting ................................................................. 2 cr

TOTAL ............................................................................................................... At least 60 Credits

Retail Merchandising Interior Decorating
Option (AAS), Suggested Program Sequence

<table>
<thead>
<tr>
<th>Semester - I</th>
<th>Semester - II</th>
<th>Semester - III</th>
<th>Semester - IV</th>
</tr>
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<tbody>
<tr>
<td>RMDS 1120 3 or RMDS 1120 (3)</td>
<td>RMDS 2294 2 or (RMDS 2294) 2</td>
<td>BUS 2214 3</td>
<td>RMDS 2250 3</td>
</tr>
<tr>
<td>RMDS 1140 2</td>
<td>RMDS 1130 3</td>
<td>BUS 1115 or 3</td>
<td>Gen Ed Elect 4</td>
</tr>
<tr>
<td>RMDS 2220 2</td>
<td>RMDS 2221 3</td>
<td>BUS 2217 4</td>
<td>BUS 2350 or 3</td>
</tr>
<tr>
<td>ENGL 1117 4</td>
<td>MATH/SCI Elect 3</td>
<td>Social Sci Elect 3</td>
<td>Open Elect 8</td>
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<tr>
<td>HUM/FINE ART 3</td>
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<td>Open Elect 8</td>
<td>COMP 1112 3</td>
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<td>TOTAL 14</td>
<td>Gen Ed Elect 3</td>
<td>TOTAL 20</td>
<td>Open Elective 5</td>
</tr>
<tr>
<td>TOTAL 15</td>
<td>TOTAL 15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Education For Life and Work
RETAIL MERCHANDISING
Diploma Program

I. General Education/Studies Requirements ................................................................. 4 Credits
Students must complete a minimum of 4 credits of general education or general studies distributed across a minimum of 2 disciplines.

II. Professionally-Related Retail Merchandising Core Requirements .......................... 19 Credits
- RMDS 1110 Introduction to Retail Merchandising 3 cr
- RMDS 1120 Visual Merchandising 3 cr
- RMDS 1130 Textiles 3 cr
- RMDS 1140 Professional Image in Business 2 cr
- RMDS 2230 Showmanship and Promotion 3 cr
- RMDS 2250 Store Management 3 cr
- RMDS 2294 Internship 2 cr

III. Retail Merchandising, Business and/or Open Electives ........................................... 7 Credits
Suggested electives, but not limited to:
- RMDS 2210 National/International Retail Study Tour 1 cr
- RMDS 2220 Home Furnishings Merchandising 2 cr
- RMDS 2221 Interior Design 3 cr
- RMDS 2240 History of Costume 3 cr
- RMDS 2290 Retail Merchandising Seminar 1 cr
- BUS 1115 mall Business Accounting 3 cr
- BUS 2214 Retailing 3 cr
- BUS 2217 Financial Accounting 4 cr

TOTAL .......................................................................................................................... At least 30 Credits

Purpose: The Retail Merchandising Diploma prepares graduates for entry level employment and subsequent advancement in the field of retail and interior decorating. The student may also use the diploma to satisfy the first 30 credits of a two-year retail merchandising program, or interior decorating option. Students are required to do an internship and may participate in study tours to such markets as New York, Paris, London, Hong Kong, and China, which provide challenging opportunities.

Retail Merchandising (Diploma)
Suggested Program Sequence

<table>
<thead>
<tr>
<th>Semester - I</th>
<th>Semester - II</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMDS 1110</td>
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<tr>
<td>RMDS 1140</td>
<td>RMDS 2250</td>
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<tr>
<td>Open Elect</td>
<td>Open Elect</td>
</tr>
<tr>
<td>TOTAL 16</td>
<td>TOTAL 14</td>
</tr>
</tbody>
</table>
RETAIL MERCHANDISING
INTERIOR DECORATING OPTION
Diploma Program

I. General Education/Studies Requirements ................................................................. 4 Credits
Students must complete a minimum of 4 credits of general education or general studies distributed across a mini-
imum of 2 disciplines.

II. Professionally-Related Interior Decorating Core Requirements .............................. 18 Credits
RMDS 1130 Textiles 3 cr
RMDS 1120 Visual Merchandising 3 cr
RMDS 1140 Professional Image in Business 2 cr
RMDS 2220 Home Furnishings Merchandising 2 cr
RMDS 2221 Interior Design 3 cr
RMDS 2250 Store Management 3 cr
RMDS 2294 Internship 3 cr

III. Retail Merchandising, Business and/or Open .......................................................... 8 Credits
Suggested electives, but not limited to:
RMDS 1110 Introduction to Retail Merchandising 3 cr
RMDS 2210 National/Int’l Retail Merchandising Study Tour 1 cr
RMDS 2230 Showmanship and Promotion 3 cr
RMDS 2240 History of Costume 3 cr
RMDS 2290 Retail Merchandising Seminar 1 cr
BUS 1115 Small Business Accounting 3 cr
BUS 2214 Retailing 3 cr
BUS 2217 Financial Accounting 4 cr
BUS 2350 or Microcomputer Business Applications 3 cr
COMP 1112 Introduction to Computers with Applications 3 cr
ET 1124 Architectural Drafting 2 cr

TOTAL ...................................................................................................................... At least 30 Credits

Retail Merchandising Interior Decorating Option (Diploma)
Suggested Program Sequence

<table>
<thead>
<tr>
<th>Semester - I</th>
<th>Semester - II</th>
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<tbody>
<tr>
<td>RMDS 1120 3 or (RMDS 1120) 3</td>
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<tr>
<td>RMDS 1140 2</td>
<td>RMDS 1130 3</td>
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<td>RMDS 2220 2</td>
<td>RMDS 2221 3</td>
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<td>Gen Ed Elect 3</td>
<td>RMDS 2250 3</td>
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<tr>
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<td>RMDS 2294 2</td>
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<td>TOTAL 16</td>
<td>Total 16</td>
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### Programs of Study

**RETAIL MERCHANDISING Certificate Program**

I. **Professionally-Related Retail Merchandising Requirements** ......................................................... 9 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>RMDS 1110</td>
<td>Introduction to Retail Merchandising</td>
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</tr>
<tr>
<td>RMDS 1120</td>
<td>Visual Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>RMDS 1130</td>
<td>Textiles</td>
<td>3</td>
</tr>
</tbody>
</table>

II. **Retail Merchandising, Business and/or Open Electives** ......................................................... 1 Credit

Suggested electives, but not limited to:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMDS 1140</td>
<td>Professional Image in Business</td>
<td>2</td>
</tr>
<tr>
<td>RMDS 2210</td>
<td>National/International Retail Study Tour</td>
<td>1</td>
</tr>
<tr>
<td>RMDS 2220</td>
<td>Home Furnishing Merchandising</td>
<td>2</td>
</tr>
<tr>
<td>RMDS 2221</td>
<td>Interior Design</td>
<td>3</td>
</tr>
<tr>
<td>RMDS 2230</td>
<td>Showmanship and Promotion</td>
<td>3</td>
</tr>
<tr>
<td>RMDS 2240</td>
<td>History of Costume</td>
<td>3</td>
</tr>
<tr>
<td>RMDS 2250</td>
<td>Store Management</td>
<td>3</td>
</tr>
<tr>
<td>RMDS 2290</td>
<td>Retail Merchandising Seminar</td>
<td>1</td>
</tr>
<tr>
<td>RMDS 2294</td>
<td>Internship</td>
<td>2</td>
</tr>
<tr>
<td>BUS 1115 or</td>
<td>Small Business Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2217</td>
<td>Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS 2214</td>
<td>Retailing</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL** ........................................................................................................................................... At Least 10 Credits

**Purpose:** The Retail Merchandising Occupational Certificate prepares graduates for entry level employment, upgrading of employment skills, and subsequent advancement in the field of retail and interior decorating. The student may also use the Occupational Certificate to satisfy the first 10 credits of a two-year retail merchandising program, and/or interior decorating option. Students may participate in an internship and attend study tours to such markets as New York, Paris, London, and Hong Kong, which provide challenging opportunities.

**Retail Merchandising (Certificate) - Suggested Program Sequence**

<table>
<thead>
<tr>
<th>Semester - I</th>
<th>Semester - II</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMDS 1110</td>
<td>RMDS 1130</td>
</tr>
<tr>
<td>RMDS 1120 or</td>
<td>RMDS 1120</td>
</tr>
<tr>
<td>Open Elect</td>
<td>TOTAL</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3 or</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>TOTAL</td>
</tr>
<tr>
<td>TOTAL</td>
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</tbody>
</table>

**Purpose:** The Retail Merchandising Occupational Certificate prepares graduates for entry level employment, upgrading of employment skills, and subsequent advancement in the field of retail and interior decorating. The student may also use the Occupational Certificate to satisfy the first 10 credits of a two-year retail merchandising program, and/or interior decorating option. Students may participate in an internship and attend study tours to such markets as New York, Paris, London, and Hong Kong, which provide challenging opportunities.
## RETAIL MERCHANDISING INTERIOR DECORATING OPTION Certificate Program

### I. Professionally-Related Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMDS 1130</td>
<td>Textiles</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 1120</td>
<td>Visual Merchandising</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2220</td>
<td>Home Furnishing Merchandising</td>
<td>2 cr</td>
</tr>
</tbody>
</table>

### II. Retail Merchandising Business and/or Open Electives

Suggested electives, but not limited to:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMDS 1140</td>
<td>Professional Image in Business</td>
<td>2 cr</td>
</tr>
<tr>
<td>RMDS 2210</td>
<td>National/Int’l Retail Merchandising Study Tour</td>
<td>1 cr</td>
</tr>
<tr>
<td>RMDS 2221</td>
<td>Interior Design</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2230</td>
<td>Showmanship and Promotion</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2240</td>
<td>History of Costume</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2250</td>
<td>Store Management</td>
<td>3 cr</td>
</tr>
<tr>
<td>RMDS 2290</td>
<td>Retail Merchandising Seminar</td>
<td>1 cr</td>
</tr>
<tr>
<td>RMDS 2294</td>
<td>Internship</td>
<td>2 cr</td>
</tr>
<tr>
<td>BUS 1115</td>
<td>Small Business Accounting</td>
<td>3 cr</td>
</tr>
<tr>
<td>BUS 2217</td>
<td>Financial Accounting</td>
<td>4 cr</td>
</tr>
<tr>
<td>BUS 2214</td>
<td>Retailing</td>
<td>3 cr</td>
</tr>
<tr>
<td>BUS 2350</td>
<td>Microcomputer Business Applications</td>
<td>3 cr</td>
</tr>
<tr>
<td>COMP 1112</td>
<td>Introduction to Computers with Applications</td>
<td>3 cr</td>
</tr>
<tr>
<td>ET 1124</td>
<td>Architectural Drafting</td>
<td>2 cr</td>
</tr>
</tbody>
</table>

TOTAL: At least 10 Credits

### Retail Merchandising Interior Decorating Option (Certificate) - Suggested Program Sequence

<table>
<thead>
<tr>
<th>Semester - I</th>
<th>Semester - II</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMDS 2220</td>
<td>RMDS 1130</td>
</tr>
<tr>
<td>RMDS 1120</td>
<td>(RMDS 1120)</td>
</tr>
<tr>
<td>Open Elect</td>
<td>TOTAL</td>
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</tbody>
</table>

TOTAL: 7 Credits

## SECRETARIAL REFRESHER Certificate Program

### Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>AIS 2220</td>
<td>Business Communications</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 1320</td>
<td>Word Processing I</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2350</td>
<td>Microcomputer Business Appl</td>
<td>3 cr</td>
</tr>
<tr>
<td>Elective:</td>
<td>Choose one:</td>
<td></td>
</tr>
<tr>
<td>AIS 1510</td>
<td>Exploring the Internet</td>
<td>3 cr</td>
</tr>
<tr>
<td>AIS 2200</td>
<td>Information Resource Management</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

TOTAL: 12 Credits
SURGICAL TECHNOLOGY
Associate in Applied Science Degree Program

Accreditation: The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Accreditation Review Committee on Education in Surgical Technology (ARC-ST).

I. General Education/Studies Requirements ............................................................................................................. 22 Credits
   A. Written and Oral Communications ......................................................................................................................... 4 cr
      ENGL 1117 Reading & Writing Critically, 4 cr
   B. Humanities and Fine Arts ........................................................................................................................................... 3 cr
      SPCH 1114 Fundamentals of Speech, 3 cr
   C. History and Social Science ........................................................................................................................................ 3 cr
      PSYC 1611 Psychology of Adjustment, 3 cr
   D. Math and Natural Sciences ...................................................................................................................................... 12 cr
      BIOL 1217 Anatomy and Physiology I, 4 cr
      BIOL 1218 Anatomy and Physiology II, 4 cr
      CHEM 1117 General Chemistry, 4 cr

II. Professional Core ....................................................................................................................................................... 42 Credits
   NA 1609 Nursing Assistant for Surgical Technology 5 cr
   AIS 1600 Introduction to Medical Terminology 2 cr
   GSCL 2870 Employment Strategies 1 cr
   ST 2110 Surgical Technology Medications & Microbiology 3 cr
   ST 2120 Operating Room Techniques I 5 cr
   ST 2121 Operating Room Techniques II 5 cr
   ST 2122 Introduction to the Operating Room 3 cr
   ST 2123 Surgical Procedures I 9 cr
   ST 2124 Surgical Procedures II 9 cr

III. Electives .................................................................................................................................................................... 1 Credit
   Any computer course depending on student’s skill or other elective.

TOTAL ................................................................................................................................................................................. 65 Credits

PURPOSE: The Surgical Technology major is designed to provide students with the knowledge and skills necessary for careers working in an operating room. The surgical technologist prepares the surgical environment and functions as a team member during surgical procedures. After many hours of simulated experiences in a well equipped lab, students will obtain clinical experience at the Mayo Medical Center and area hospitals. Opportunities for employment include hospital operating rooms, clinics, ambulatory surgery centers, central supply, cardiac catheterization laboratories, private physicians offices, and other areas where invasive procedures are done.

COURSE SEQUENCE

FALL
Semester I
BIOL 1217 4 cr
CHEM 1117 4 cr
*NA 1609 5 cr
AIS 1600 2 cr
GSCL 2870 1 cr
TOTAL 16 cr

SPRING
Semester II
ENGL 1117 4 cr
Biol 1218 4 cr
SPCH 1114 3 cr
**ELECTIVE 1 cr
TOTAL 15 cr

FALL
Semester III
ST 2210 3 cr
ST 2120 5 cr
ST 2121 5 cr
ST 2122 3 cr
TOTAL 18 cr

SPRING
Semester IV
ST 2123 9 cr
ST 2124 9 cr

*Offered only in fall; may meet requirements with regular Nursing Assistant program. Current CPR Certification required before attending NA 1609.

**ELECTIVE: One credit elective - a computer course required if not computer literate.

NOTE: Second year surgical technology sequenced courses begin only in the fall.

— Continued on Next Page —
Pre-Admission Criteria:
1. High school graduates within the last five years need to meet the following criteria:
   a. Diploma from high school/GED
   b. Earn a “C” or better in high school chemistry, algebra and biology.
2. Students who were graduated from high school for over five years need to complete the math and science requirements with a grade of “C” or better MATH 0098, CHEM 1101, and BIOL 1101.
3. Apply to RCTC and indicate Surgical Technology as a major
4. Take ASAP test

Admission Requirements:
Before a student can enroll in the second year of the program they must have, at minimum, successfully completed the following courses:
1. Must complete BIOL 1217, 1218, CHEM 1117; a minimum grade of 2.0 (C) preferred, will accept one D.
2. Must complete Nursing Assistant requirements NA 1609.
3. Must complete ENGL 1117 and AIS 1600.
4. Overall GPA must be 2.0.
5. 25 students will be admitted into second year of program based on above criteria, and total number of credits completed in program major.
6. Students should contact program director for second year admission by March 31 and will be notified by approximately April 15 for admission the following fall.
7. Must be certified in CPR as Healthcare Provider at beginning of second year and current upon graduation.
8. Prior to beginning the second year the student must:
   a. Meet the health requirements, forms are sent to students with acceptance to the program: Physical exam, immunizations, including annual mantoux, hepatitis.
   b. Document health insurance.
   c. Purchase liability insurance, attached as fee to course at the college.
   d. Complete Criminal Background Check required by the State of Minnesota.

Program Completion
1. Must complete each Surgical Technology sequence course with a minimum grade of 2.0.
2. Upon successful completion of the program, an Associate of Applied Science Degree will be awarded. Graduates are eligible to take the National Certifying Examination for Surgical Technologists to become a Certified Surgical Technologist.
SURVEYING  
Associate in Science Degree Program

I. General Education/Studies Requirements ............................................................................. 42 Credits

A. Written and Oral Communications ...................................................................................... 4 cr
   ENGL 1117 or Reading & Writing Critically I  4 cr
   ENGL 1917 Reading & Writing Critically I, Honors  4 cr

B. Humanities and Fine Arts .................................................................................................... 4 cr
   Elective from Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre  4 cr

C. History and Social Sciences ............................................................................................... 4 cr
   Electives from Anthropology, Geography, History, Political Science, Psychology, Sociology

D. Mathematics and Natural Sciences .................................................................................... 30 cr
   MATH 1127 Calculus I 5 cr
   MATH 1128 Calculus II 5 cr
   MATH 2237 Multivariable and Vector Calculus 5 cr
   MATH 2238 Differential Equations and Linear Algebra 5 cr
   PHYS 1127 Classical Mechanics 5 cr
   PHYS 1128 Heat and Electricity 5 cr

II. Professionally-related Requirements .................................................................................. 24 Credits

   DRAW 1121 Engineering Graphics 3 cr
   CET 1210 Surveying I 3 cr
   CET 2110 Surveying II 4 cr
   CET 2210 Surveying III 4 cr
   COMP 2220 Concepts of Prog. for Non-Computer Science Majors 4 cr
   ENGR 2211 Statics 3 cr
   ENGR 2212 Dynamics 3 cr

TOTAL ....................................................................................................................................... 66 Credits

Surveying Course Sequence
LENGTH 18 months

<table>
<thead>
<tr>
<th>Fall - 1</th>
<th>Spring - 1</th>
<th>Fall - 2</th>
<th>Spring - 2</th>
</tr>
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<tbody>
<tr>
<td>MATH 1127 5</td>
<td>MATH 1128 5</td>
<td>MATH 2237 5</td>
<td>MATH 2238 5</td>
</tr>
<tr>
<td>PHYS 1127 5</td>
<td>PHYS 1128 5</td>
<td>ENGR 2211 3</td>
<td>ENGR 2212 3</td>
</tr>
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<td>CET 1210 3</td>
<td>CET 2110 4</td>
<td>CET 2210 4</td>
</tr>
<tr>
<td>DRAW 1121 3</td>
<td>ELECTIVES 4</td>
<td>COMP 2220 4</td>
<td>ELECTIVES 4</td>
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<tr>
<td>17</td>
<td>17</td>
<td>16</td>
<td>16</td>
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</tbody>
</table>

ADDITIONAL NOTES:

Purpose: Rochester Community College in cooperation with area colleges and universities has designed a lower division surveying curriculum which will satisfy two years of the Bachelor of Science program in surveying.

Admissions: Entrance requirements include three years of high school English and four years of high school mathematics and one year of high school chemistry and physics or the equivalent at the college level is strongly recommended. Without sufficient high school background in mathematics and science, it may take longer than four years to earn a degree in surveying.

Registration and Sequence: The student should consult with his/her advisor to be sure that the requirements of the college or university to which he/she plans to transfer are met. There is some variation in requirements among institutions, therefore programs need to be individually planned. Students should consult with the Program Coordinator for the Civil Engineering Technology Program to prepare individual programs of study.
# Competency Awards

## Business Quantitative Analysis

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 2212</td>
<td></td>
</tr>
<tr>
<td>MATH 1113</td>
<td></td>
</tr>
<tr>
<td>MATH 1119</td>
<td></td>
</tr>
<tr>
<td>Business and Economic Statistics</td>
<td>4</td>
</tr>
<tr>
<td>Finite Math w/College Algebra</td>
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</tr>
<tr>
<td>or ApPLIED Calculus for Business and Economics</td>
<td>4</td>
</tr>
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</table>

TOTAL: 8

## Freelance Writing & Photography

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>JOUR 1122</td>
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</tr>
<tr>
<td>JOUR 1111</td>
<td></td>
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<tr>
<td>JOUR 2211</td>
<td></td>
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<tr>
<td>JOUR 2223</td>
<td></td>
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<tr>
<td>Beginning Newswriting</td>
<td>3</td>
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<tr>
<td>Beginning Photography</td>
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<td>Advanced Photo Projects</td>
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<td>Freelance Writing</td>
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</table>

TOTAL: 9

## Government and Civics

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>POLS 1617</td>
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<tr>
<td>POLS 1618</td>
<td></td>
</tr>
<tr>
<td>HIST 1621</td>
<td></td>
</tr>
<tr>
<td>American Government/Theory</td>
<td>3</td>
</tr>
<tr>
<td>American Government/Structure</td>
<td>3</td>
</tr>
<tr>
<td>Issues in Twentieth Century Amer</td>
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</tr>
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</table>

TOTAL: 9

## Interior Decorating

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>RMDS 1130</td>
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<td>RMDS 2220</td>
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</tr>
<tr>
<td>RMDS 2221</td>
<td></td>
</tr>
<tr>
<td>Textiles</td>
<td>3</td>
</tr>
<tr>
<td>Home Furnishing Merchandising</td>
<td>2</td>
</tr>
<tr>
<td>Interior Design</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL: 8

## Retail Merchandising

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>RMDS 1110</td>
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</tr>
<tr>
<td>RMDS 1120</td>
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</tr>
<tr>
<td>RMDS 1140</td>
<td></td>
</tr>
<tr>
<td>Introduction to Retail Merchandising</td>
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<tr>
<td>Visual Merchandising</td>
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<tr>
<td>Professional Image in Business</td>
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TOTAL: 8

## Sociology

<table>
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<td>SOC 2625</td>
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<td>SOC Elective(s)</td>
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<tr>
<td>Introduction to Sociology</td>
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<tr>
<td>Minority Group Relations</td>
<td>3</td>
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<td>1612, 1616, or 2612</td>
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TOTAL: 9
Programs of Study

Women’s Studies

Courses
Choose any 3:

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<tr>
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<th>Title</th>
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<tr>
<td>ENGL 2227</td>
<td>Women and Literature</td>
<td>3</td>
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<tr>
<td>HLTH 2126</td>
<td>Women’s Health Issues</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1640</td>
<td>Women’s History</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1612</td>
<td>Sex and Gender in Society</td>
<td>3</td>
</tr>
<tr>
<td>SOC 2612</td>
<td>Marriage and Family</td>
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TOTAL ............................................................................................................................................................................. 9

(PRE) AGRICULTURE

Advisement Guide For
A.A. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in agriculture at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

Recommended Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGL 1117, 1118 (or 1917, 1918)</td>
<td>Reading and Writing Critically I, II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 1127, 1128</td>
<td>General Inorganic Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 1115</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>Concepts of Biology</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2100</td>
<td>Plant Biology</td>
<td>4</td>
</tr>
<tr>
<td>ESCI 1114</td>
<td>Physical Geology</td>
<td>4</td>
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<tr>
<td>HLTH &amp; PHED</td>
<td>Health and Physical Education</td>
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Humanities & Fine Arts
As per MNTC/A.A. Liberal Arts & Sciences requirements 9

History & Social/Behavioral Sciences
As per MNTC/A.A. Liberal Arts & Sciences requirements 9

Electives
Any courses, 1000-level or higher 8

TOTAL ............................................................................................................................................................................. 64

This preprofessional program encompasses the prerequisite courses needed to apply to most professional agriculture programs.
(PRE) ARCHITECTURE
Advisement Guide For
A.A. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in architecture at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

Recommended Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tr>
<td>ENGL 1117, 1118 (or 1917, 1918)</td>
<td>Reading and Writing Critically I, II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 1127, 1128</td>
<td>Calculus I, II</td>
<td>10</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1127, 1128 (or 1117, 1118)</td>
<td>Classical Physics I, II (or Introductory Physics I, II)</td>
<td>10</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>Health and Physical Education</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199)</td>
<td></td>
</tr>
<tr>
<td>Humanities &amp; Fine Arts</td>
<td>As per MNTC/A.A. Liberal Arts &amp; Sciences requirements</td>
<td>9</td>
</tr>
<tr>
<td>History &amp; Social/Behavioral Sciences</td>
<td>As per MNTC/A.A. Liberal Arts &amp; Sciences requirements</td>
<td>9</td>
</tr>
<tr>
<td>Natural Science</td>
<td>Must include one lab course (Chemistry, Biology or Earth Science)</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>Any courses, 1000-level or higher</td>
<td>7</td>
</tr>
</tbody>
</table>

Suggested electives: Art classes, especially those involving drawing and painting.
Introductory classes in Anthropology, Geography, History, Philosophy, Political Science and Sociology.
Drawing classes: Architectural Drawing, Engineering Drawing, Engineering Graphics and Introduction to CAD.

TOTAL ............................................. 64

This preprofessional program encompasses the prerequisite courses needed to apply to most professional architecture programs.

(PRE) ATHLETIC TRAINING
Advisement Guide For
A.A. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in athletic training at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

Recommended Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117, 1118 (or 1917, 1918)</td>
<td>Reading and Writing Critically I, II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 1115</td>
<td>College Algebra</td>
<td>5</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>Concepts of Biology</td>
<td>4</td>
</tr>
<tr>
<td>HLTH 1114</td>
<td>First Aid: Responding to Emergencies</td>
<td>3</td>
</tr>
<tr>
<td>HLTH 1110</td>
<td>CPR</td>
<td>1</td>
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<tr>
<td>BIOL 1217, 1218</td>
<td>Anatomy &amp; Physiology I, II</td>
<td>8</td>
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<tr>
<td>CHEM 1117</td>
<td>General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 1101</td>
<td>Elements of Physics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2618</td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2208</td>
<td>Fundamentals of Statistics</td>
<td>4</td>
</tr>
<tr>
<td>NUTR 1211</td>
<td>Principles of Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>Humanities &amp; Fine Arts</td>
<td>As per MNTC/A.A. Liberal Arts &amp; Sciences requirements</td>
<td>9</td>
</tr>
<tr>
<td>History &amp; Social/Behavioral Sciences</td>
<td>As per MNTC/A.A. Liberal Arts &amp; Sciences requirements</td>
<td>5</td>
</tr>
</tbody>
</table>

TOTAL .................................................. 64

Additional Notes: The athletic trainer uses physical and mechanical agents to provide prevention, care and rehabilitation of sports injuries. Coursework, laboratory and practical experiences working with intercollegiate athletic programs prepare the student for the National Athletic Training Association’s practical and written examination for certification.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional athletic training programs.
This advisement guide is designed for students who wish to receive a four-year degree in Business Administration, Accounting, Finance, Human Resources, Marketing, or Economics. The subjects studied deal more with the background and theory of business than with the immediately practical side of business. Students planning to transfer to other institutions should consult with faculty advisors and counselors for assistance in planning their course of study. Students who wish to complete a pre-business transfer package within the A.A. in Liberal Arts and Sciences must also complete the requirements of the Minnesota Transfer Curriculum.

I. Minnesota Transfer Curriculum Requirements ................................................................................. 40 Credits

Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog listings to determine specific courses that apply to below areas.

A. Written and Oral Communication (CM).................................................................................. 11 cr

1. ENGL 1117 Reading and Writing Critically I, 4 cr
2. ENGL 1118 Reading and Writing Critically II, 4 cr
3. SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts (HA) ......................................................................................... Minimum of 9 cr

From the following disciplines, with a minimum of 2 credits from 3 different areas:

- Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre.

C. History and Social Sciences (SS) ............................................................................... Minimum of 9 cr

- ECON 2214 Principles of Economics-Micro and a minimum of 2 credits from 2 of the following areas: Anthropology, Geography, History, Political Science, Psychology, Sociology.

D. Mathematics (MA) and Natural Sciences (NS) ......................................................... Minimum of 9 cr

- One mathematics course and two Science courses (with laboratory, simulation or field experience) selected from following areas: Biology, Chemistry, Earth Science, Physics.

E. Theme Area Competencies

Theme area courses may be used to satisfy A, B, C, D requirements in CM, HA, SS, MA or NS, but no one course may be used to satisfy more than one theme area. A minimum of two credits from each of the following four areas must be completed: Human Diversity (HD), Ethical and Civic Responsibility (EC), Global Perspective (GP), People and the Environment (PN)

F. Critical Thinking Competencies (CT)

All courses which apply to the Minnesota Transfer Curriculum requirements listed above will include goals which address critical thinking competencies. Completion of requirements listed in A, B, C, D and E will satisfy critical thinking requirements.

II. Health and Human Performance ................................................................................................. 4 Credits

Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

III. Business Core Requirements ........................................................................................................ 20 Credits

Minimum of 20 credits of courses. Consult with faculty or the RCTC transfer specialist to select courses most appropriate for your transfer plans.

1. BUS 2217 Financial Accounting 4 cr
2. BUS 2218 Managerial Accounting 4 cr
3. ECON 2215 Principles of Economics: Macro 4 cr
4. BUS 2212 Business and Economic Statistics 4 cr
5. OPEN ELECTIVES 4 cr

TOTAL ........................................................................................................................................ 64 Credits

Rochester Community and Technical College
Education For Life and Work

**Programs of Study**

(PRE) CHIROPRACTIC
Advisement Guide For
A.S. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in chiropractic at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

<table>
<thead>
<tr>
<th>Recommended Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117</td>
<td>Reading and Writing Critically I</td>
</tr>
<tr>
<td>CHEM 1127, 1128</td>
<td>General Inorganic Chemistry I, II</td>
</tr>
<tr>
<td>MATH 1115</td>
<td>College Algebra</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>Concepts of Biology</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
</tr>
<tr>
<td>PSYC 2618</td>
<td>General Psychology</td>
</tr>
<tr>
<td>CHEM 2227, 2237</td>
<td>Organic Chemistry I and Lab</td>
</tr>
<tr>
<td>CHEM 2228, 2238</td>
<td>Organic Chemistry II and Lab</td>
</tr>
<tr>
<td>PHYS 1117, 1118</td>
<td>Introductory Physics I, II</td>
</tr>
<tr>
<td>BIOL 2200</td>
<td>General Zoology</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>Health and Physical Education</td>
</tr>
<tr>
<td></td>
<td>Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).</td>
</tr>
<tr>
<td>Humanities &amp; Fine Arts</td>
<td>As per A.S. Liberal/General Studies requirements</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>As per A.S. Liberal/General Studies requirements</td>
</tr>
</tbody>
</table>

TOTAL ........................................................................................................................................................................... 64

Additional Notes: The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Chiropractic student take as many career-enhancing foreign language classes as possible at Rochester Community & Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding foreign language entrance/exit requirements.

It is strongly recommended that students in the Pre-Chiropractic program take MATH 1117.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional chiropractic programs.
The Computer Graphics Associate in Arts Degree is designed to fulfill the first two years of course requirements for students interested in a career as graphic designers or artists using computer technology including desktop publishing, web page design, presentation graphics, digital photo & graphics, 3D modeling, beginning animation and promotional graphics. The art courses have been selected to provide students with technical skills in the use of the computer to create both graphic design for visual communication and as an expressive tool for the fine artist. Activities include:

- Hands-on computer training, software selection and use
- Utilization of traditional graphic design tools, skills and materials
- Individual style development through creative problem solving
- Development of a professional portfolio
- Defining roles and career options through visits to graphic arts businesses
- Use of the most popular computer art software available including PhotoShop, Illustrator, PageMaker, QuarkXpress, PageMill, SuperPaint, Communicator, Power Point and Director

This prepares students to transfer to a four-year college or university to complete a baccalaureate degree in art. It is a two year program with a total of 64 semester credits; 24 credits of art and 40 credits in distributed liberal arts and sciences which are defined as intended for transfer.

<table>
<thead>
<tr>
<th>Recommended Courses:</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ART 1112 Renaissance to Modern Art</td>
<td>3</td>
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<tr>
<td>ART 1121 Design</td>
<td>3</td>
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<tr>
<td>ART 1124 Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>ART 1130 Computer Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ART 1131 Presentation Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ART 1134 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART 2224 Graphic Design II</td>
<td>3</td>
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<td>ART 2230 Computer Graphics II</td>
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</tr>
<tr>
<td>ENGL 1117,1118 Reading &amp; Writing Critically I &amp;II</td>
<td>8</td>
</tr>
<tr>
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<td>4</td>
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<tr>
<td>Math and Natural Sciences As per A.A. Liberal Arts requirements</td>
<td>9</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences As per A.A. Liberal Arts requirements</td>
<td>9</td>
</tr>
<tr>
<td>Health &amp; Physical Education As per A.A. Liberal Arts requirements</td>
<td>4</td>
</tr>
<tr>
<td>Electives Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).</td>
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</tr>
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</table>

TOTAL ........................................................................................................................................................................... 64
(PRE) COMPUTER SCIENCE
Advisement Guide for
A.A. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning to transfer to Bachelor’s degree programs in Computer Science at institutions other than Winona State University. Students planning to transfer to WSU should use the 2+2 program in Computer Science or Computer Information Systems. Students completing the A.A. degree must also complete the requirements of the Minnesota Transfer Curriculum, which will meet the general education requirements for any MnSCU school. The math and computer science courses are intended to provide a foundation for further study in computer science. Transfer credit decisions are made by the receiving school, and students planning to transfer should consult the RCTC transfer specialist and/or a transfer specialist from the 4-year institution as early as possible to verify the requirements in these areas.

Recommended Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117, 1118 or 1917</td>
<td>Reading and Writing Critically I, II (or Honors)</td>
<td>8</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1127, 1128</td>
<td>Calculus I &amp; II</td>
<td>10</td>
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<tr>
<td>MATH 2218</td>
<td>Discrete Math</td>
<td>4</td>
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<tr>
<td>COMP 1150</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2243</td>
<td>Intro to Programming &amp; Problem Solving</td>
<td>4</td>
</tr>
<tr>
<td>COMP 2247</td>
<td>Algorithms and Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>Humanities and the Arts</td>
<td>As per M.N.T.C./A.A. Liberal Arts &amp; Sciences requirements</td>
<td>9</td>
</tr>
<tr>
<td>History and Social Sciences</td>
<td>As per M.N.T.C./A.A. Liberal Arts &amp; Sciences requirements</td>
<td>9</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>As per M.N.T.C./A.A. Liberal Arts &amp; Sciences requirements</td>
<td>6</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>Health and Physical Education</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199)</td>
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TOTAL ........................................................................................................................................................................... 64

(Pre) Computer Science, Suggested Program Guide

<table>
<thead>
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<th>Semester I</th>
<th>Semester II</th>
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<tbody>
<tr>
<td>ENGL 1117 or 1917</td>
<td>4 cr</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>3 cr</td>
</tr>
<tr>
<td>MATH 1127</td>
<td>5 cr</td>
</tr>
<tr>
<td>COMP 1150</td>
<td>3 cr</td>
</tr>
<tr>
<td>PHED Elective</td>
<td>1 cr</td>
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<table>
<thead>
<tr>
<th>Semester III</th>
<th>Semester IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 2243</td>
<td>4 cr</td>
</tr>
<tr>
<td>Science Elective</td>
<td>3 cr</td>
</tr>
<tr>
<td>HUM/Fine Arts Elective</td>
<td>6 cr</td>
</tr>
<tr>
<td>HIST/SOC Sci Elective</td>
<td>3 cr</td>
</tr>
<tr>
<td>PHED Electives</td>
<td>1 cr</td>
</tr>
<tr>
<td></td>
<td>16</td>
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</tbody>
</table>
**Programs of Study**

**(PRE) DENTISTRY**

Advisement Guide For
A.S. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in dentistry at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

<table>
<thead>
<tr>
<th>Recommended Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117 (or 1917)</td>
<td>Reading and Writing Critically I 4</td>
</tr>
<tr>
<td>CHEM 1127, 1128</td>
<td>General Inorganic Chemistry I, II 8</td>
</tr>
<tr>
<td>MATH 1117</td>
<td>Precalculus 4</td>
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<tr>
<td>BIOL 1220</td>
<td>Concepts of Biology 4</td>
</tr>
<tr>
<td>BIOL</td>
<td>Course above 1220 4</td>
</tr>
<tr>
<td>PHYS 1117, 1118</td>
<td>Introductory Physics I, II 10</td>
</tr>
<tr>
<td>CHEM 2227, 2237</td>
<td>Organic Chemistry I and Lab 5</td>
</tr>
<tr>
<td>CHEM 2228, 2238</td>
<td>Organic Chemistry II and Lab 5</td>
</tr>
<tr>
<td>PSYC 2618</td>
<td>General Psychology 4</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech 3</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>Health and/or Physical Education 4</td>
</tr>
<tr>
<td></td>
<td>Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).</td>
</tr>
</tbody>
</table>

| Humanities & Fine Arts                     | As per A.S. Liberal/General Studies requirements 6 |
| Social and Behavioral Sciences             | As per A.S. Liberal/General Studies requirements 3 |

**TOTAL** ........................................................................................................................................................................... 64

**Additional Notes:** The University of Minnesota recommends and encourages students to complete a four-year program and obtain a Bachelor’s degree before entering Dental School. Recommended majors in a four-year pre-dental degree are biology and chemistry.

The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Dentistry student take as many career-enhancing foreign language classes as possible at Rochester Community & Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding foreign language entrance/exit requirements.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional dentistry programs.
This advisement guide is intended for students planning transfer to baccalaureate programs in dietetics at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

### Recommended Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117, 1118 (or 1917, 1918)</td>
<td>8</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1117, 1118</td>
<td>8</td>
</tr>
<tr>
<td>NUTR 1211</td>
<td>3</td>
</tr>
<tr>
<td>HLTH and/or PHED</td>
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</tr>
<tr>
<td>ECON 1101</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1810</td>
<td>4</td>
</tr>
<tr>
<td>MATH</td>
<td>5</td>
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<tr>
<td>Humanities &amp; Fine Arts</td>
<td>9</td>
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<tr>
<td>History or Social/Behavioral Sciences</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

**TOTAL**: 64

This preprofessional program encompasses the prerequisite courses needed to apply to most professional dietetics programs.
NOTE: To TRANSFER to the University of Minnesota and State Universities in Minnesota in engineering it is NOT necessary to graduate from RCTC with an Associate in Science Degree. To transfer to the University of Minnesota and the State Universities in engineering see the recommended programs of study below the requirements for the Associate in Science. Most lower division requirements in engineering can be met at RCTC. See your advisor.

This program sheet is intended for students planning transfer to baccalaureate programs in engineering at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

The following requirements are necessary to complete the Associate in Science Degree of RCTC:

I. General Education/Studies Requirements ....................................................................................... 34 Credits
Courses must be selected from those approved to satisfy the competencies of the Minnesota Transfer Curriculum (MNTC). Consult college catalog course listings.

A. Written and Oral Communications ........................................................................... 4 cr
ENGL 1117 (or 1917) Reading & Writing Critically I, 4 cr

B. Humanities and Fine Arts ........................................................................................... 4 cr
From the following disciplines, with a minimum of 2 credits each of 2 areas: Art, English Literature, Humanities, Journalism, Music, Philosophy, Speech/Theatre

C. History and Social Sciences ......................................................................................... 4 cr
From the following disciplines, with a minimum of 2 credits from each of 2 areas: Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology

All Engineering Programs

FRESHMAN YEAR                      SOPHOMORE YEAR

Fall        Spring      Fall        Spring
MATH 1127, 5 cr       MATH 1128, 5 cr  MATH 2237, 5 cr       MATH 2228, 5 cr
PHYS 1127, 5 cr       PHYS 1128, 5 cr  CHEM 1127**, 4 cr      COMP 1150**, 3 cr

**All programs except Chemical Engineering and Computer Engineering

II. Professionally-related Requirements ....................................................................................... 30 Credits
Universities and colleges of engineering prepare students in an area of study which emphasizes a particular scientific interest. Areas of study in Engineering are: Chemical, Civil, Computer, Electrical and Mechanical.

Chemical Engineering: develops processes for the production, safe use and disposal of chemicals in agriculture, textiles, electronics, paper, fuel, pharmaceutical, plastics and many more diverse applications of chemistry by our society.

Civil Engineering: encompasses the planning, designers and supervisors or transportation systems, pollution control, water resources and public utility projects.

Computer Engineering: encompasses the design of operating systems, programming languages, performance analysis, hardware interface applications and robotics.

Electrical Engineering: encompasses biomedical, communications, semiconductor circuits, power production and signal processing.

Mechanical Engineering: encompasses servomechanisms, power systems, manufacturing and marketing of products.

The curricula of RCTC support the lower division requirements in mathematics, physical sciences and engineering for the options listed above in ENGINEERING at the University of Minnesota, the State Universities of Minnesota and other major universities. These programs of study prepare our students for transfer into the upper division of a bachelor degree program in engineering.

A recommended curricular guide for the lower division courses in engineering is presented below. Core requirements for all programs are listed first. Special requirements for specific disciplines follow. The student should consult and plan with an advisor so that the lower division general education requirements of the transferring institution can be met.

— Continued on Next Page —
Some students may find that they have not fulfilled the college requirements for the math and sciences needed for the engineering program or that their skills are not up to date. Students who find that this is true and that their long-term career goals are engineering should consider a three-year program at RCTC where the first year is spent completing the necessary prerequisites to the engineering program. The goal can still be achieved. For those who consider this route, the following courses should be taken: MATH 1115, 1117 and PHYS 1117, 1118.

ADDITIONAL LOWER DIVISION SCIENCE/TECHNICAL REQUIREMENTS:

<table>
<thead>
<tr>
<th>CHEMICAL ENGINEERING</th>
<th>Freshman Year</th>
<th>Sophomore Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Spring</strong></td>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>CHEM 1127 4 cr</td>
<td>CHEM 1128 4 cr</td>
<td>CHEM 2227/2237 5 cr</td>
</tr>
<tr>
<td>COMP Fortran</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| CIVIL ENGINEERING | Freshman Year | Sophomore Year | |
|-------------------|---------------|---------------|
| **Fall**          | **Spring**    | **Fall**      | **Spring**    |
| ENGR 2211 4 cr    |               | ENGR 2212 4 cr|               |
| ESCI 1114 4 cr    |               | CHEM 1128 4 cr|               |

| COMPUTER ENGINEERING | Freshman Year | Sophomore Year | |
|----------------------|---------------|----------------|
| **Fall**             | **Spring**    | **Fall**       | **Spring**    |
| COMP 2243 4 cr       |               | ENGR 2213 4 cr |               |
| ENGR 1152 4 cr       |               | MATH 2218 4 cr |               |
|                      |               | COMP 2247 4 cr |               |

| ELECTRICAL ENGINEERING | Freshman Year | Sophomore Year | |
|------------------------|---------------|----------------|
| **Fall**               | **Spring**    | **Fall**       | **Spring**    |
| COMP 2243 4 cr         |               | ENGR 2213 4 cr |               |
| ENGR 1152 4 cr         |               | PHYS 2227 3 cr |               |

| MECHANICAL ENGINEERING | Freshman Year | Sophomore Year | |
|------------------------|---------------|----------------|
| **Fall**               | **Spring**    | **Fall**       | **Spring**    |
| COMP 2243 4 cr         |               | ENGR 2211 4 cr |               |
|                       |               | ENGR 2212 4 cr |               |
### Courses

#### Fall:
- **ENGL 1917**  
  (Honors equivalent of ENGL 1117)  
  4 Cr
- **SOC 1914**  
  (Honors equivalent of SOC 1114)  
  3 Cr
- **HUM 2942**  
  Nobel conference (Topic Varies)  
  Course linked to Nobel Conference at Gustavus Adolphus.  
  Fall '99 topic: The Human Genome Project  
  2 Cr
- **“PODS”**  
  (PTK study topic/discipline & topic Varies)  
  1 Cr
  1999-2000 topic: The New Millennium: The Past as Prologue

#### Spring:
- **ENGL 1918**  
  (Honors equivalent of Eng 1118)  
  4 Cr
- **Current Issues**  
  (Social Science/Topics Vary)  
  2 Cr
- **Philosophical Problems**  
  (Topics Vary)  
  3 Cr
- **ECON 1901**  
  (Honors equivalent of Economics 1101, Offered 2000, 2002 ff)  
  3 Cr
- **PODS**  
  (PTK Study topic/discipline & topic Varies)  
  1 Cr

#### Independent Study Options:
- Honors component, supplemental to an existing course  
  1-2 Cr
- Honors Independent Study  
  1-4 Cr

  Student negotiates the Independent study course proposal with the Honors Curriculum Coordinator, in conjunction with a supervising faculty member. Most are general education and liberal arts, but independent study courses could also address an occupational or technical fields.

The minimum number of credits in Honors courses per degree are as follows:
- **A.A. degree**  
  18 Credits with a minimum of three disciplines
- **A.S degree**  
  15 Credits with a minimum of two disciplines
- **A.A.S degree**  
  12 Credits with a minimum of two disciplines
(PRE) JOURNALISM
Advisement Guide for A.A. Liberal Arts & Sciences Degree

Students planning a Pre-Journalism/Mass Communications program should carefully study the catalog of the college they plan to transfer to and consult with RCTC faculty and counselors for assistance in planning their courses of study. Students who wish to the transfer package within the A.A. in Liberal Arts and Sciences should complete the requirements for the Minnesota Transfer Curriculum. Journalism/Mass Communications options at various universities include: Journalism (print media), Broadcasting, Advertising, Photojournalism and Public Relations.

I. Minnesota Transfer Curriculum General Education Requirements ................................................... 40 Credits

A. Written and Oral Communications ................................................................. 11 cr
   ENGL 1117, 1118 or Reading & Writing Critically I and II, 8 cr
   ENGL 1917, 1918 Reading & Writing Critically I and II: Honors, 8 cr
   SPCH 1114 Fundamentals of Speech, 3 cr

B. Humanities and Fine Arts ............................................................................... 9 cr
   JOUR 1110 Introduction to Mass Communications, 3 cr
   Two other areas from the following disciplines: Art, English Literature, Foreign Language, Humanities, Journalism, Music, Philosophy, Speech/Theatre.

C. History and Social Sciences ............................................................................ 9 cr
   Per MNTC/A.A. Liberal Arts & Sciences requirements

D. Mathematics and Natural Sciences .................................................................. 9 cr
   Per MNTC/A.A. Liberal Arts & Sciences requirements.

E. Two additional credits ..................................................................................... 2 cr
   Per MNTC/A.A. Liberal Arts & Sciences requirements.

II. Professional Requirements .................................................................................. 9 Credits
   JOUR 1111 Beginning Photojournalism, 3 cr
   JOUR 1122 Beginning Newswriting, 3 cr
   JOUR 1132 Principles of Advertising, 3 cr

III. Health and Physical Education Requirements .................................................. 4 Credits
    Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).

IV. Recommended Electives .................................................................................... 10 Credits
    JOUR 1106 American Cinema
    JOUR 1131 Mass Communications Law
    JOUR 1150 Desktop Publishing
    JOUR 1161, 1161, 2261, 2262 Publications Lab
    JOUR 2211 Advanced Photography Projects
    JOUR 2223 Freelance Writing
    JOUR 2294 Mass Communications Internship

TOTAL ................................................................................................................. 64 Credits
(PRE) MEDICAL TECHNOLOGY
Advisement Guide For
A.S. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in medical technology at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

<table>
<thead>
<tr>
<th>Recommended Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117 (or 1917)</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1127, 1128</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 2227, 2237</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2228, 2238</td>
<td>5</td>
</tr>
<tr>
<td>MATH 1115</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1117</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1217, 1218</td>
<td>8</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL ........................................................................................................................................................................... 64

**Additional Notes:** Rochester Community and Technical College can provide the first two years of academic training in the field of medical technology. At the transfer institution, the student will continue with college work providing specialization toward the training of a medical technologist and then an internship provided by an approved hospital school. After completion of work at the transfer institution, the student would be eligible to take the examination of the American Society of Clinical Pathologists.

The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Medical Technology student take as many career-enhancing foreign language classes as possible at Rochester Community & Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding foreign language entrance/exit requirements.

It is strongly recommended that students in the Pre-Medical Technology program take MATH 1117.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional medical technology programs.
This advisement guide is intended for students planning transfer to baccalaureate programs in mortuary science at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

### Recommended Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117, 1118</td>
<td>Reading and Writing Critically I, II</td>
<td>8</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>Concepts of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1217, 1218</td>
<td>Anatomy &amp; Physiology I, II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 1117</td>
<td>General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 2618</td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2021</td>
<td>General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>COMP 1112</td>
<td>Introduction to Micro computer Software</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1614</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>HIST</td>
<td>Historical Perspective</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1810</td>
<td>Applied Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>HLTH and/or PHED</td>
<td>Health Education and/or Physical Education</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Any combination of Health (except Holistic Health)</td>
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<tr>
<td></td>
<td>and/or Physical Education courses (1100-1199).</td>
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</tr>
<tr>
<td>MATH</td>
<td>Any course, 1111 college level or higher</td>
<td>5</td>
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<tr>
<td></td>
<td>Except MATH 2051 and 2052</td>
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<tr>
<td>Humanities &amp; Fine Arts</td>
<td>As per MNTC/A.A. Liberal Arts &amp; Sciences requirements</td>
<td>9</td>
</tr>
</tbody>
</table>

**TOTAL ........................................................................................................................................................................... 64**

This preprofessional program encompasses the prerequisite courses needed to apply to most professional mortuary science programs.
(PRE) NURSING
Advisement Guide For
A.A. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in nursing at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

Recommended Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117, 1118</td>
<td>8</td>
</tr>
<tr>
<td>(or 1917, 1918)</td>
<td></td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1217, 1218</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 1117, 1118</td>
<td>8</td>
</tr>
<tr>
<td>PSYC 1611</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2618</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2021</td>
<td>4</td>
</tr>
<tr>
<td>SOC 1614</td>
<td>3</td>
</tr>
<tr>
<td>SOC 2612</td>
<td>3</td>
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<td>MATH 2208</td>
<td>4</td>
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<tr>
<td>NUTR 1211</td>
<td>3</td>
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<tr>
<td>HLTH 1110</td>
<td>1</td>
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<tr>
<td>HLTH 1114</td>
<td>3</td>
</tr>
<tr>
<td>Humanities &amp; Fine Arts</td>
<td>9</td>
</tr>
<tr>
<td>Social Science Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

TOTAL ........................................................................................................................................................................... 66

Additional Notes: Students are encouraged to contact the Winona State University’s nursing department at the University Center Rochester for advisement concerning Winona State University’s transfer policies and requirements for the B.S.N. degree.

The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Nursing student take as many career-enhancing foreign language classes as possible at Rochester Community & Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding foreign language entrance/exit requirements.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional nursing programs.
(PRE) OCCUPATIONAL THERAPY
Advisement Guide For
A.A. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in occupational therapy at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

Recommended Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117, 1118 (or 1917, 1918)</td>
<td>Reading and Writing Critically I, II</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>Concepts of Biology</td>
</tr>
<tr>
<td>BIOL 1217, 1218</td>
<td>Anatomy &amp; Physiology I, II</td>
</tr>
<tr>
<td>CHEM 1117</td>
<td>General Chemistry</td>
</tr>
<tr>
<td>PSYC 2618</td>
<td>General Psychology</td>
</tr>
<tr>
<td>PSYC 2626</td>
<td>Human Growth and Development</td>
</tr>
<tr>
<td>SOC 1614</td>
<td>Introduction to Sociology</td>
</tr>
<tr>
<td>SOC 1616</td>
<td>Social Problems</td>
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<tr>
<td>MATH 1115</td>
<td>College Algebra</td>
</tr>
<tr>
<td>MATH 2208</td>
<td>Fundamentals of Statistics</td>
</tr>
<tr>
<td>PHED</td>
<td>Physical Education</td>
</tr>
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<td></td>
<td>Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).</td>
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<tr>
<td>HLTH 1111</td>
<td>Health Education</td>
</tr>
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<td>Humanities &amp; Fine Arts</td>
<td>As per MNTC/A.A. Liberal Arts &amp; Sciences requirements</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>(History or Anthropology)</td>
</tr>
</tbody>
</table>

TOTAL ........................................................................................................................................................................... 64

Additional Notes: The occupational therapy profession offers many and varied employment opportunities for qualified therapists. Graduates, both men and women, are employed in rehabilitation centers; psychiatric, general and children’s hospitals; schools for the blind, deaf and exceptional children; and homes for the aged. Some therapists work with homebound patients. There are opportunities for consultation work in newly developing community-centered programs. Therapists may also receive commissions in the armed services and the U.S. Public Health Service.

The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Occupational Therapy student take as many career-enhancing foreign language classes as possible at Rochester Community & Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding foreign language entrance/exit requirements.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional occupational therapy programs.
(PRE) PHARMACY
Advisement Guide For
A.S. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in pharmacy at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

<table>
<thead>
<tr>
<th>Recommended Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1117 (or 1917)</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1127, 1128</td>
<td>8</td>
</tr>
<tr>
<td>MATH 1127</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2208</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 1117, 1118</td>
<td>10</td>
</tr>
<tr>
<td>CHEM 2227, 2237</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2228, 2238</td>
<td>5</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>3</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>4</td>
</tr>
<tr>
<td>Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).</td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Humanities &amp; Fine Arts</td>
<td>6</td>
</tr>
</tbody>
</table>

TOTAL ........................................................................................................................................................................... 64

Additional Notes: It is expected that the pharmacist of the future will advise both physicians and patients about prescribing medicines, will monitor adverse drug effects, will consult with physicians about prescribing and dispensing procedures and will advise members of the public about over-the-counter drugs.

The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Pharmacy student take as many career-enhancing foreign language classes as possible at Rochester Community & Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding foreign language entrance/exit requirements.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional pharmacy programs.
(PRE) PHYSICAL THERAPY
Advisement Guide For
A.S. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in physical therapy at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

Recommended Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGL 1117, 1118</td>
<td>Reading and Writing Critically I, II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 1117, 1118</td>
<td>General Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 1117*</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2208</td>
<td>Fundamentals of Statistics</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1117, 1118</td>
<td>Introductory Physics I, II</td>
<td>10</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>Concepts of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1217, 1218</td>
<td>Anatomy &amp; Physiology I, II</td>
<td>8</td>
</tr>
<tr>
<td>PSYC 2618</td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>Health and Physical Education</td>
<td>4</td>
</tr>
<tr>
<td>Humanities &amp; Fine Arts</td>
<td>As per A.S. Liberal/General Studies requirements</td>
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<tr>
<td>Social and Behavioral Sciences</td>
<td>As per A.S. Liberal/General Studies requirements</td>
<td>2</td>
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</tbody>
</table>

TOTAL ........................................................................................................................................................................... 64

Additional Notes: The first two years of study is provided by Rochester Community and Technical College for students who desire to complete study at another institution. The complete program requires four to five years of study in most schools. The physical therapist uses physical and mechanical agents to treat patients from disease or injury, or both. The physical therapist works with members of the other health professions in serving patients of all ages. He or she treats patients only on prescription or referral from a licensed physician.

The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Physical Therapy student take as many career-enhancing foreign language classes as possible at Rochester Community & Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding foreign language entrance/exit requirements.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional physical therapy programs.

*Please consult your transfer institution for the mathematics and physics requirements for their physical therapy program. Some may require MATH 1127.
(PRE) VETERINARY MEDICINE
Advisement Guide For
A.S. Liberal Arts & Sciences Degree

This advisement guide is intended for students planning transfer to baccalaureate programs in veterinary science at an area university. Specific requirements vary at individual transfer institutions. Students should consult with faculty advisors and counselors at RCTC and at the transfer institution for assistance in planning their course of study.

<table>
<thead>
<tr>
<th>Recommended Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENGL 1117 (or 1917)</td>
<td>Reading and Writing Critically I</td>
</tr>
<tr>
<td>CHEM 1127, 1128</td>
<td>General Inorganic Chemistry I, II</td>
</tr>
<tr>
<td>MATH 1117</td>
<td>Precalculus</td>
</tr>
<tr>
<td>BIOL 1220</td>
<td>Concepts of Biology</td>
</tr>
<tr>
<td>SPCH 1114</td>
<td>Fundamentals of Speech</td>
</tr>
<tr>
<td>CHEM 2227, 2237</td>
<td>Organic Chemistry I and Lab</td>
</tr>
<tr>
<td>CHEM 2228, 2238</td>
<td>Organic Chemistry II and Lab</td>
</tr>
<tr>
<td>PHYS 1117, 1118</td>
<td>Introductory Physics I, II</td>
</tr>
<tr>
<td>BIOL 2300</td>
<td>Genetics</td>
</tr>
<tr>
<td>ECON 2214</td>
<td>Principles of Economics: Micro</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>Health and Physical Education</td>
</tr>
<tr>
<td></td>
<td>Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199).</td>
</tr>
<tr>
<td>Humanities &amp; Fine Arts</td>
<td>As per A.S. Liberal/General Studies requirements</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>As per A.S. Liberal/General Studies requirements</td>
</tr>
</tbody>
</table>

TOTAL ........................................................................................................................................................................... 64

Additional Notes: For those students who have little or no experience with production animals, the University of Minnesota offers and recommends that prospective students take a course in Animal Care or Animal Science. Most students admitted to the College of Veterinary Medicine have a Baccalaureate Degree and, therefore, have ample time to take the additional courses.

The health care professional is obligated to provide quality care to all patients, including the growing number of limited or non-English speaking patients and their families. It is highly recommended that the Pre-Veterinary student take as many career-enhancing foreign language classes as possible at Rochester Community & Technical College. Students should consult with the RCTC transfer specialist as well as with their transfer institution regarding foreign language entrance/exit requirements.

This preprofessional program encompasses the prerequisite courses needed to apply to most professional veterinary medicine programs.
This advisement guide is intended for students planning transfer to an area university or college to complete a baccalaureate program to prepare for entry into the field. Students should consult with faculty advisors and counselors of that institution for assistance in planning their course of study.

<table>
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<tbody>
<tr>
<td>ENGL 1117 (or 1917)</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2227</td>
<td>3</td>
</tr>
<tr>
<td>HLTH 2126</td>
<td>3</td>
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<tr>
<td>HIST 1640</td>
<td>3</td>
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<tr>
<td>SOC 1612</td>
<td>3</td>
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<tr>
<td>SOC 2612</td>
<td>3</td>
</tr>
<tr>
<td>HLTH &amp; PHED</td>
<td>4</td>
</tr>
<tr>
<td>Humanities &amp; Fine Arts</td>
<td>6</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>2</td>
</tr>
</tbody>
</table>

Recommended Courses and Credits:

- Reading and Writing Critically I (ENGL 1117 or 1917): 4 credits
- Women and Literature (ENGL 2227): 3 credits
- Women’s Health Issues (HLTH 2126): 3 credits
- Women’s History (HIST 1640): 3 credits
- Sex and Gender in Society (SOC 1612): 3 credits
- Marriage and Family (SOC 2612): 3 credits
- Health and Physical Education (HLTH & PHED): 4 credits
- Any combination of Health (except Holistic Health) and/or Physical Education courses (1100-1199): 6 credits
- As per A.S. Liberal/General Studies requirements: 6 credits
- As per A.S. Liberal/General Studies requirements: 2 credits

**TOTAL**: 64 credits
ACCOUNTING

ACCT 1115 Small Business Accounting
This course is intended for the professional office worker of a small business. The content will emphasize the accounting records kept for cash receipts and cash payments, and payroll reports. (Prerequisites: None). (3 C). Offered: Fall, Spring.

ACCT 1807 Accounting Math/Calculators
This course is designed to provide basic mathematical skills needed to make calculations relative to computing percentages, commissions, interest, promissory notes, discounts, markup, simple interest, payroll, and bank reconciling. Additionally, this course covers development of the touch system on desk calculator keyboards and microcomputer number pad keyboards. Students will develop speed and accuracy using the touch system for the four basic arithmetic operations and solving business problems. (Prerequisites: None). (3 C). Offered: Fall, Spring.

ACCT 1810 Applied Principles of Accounting I
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 a merchandising business, accounting system design and analyzing accounts of cash and payroll. (Prerequisites: None). (4 C). Offered: Fall, Spring.

ACCT 1811 Applied Principles of Accounting II
This course includes analysis and the recording of transactions related to inventory methods, receivables, temporary investments, plant assets, long-term liabilities, partnerships, and corporate organizations. Additional topics include, but not limited to, business organization, capital structure, stockholder’s equity, earnings, dividends, and the Retained Earnings Statement. Also included are Statement of Cash Flow, financial statement analysis, department and branch accounting, and consolidated financial statements. (Prerequisites: ACCT 1810). (4 C). Offered: Fall, Spring.

ACCT 1814 Payroll Accounting
This course covers payroll accounting for materials, labor, and factory overhead in a manufacturing entity. Other topics include the job order cost system, the process cost system, equivalent production, and accounting for scrap, spoiled goods, by-products, and joint products. (Prerequisites: ACCT 1811 or consent of instructor). (3 C). Offered: Fall, Spring.

ACCT 1834 Computerized Accounting Applications I
This course is an introduction to computerized accounting applications and spreadsheet applications. Topics include computerized general ledger, accounts receivable, accounts payable, and payroll. Additionally, spreadsheet software is used to solve accounting problems. (Prerequisites: ACCT 1810 Or BUS 2217, or consent of instructor). (3 C). Offered: Fall, Spring.

ACCT 1837 Computerized Accounting Applications II
This course covers the use of a computerized spreadsheet and data base systems for accounting applications. Topics include document creation, storage and retrieval, editing, printing, and file distribution. (Prerequisites: ACCT 1810 or consent of instructor). (3 C). Offered: Fall, Spring.

ACCT 1838 Computerized Accounting Applications III
This course covers additional computerized accounting applications used in business. Topics include fixed asset accounting, manufacturing accounting systems, income tax preparation, inventory procedures, and a computerized accounting simulation. (Prerequisites: ACCT 1834; ACCT 2861 (or concurrent enrollment); or consent of instructor). (4 C). Offered: Spring.

ACCT 2821 Applied Intermediate Accounting I
This course is a comprehensive study of accounting theory and concepts with an analysis of the influence on financial accounting by various boards, associations, and governmental agencies. Topics include the income statement, balance sheet, statement of changes in financial position, cash and marketable securities, notes and accounts receivable, inventories, plant and intangible assets. A comprehensive case is included in the course. (Prerequisites: ACCT 1811 or consent of instructor). (4 C). Offered: Fall.

ACCT 2822 Applied Intermediate Accounting II
Long-term investments, current and contingent liabilities, bonds payable, leases, pension plans, owners’ equity, retained earnings and dividends, revenue recognition concepts, accounting for income taxes, non-operating income, and earnings per share. Also included is accounting for changes in price level, and financial statement analysis. (Prerequisites: ACCT 2821 or consent of instructor). (4 C). Offered: Spring.

ACCT 2823 Auditing
This course is a study of the methods and procedures used to verify the completeness and accuracy of assertion made in the financial statements. Topics include professional ethics, the audit process, nature of evidence, internal control, audit sampling techniques, the audit examination, and audit reports. (Prerequisites: ACCT 1811, or consent of instructor). (3 C). Offered: Spring.

ACCT 2849 Income Tax
This course provides an explanation and interpretation of the Internal Revenue Code as applied to individual income tax returns. Topics include filing requirements, filing status, gross income inclusions and exclusions, gains and losses, itemized deductions, and deductions for adjusted gross income. Additionally, the course provides an explanation and interpretation of the Internal Revenue Code as applied to partnerships. Topics include partnership investments, withdrawals, distribution of partnership income and loss. (Prerequisites: ACCT 1811 or consent of instructor). (4 C). Offered: Fall.

ACCT 2861 Applied Cost Accounting
This course covers accounting for materials, labor, and factory overhead in a manufacturing entity. Other topics include the job order cost system, the process cost system, equivalent production, and accounting for scrap, spoiled goods, by-products, and joint products. (Prerequisites: ACCT 1811, or consent of instructor). (3 C). Offered: Fall.
AIS 1030 Keyboarding Speed/ Accuracy Improvement
This course offers a scientific method to eliminate errors and build speed systematically. The course helps students to identify particular stroke combinations that cause speed and/or accuracy problems. (Prerequisites: Touch-type keyboarding proficiency). (1 C/2 hrs per wk ). Offered: Fall, Spring.

AIS 1050 Keyboarding
This course covers basic “touch keyboarding” skill development and the use of a computer keyboard to produce simple keyboarding tasks and applications. Basic formatting and proofreading skills and straight-copy skill development will be included. (Prerequisites: None). (2 C/3 hrs per wk). Offered: Fall, Spring.

AIS 1150 Introduction to Desktop Publishing
An introduction to desktop publishing using computers and PageMaker and Microsoft word software. Discussions and practical hands-on experience with page design, layout, graphics and typography. (Prerequisites: None). (2 C/2 hours per week). Offered: Fall, Spring.

AIS 1220 Human Relations in Organizations
The study and development of essential communication skills needed in business to interact/work effectively with individuals and/or groups. The course emphasizes verbal/nonverbal communications, transactional analysis, listening, problem solving, decision making, leadership styles, motivation/morale, stress management, business ethics, and group presentations. (Prerequisites: None). (3 C/3 hrs per week). Offered: Fall, Spring.

AIS 1230 Machine Transcription
Word processing through intensive machine transcription drills from dictated tapes on spelling, punctuation, vocabulary, and grammar with application of these concepts to memos, letters, reports, and business forms generated in a variety of business settings. This course will focus on the concepts of mailability, cost efficiency, professionalism, and decision making. (Prerequisites: None). (3 C/3 hrs per wk). Offered: Fall, Spring.

AIS 1320 Word Processing I
This course is designed for development of basic/beginning word processing knowledge and skills using a full-featured word processing program. Simultaneously, knowledge of formatting various business documents will be expanded. Keyboarding speed and accuracy will continue to be developed. (Prerequisites: Keyboarding or equivalent skill or permission of the instructor). (3 C/3 hrs per wk). Offered: Fall, Spring.

AIS 1500 Exploring the Internet
This course will provide hands-on instruction on accessing information through the Internet including world-wide webs, listservs, and electronic mail. The student will then complement their knowledge of the Internet using Hyper Text Markup Language (HTML) that is used to create web pages that can be placed on the Internet. The students will create their own web pages for business or personal use. (Prerequisites: None). (3 C/3 hrs per week). Offered: Fall, Spring.

AIS 1600 Introduction to Medical Terminology
This course will introduce the building of medical words including prefixes, suffixes, and combining forms from Greek and Latin word parts and the rules for connecting them to form medical terms. Special emphasis is placed on spelling, pronunciation, and definition of medical words. A foundation is created for the continued development of medical vocabulary. (Prerequisites: None). (2 C/2 hrs per wk). Offered: Fall, Spring.

AIS 1610 Medical Terminology: Body Systems and Diseases
This course covers the introduction to body systems and diseases that relate to them. Study of the following diseases by anatomical system will be covered: cardiovascular, endocrine, female reproductive, gastrointestinal, male reproductive, musculoskeletal, respiratory, and urinary. Emphasis is on terminology, body structure, function, and disease conditions. (Prerequisites: None). (2 C/2 hrs per wk). Offered: Fall, Spring.
AIS 1630  Computerized Medical Data Management
This course covers medical office data management with the utilization of computerized medical office management software. Topics covered will include patient appointments and scheduling, patient charts, patient billing and collections, and insurance processing. (Prerequisites: AIS 1600, AIS 1050, or equivalent). (2 C/2 hrs per wk). Offered: Spring.

AIS 1640  Medical Insurance and Coding
This course covers an introduction to medical claims form preparation and processing. It will include CPT, ICD-9-CM, and HCPS coding, insurance provider terminology, and insurance form preparation. (Prerequisites: AIS 1600, AIS 1050, or equivalent). (2 C/2 hrs per wk). Offered: Spring.

AIS 1660  Introduction to Medical Transcription
This course introduces medical transcription skills using dictation from a variety of specialties. Emphasis is on transcription of medical reports. There will be concentration on proper formatting techniques, building speed and accuracy, and proofreading. (Prerequisites: AIS 1600, AIS 1320, or Keyboarding). (2 C/3 hrs per wk). Offered: Spring.

AIS 1670  Medical Transcription I
This course introduces medical transcription skills using dictation from a variety of medical specialties. A variety of medical transcription experiences is provided with special emphasis on medical report formatting and medical letter style. (Prerequisites: AIS 1600 and keyboarding skills). (3 C/3 hrs per wk). Offered: Fall, Spring.

AIS 1680  Medical Transcription II
This course is a continuation of Medical Machine Transcription I. Emphasis is on transcription of letters and doctors’ notes from a variety of medical specialties and on transcription of medical reports. There will be particular concentration on proper formatting techniques, building speed and accuracy, advanced editing, and proofreading. (Prerequisites: AIS 1670, AIS 1600, AIS 1610). (3 C/3 hrs per wk). Offered: Fall, Spring.

AIS 1700  Applied Law for Business
This course is an introduction to the principles of law as they apply to citizens and businesses and provides a practical understanding of the legal system. Topics include the legal system at the federal and state levels, contracts, negotiable instruments, and employer/employee relationships. Important parts of the course include analyzing legal cases and observing a court trial. (Prerequisites: None). (2 C/2 hours per week). Offered: Fall.

AIS 1710  Legal Terms/Transcription I
This course introduces legal transcription skills using dictation from a variety of specialties. Emphasis is on transcription of legal documents. There will be concentration on proper formatting techniques, building speed and accuracy, and proofreading. (Prerequisites: AIS 1320, AIS 1050, Keyboarding competency). (3 C/3 hrs per wk). Offered: Fall.

AIS 2200  Information Resources Management
This course focuses on automated and non-automated information storage and retrieval systems and on the management policies and procedures necessary for creating, controlling, implementing, and evaluating today’s information systems. A case study approach and hands-on computer projects are part of this course. (Prerequisites: None). (3 C/3 hrs per wk). Offered: Fall, Spring.

AIS 2220  Business Communications
Provides the student with an introduction to principles of business utilized in both oral and written communication. Special emphasis is placed upon refreshing grammar skills, formatting skills, and recognizing the interrelationships between the business communications and the assessment of the audience. Utilizes both a lecture and practical/computer lab approach to teaching these principles. (Prerequisites: None). (3 C/3 hrs per wk). Offered: Fall, Spring.

AIS 2270  Office Procedures
This course capstones the administrative assistant training. Students will process a variety of mailable documents, learn proper business telephone etiquette, use presentation software to create electronic slides, use current manuals and Internet technology to do research, maintain an electronic calendar, send and receive e-mail, perform database and spreadsheet tasks, and learn to set priorities when working independently to perform various office tasks. (Prerequisites: AIS 2220, AIS 2350, AIS 2200, AIS 1220, AIS 2330 or concurrent enrollment). (3 C/3 hrs per wk). Offered: Spring.

AIS 2330  Word Processing II
This course is designed for continued development of advanced word processing knowledge and skills using a full-featured word processing program. Simultaneously, knowledge of formatting various business documents will be expanded. Keyboarding speed and accuracy will continue to be developed. (Prerequisites: AIS 1320). (3 C/3 hrs per wk). Offered: Fall, Spring.

AIS 2350  Microcomputer Business Applications
This microcomputer course is designed to provide “hands-on” training in the use of the computer for information processing. Students complete applications using software programs that provide the business productivity tools: word processing, spreadsheets, and database management. Basic Internet concepts are also covered. (Prerequisites: keyboarding competency). (3 C/3 hrs per wk). Offered: Fall, Spring.

AIS 2530  Information Technology Practicum
Various courses and levels of computer software applications will be offered. Watch semester listings for specific courses/ software offered. Content will vary from the introductory level through the complex and advanced level. May be repeated as the content of the course changes. May be taken pass/fail option grading. No credit if equivalent content/software has been completed in AIS 1320 or AIS 2330 with a grade of C or higher. (Prerequisites: Keyboarding competency). (1-3 C/1-3 hrs per wk). Offered: Fall, Spring.

AIS 2610  Medical Specialties and Pharmacology
This course covers the various specialty areas of medical practice, medications commonly used in those areas, and location of medications in the Physician’s Desk Reference and other reference materials. Additional topics covered will be drug classifications and modes of administration, characteristics of typical drugs, and usage of the PDR in location, correct spelling, and proper interpretation of medications in dictated material. (Prerequisites: None). (2 C/2 hrs per wk). Offered: Fall, Spring.
**AIS 2640 Medical Word Processing**
This course covers an integration of medical terminology, medical report formatting, medical correspondence formatting, and medical office document formatting with word processing skills. Emphasis will be placed on formatting and proofreading skill development and accuracy. All medical documents will incorporate medications, medical specialties, and/or medical office concepts. Keyboarding speed and accuracy will continue to be developed. Special emphasis will be placed on importing data to create clinical notes and medical letters. (Prerequisites: AIS 1600, AIS 1610 or concurrent registration; and AIS 1320). (3 C/3 hrs per wk). Offered: Spring.

**AIS 2650 Medical Office Procedures**
This course covers medical office career information, medical ethics, and professional liability. Topics covered will include medical receptionist tasks, working with patient files, medical records and billing, medical insurance, and coding, making meeting and travel arrangements, mail handling, scheduling patient appointments, and telephone messages. (Prerequisites: AIS 1670, AIS 1600, and AIS 1610). (3 C/3 hrs per wk). Offered: Spring.

**AIS 2710 Legal Terms/Transcription II**
This course is a continuation of the study and development of legal vocabulary with application of word processing skills in transcribing legal correspondence and documents. Emphasis will be placed on punctuation, spelling, and the use of Latin terms common to the legal profession. (Prerequisites: AIS 1710). (3 C/3 hrs per wk). Offered: Spring.

**AIS 2840 AIS Internship**
Internship is the opportunity to earn credit for a job that provides work experience related to the student’s career objective. A total of 2-5 credits may be earned per semester; a maximum of 5 credits for a program. (Prerequisites: Major in AIS Program). (2-5 C/60 hours of work experience per semester credit). Offered: Fall, Spring, Summer.

**AMERICAN SIGN LANGUAGE**

**ASL 1107 American Sign Language I**
An introduction to the Signing Naturally Series. This course will take students who have no knowledge of Sign Language to the point where they can function comfortably in a wide variety of situations in the deaf community. Deaf culture is taught throughout the curriculum. Level I will introduce language concepts related to people, places, and things within the immediate environment. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall.

**ASL 1108 American Sign Language II**
A continuation of ASL 1107. The course will build on topics, vocabulary and grammar introduced in ASL 1107. The course will encourage students to talk about people in a more abstract way and to talk about the environment removed from the classroom. Students will learn to describe past and current events. Students will also learn appropriate cultural behavior for directing and maintaining attention and a way to talk that keeps others informed. Students will learn strategies for controlling the pace of conversation and resuming conversations after an interruption. (Prerequisites: ASL 1107 or permission of instructor). (3 C/3 lect, 0 lab, 0 OJT). Offered: Spring.

**ANTHROPOLOGY**

**ANTH 1611 Physical Anthropology & Archeology**
The record and analysis of human biological and cultural evolution from earliest humans through the Paleolithic and into the historic periods. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, SS, HD. Offered: Spring.

**ANTH 1612 Cultural Anthropology**
A study of world cultures to enhance an understanding of adaptation and diversity. Topics include socioeconomic systems, class, behavior and social theory. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, SS, HD. Offered: Fall, Spring.
ART 1123 Three-Dimensional/Sculptural Design
This course is an introduction to the idea and practice of 3-dimensional/sculptural design. Using simple materials and processes, students will investigate aspects of form and sculpture, elements and principles of design, and basic procedures in the invention, construction and understanding of sculptural forms in space. (Prerequisites: ART 1121 recommended). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.

ART 1124 Graphic Design I
This course is an introduction to graphic design using typography, illustration, symbols and photography. In this hands-on course, students apply elements of design and historical design style to create several camera ready portfolio pieces. The use of two leading page layout programs will be utilized. (Prerequisites: None). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.

ART 1130 Computer Graphics I
This course introduces students to art, both historically and philosophically and computer technology in a creative problem solving environment. It is a survey course to show what is available and will also give students hands-on experience with painting and drawing programs. Drawing skills and introduction to illustration will be emphasized. Previous experience with computers is not necessary. Programming is not included. (Prerequisites: None). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.

ART 1131 Presentation Graphics
This course introduces students to basic design techniques, including the history and philosophy of graphic design and ways to apply them to produce effective well designed presentations on and off the computer. Using personal computer and a variety of programs (PageMaker, QuarkXpress, PageMill, Netscape Gold, Power Point, Director), and traditional art materials (markers, storyboards, transparencies) students will develop through hands-on exercises, several presentation pieces for a portfolio, including: web page design, slide presentations, interactive media and multimedia resumes. (Prerequisites: None). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.

ART 1134 Drawing I
This is a class in the practice of drawing. Students will be introduced to concepts and methods involved in learning to draw from observation and imagination. They will be introduced to line, value, the representation of light, structure, spatial organization and composition. Drawing as personal exploration and expression will be emphasized. (Prerequisites: None). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring.

ART 1144 Painting I
This course is a basic class in the practice of oil and/or acrylic painting. It begins with an introduction to materials and techniques. Basic elements and principles of the visual arts will be emphasized. We will pay particular attention to aesthetic issues as they arise in relationships of form and space. (Prerequisites: ART 1134, ART 1121, Recommended). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring.

ART 1164 Ceramics I
This art studio is an introductory course for students who have had various levels of exposure to art through high school classes or self-exposure. Class assignments lead students into the exploration of basic hand building and wheel forming techniques of working with clay and glazing procedures. Presentations explore art philosophies, artists, and art styles through lecture, demonstration, slides and video. (Prerequisites: None). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring.

ART 1170 Introduction to Crafts
Introduces the student to some of the materials, techniques, and philosophies involved in crafts. Materials to be used include metal, clay, wood, fibers, and found objects. (Prerequisites: None). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA, GP. Offered: Fall.

ART 1193 Art Workshop
Arranged programs in specific or combined areas of art that adapt themselves to particular needs, situations, or opportunities. These classes give students the opportunity to work on original problems that require creative thinking and critical decision making. They also discuss the history of the specific discipline and related philosophy of art. (Prerequisites: None). (1-6 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring, Summer.

ART 1232 Designing for the Internet
This course is an in-depth art course dealing with all aspects of web page design, publishing techniques and authoring, including history and philosophy of graphic design. Students will explore typography, latest page layout and image rendering to produce high quality pages with handmade details including animations, buttons, custom made backgrounds and one-of-a-kind illustrations. Students will use a choice of software including Photoshop, Illustrator, Flash 2, 3D Extreme PageMaker, PageMill and Communicator. (Prerequisites: ART 1130, 2230 or 2224). (3 C/0 lect/6 lab). MNTC: CT, HA. Offered: Fall, Spring.

ART 2224 Graphic Design II
This course further sharpens visual conceptualization and technical skills. Working in the context of actual projects, students will learn different techniques for putting together a corporate identity system including a logo for stationery, envelope and business card, a postcard with variations, a poster with variations, a 3 fold brochure and personal promotional materials. Technical information includes keylining, printing, and typesetting processes and problem solving leading to the production of portfolio quality pieces. Most of the work will be done on the computer using Adobe Illustrator. (Prerequisites: ART 1124). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.

ART 2230 Computer Graphics II
This course further sharpens visual conceptualization and technical skills learned in Computer Graphics I. Students will develop through hands on experience 10-15 portfolio pieces. The emphasis in this course will be on harnessing the power of the computer to create art using Adobe Photoshop, digital cameras and the scanner. Photoshop is an electronic darkroom, which lets you manipulate scanned photolграфics, slides and original artwork in many ways. No previous experience with Photoshop is required, but students must have taken Computer Graphics I or have the approval of the instructor. (Prerequisites: ART 1130). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.
ART 2234 Drawing II
This is a second class in the practice of drawing. It is expected that students will have been introduced to concepts and methods involved in learning to draw from observation and imagination. They will continue to work with assigned problems related to line, value, the representation of light, structure, spatial organization and composition. Drawing as personal exploration and expression will be emphasized. Because it is assumed they will have begun to develop personal goals, interests, and preferences, they will be expected to work from a greater degree of personal motivation and at an accelerated pace. (Prerequisites: ART 1134 or equivalent). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.

ART 2237 Animation and 3D Modeling
This course introduces the fundamentals of art including it’s history and philosophy and 3D computer graphics and animation to traditional artists and multimedia/computer graphics are covered, as well as modeling, surface creation, lighting and different types of output Macromedia 3D Extreme and Director will be used. (Prerequisites: ART 1130). (3 C/6 lect/0 lab). MNTC: CT, HA. Offered: Fall, Spring.

ART 2244 Painting II
This is a second class in the basic practice of oil and/or acrylic painting. It assumes students have had some previous experience with this medium. It begins with an introduction to materials and techniques. Basic elements and principles of the visual arts will be emphasized. We will pay particular attention to aesthetic issues as they arise in the relationship of form and space. (Prerequisites: ART 1144 or equivalent). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring.

ART 2264 Ceramics II
This course is a sequence to Ceramics I and will continue to build on the learnedness developed in that class. It will introduce glaze formulation, kiln loading and firing. (Prerequisites: ART 1164 or equivalent). (3 C/6 lect/studio, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring.

ART 2292 Studio Problems
Studio Problems offers the opportunity for advanced work in studio classes beyond the second term. Advanced work requires learning to proceed with more personal responsibility. (Prerequisites: Permission of instructor). (1-4 C/1-4 lect/studio, 0 lab). MNTC: CT, HA. Offered: Fall, Spring, Summer.

AUTOMOBILE MECHANIC TECHNICIAN

AMT 1710 Automotive Service Theory
This course covers theory and application of auto safety, tools, fasteners, basic electricity, and general auto service. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

AMT 1725 Service and Electrical Lab
This lab covers the service, diagnosis, and repair methods of general automotive maintenance and the automotive electrical systems, including starting and charging systems plus electrical accessories. (Prerequisites: AMT 1710 and AMT 1720 or concurrent enrollment). (3 C/0 lect, 3 lab, 0 OJT). Offered: Fall.

AMT 1730 Hydraulic Brake Theory
This course covers the theory of design operation, diagnosis, and repair of hydraulic brake systems on automobiles and trucks. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

AMT 1735 Hydraulic Brakes Lab
This course covers the service, diagnosis and repair of hydraulic brake systems as well as the necessary maintenance to keep brake systems in good working order. (Prerequisites: AMT 1730 or concurrent enrollment). (4 C/0 lect, 4 lab, 0 OJT). Offered: Fall.

AMT 1740 Ignition Theory
This course covers the design, function, diagnosis and repair steps of conventional and electronic ignition systems. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

AMT 1745 Ignition Lab
This course covers the service, diagnosis and repair of basic ignition systems as well as the necessary maintenance to keep ignition systems in good working order. (Prerequisites: AMT 1740 or concurrent enrollment). (2 C/0 lect, 2 lab, 0 OJT). Offered: Fall.

AMT 1810 Engine Repair Theory
This course covers engine design as well as diagnosis, evaluation, and repair, maintenance steps involved in restoring gasoline automotive engines to good running order. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Spring.

AMT 1815 Engine Repair Lab
This course covers the diagnosis, repair procedure, and testing and maintenance procedures for automotive gasoline engines. (Prerequisites: AMT 1810 as a prerequisite or concurrent). (7 C/0 lect, 7 lab, 0 OJT). Offered: Spring.

AMT 1825 Alignment and Suspension Lab
This course covers diagnosis, evaluation, adjustment and repair of suspension systems and related automotive components. (Prerequisites: AMT 1820 or concurrent enrollment). (3 C/0 lect, 3 lab, 0 OJT). Offered: Spring.

AMT 2740 Drive Train Theory
This course will cover automotive and light truck clutches, transmissions/transaxles, differentials and drivelines. Content includes mechanical, electronic, and hydraulic systems, phasing, alignment, balance, gear ratios and diagnosis. (Prerequisites: None). (3 C/ 3 lect, 0 lab, 0 OJT). Offered: Fall.

AMT 2742 Manual Drive Train Lab
This course is a hands-on lab class and will cover standard automotive and light truck clutches, manual transmissions/transaxles, transfer cases, differentials and drivelines. Content includes mechanical and hydraulic systems, phasing, alignment, balance, gear ratios and diagnosis. (Prerequisites: AMT 2740). (4 C). Offered: Fall.

AMT 2744 Automatic Trans/Transaxle Lab
This course is a hands-on lab class in which various transmissions and transaxles are overhauled, adjusted, and bench tested. Basic overhaul techniques, special tool and gauge usage are taught. (Prerequisites: AMT 2740). (4 C/0 lect, 4 lab, 0 OJT). Offered: Fall.

AMT 2750 Engine Performance Theory
This course covers a study of the theory and principles of operation of automotive fuel systems electrical systems, and mechanical conditions related to engine performance and also the operating principles of automotive computers, sensors, and control devices. (Prerequisites: None). (4 C/4 lect, 0 lab, 0 OJT). Offered: Spring.
Course Descriptions

AMT 2752 Engine Performance Lab
This lab course includes diagnosing, servicing, and correcting problems related to automotive fuel systems including carburetors, fuel pumps, fuel tanks, injectors, filters, and emission control systems associated with fuel systems on the automobile. Diagnosis, adjustments, and repair of component parts will be stressed. It will also deal with computer controls for both carbureted models and fuel injection. (Prerequisites: AMT 2750 or concurrent enrollment). (7 C/0 lect, 7 lab, 0 OJT). Offered: Spring.

AMT 2770 Heating & Air Conditioning
This course covers automatic temperature control systems operation, testing and repairs of vacuum and electrical controls, air flow distribution, and heater system controls. It also will cover the diagnosis and repair of air conditioning components as well as types of refrigerants used. (Prerequisites: None). (3 C/1 lect, 2 lab, 0 OJT). Offered: Spring.

AS/400 SYSTEMS OPERATIONS

ASF 1107 GroupWare/Lotus Notes
This course provides information about use, installation, and management of Lotus Notes with emphasis on AS/400 use. It will include configuring a Lotus Notes installation, working with both the client and server programs, End User desktop, database, mail and calendar functions. The student will create a database forms, and views. (Prerequisites: ASF 2210). (3 C). Offered: Fall.

ASF 1112 CL Programming
This course will prepare students with a basic-to-advanced level of Control Language (CL) programming, message handling, and debugging techniques. Emphasis is on efficient programs and techniques for optimum system performance. (Prerequisites: ASF 2210). (3 C). Offered: Fall.

ASF 1117 Customer Service in the Computing Industry
By assessing the customer’s needs and changing expectations, businesses can increase profitability. This course addresses those general business needs as well as those needs specific to the computing industry. Students will be taught the skills required to motivate fellow employees to higher levels of service excellence. Use of surveys and statistics as tools of measurement will be discussed. (Prerequisites: None). (2 C). Offered: Spring.

ASF 1127 Client/Server Concepts
This course is designed to help students understand the expanding role of client/server systems in business. The fundamental goals and benefits of client/server systems will be presented and analyzed. Projects include reports and programs in team settings. (Prerequisites: COMP 1150). (3 C). Offered: Fall.

ASF 1142 Introduction to Database/SQL
This course is an introduction to database design and implementation. The goal of this course is to provide students with a clear understanding of Database Management Systems (DBMS) and how they can be used in industry. Emphasis will be divided evenly between both the theoretical concepts of database design and practical database implementation. At the end of this course the student should have an appreciation of the types of data models, types of DBMS’s, the SQL language and enough information to understand many of the issues in planning, implementing, and managing a DBMS. (Prerequisite/Corequisite: COMP 1150). (2 C). Offered: Fall.

ASF 1199 AS/400 Seminar
Discussion of job activities and problems. Emphasis is placed on the operation of an integrated midrange computing system in business planning, decision planning, and daily operations. (Co-requisites: ASF 2299). (1 C). Offered: Spring.

ASF 2010 Data Communications
This course covers the basics of voice, data and video communications including terminology and equipment. Topics include standards, media, data communications codes, voice and image transmission, digital/analog conversion, error checking, modems, multiplexers and other related support concepts and equipment. (Prerequisites: COMP 1150). (3 C). Offered: Fall.

ASF 2020 AS/400 Interactive Programming
This course is designed to provide practical training for AS/400 interactive programming. The student will be presented with many Data Description Specifications (DDS), Control Language (CL), and Report Program Generator (RPG) concepts and will apply these concepts through practical use on the AS/400. Topics covered will include Command Action vs. Command Function, Display File Functions, Subfiles, Windows, and Advanced Structured Programming. (Prerequisites: ASF 1112; COMP 2298). Offered: Spring.

ASF 2210 AS/400 Operations
An introduction to the operation of an integrated midrange computer system. Procedures covered are initialization, security and configuration. Displays are used to monitor job queues, output queues, active jobs, and peripheral devices. (Prerequisites: Enrolled in AS/400 Program). (3 C/2 lect, 2 lab). Offered: Fall.

ASF 2215 AS/400 Facilities
Students will study intermediate to advanced levels of the following AS/400 topics: single level storage objects, libraries, library lists, user profiles, jobs, job descriptions, commands, menus, basic message handling, physical and logical files, display files, Program Development Manager (PDM), Screen Design Aid (SDA), Data File Utilities (DFU), Control Language programming, copy file functions, save/ restore, journaling, and security. (Prerequisites: Enrolled in AS/400 Program and successful completion of ASF 2210). (3 C/2 lect, 2 lab). Offered: Spring.

ASF 2299 AS/400 Internship
Planned and supervised occupational work experience at a work site which includes micro, midrange, and/or main frame computer systems. Job tasks are organized to those of a beginning, intermediate, and an advanced nature to provide exposure to the operation of the system(s). (Prerequisites: Permission of instructor; college level reading). (1-4C/ 75 hours of work per credit). Offered: Spring, Summer.

BIOLOGY

BIOL 1101 Elements of Biology
A one-semester course for non-science majors. Blends traditional and contemporary biological concepts for understanding life in today’s world. The nature of life, cell structure and function, asexual and sexual reproduction, Mendelian inheritance, evolution and ecological principles are covered. (Prerequisites: None). (3 C/2 lect, 2 lab). MNTC: CT, NS, PN. Offered: Fall, Spring, Summer.
BIOL 1107 Fundamentals of Anatomy & Physiology
This course is a one-semester study of Human Anatomy and Physiology. Special emphasis on understanding vocabulary and terminology is made. Appropriate combining forms, prefixes and suffixes will be learned as each of the component body systems is studied. The course deals with clinical procedures, practical applications and pathology. Analysis of current health care and related social issues will be discussed. Laboratory sessions will correlate to lecture material and will include microscope work, computer work as well as dissection of animal specimens. (Prerequisites: None). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring.

BIOL 1110 Human Biology
This course is a one-semester study of the biology of the human body. Each of the component systems will be studied in order to develop an understanding of how each part contributes to the whole. This knowledge will be applied to the analysis of current health and social issues. Laboratory sessions are designed to correlate with lecture topics. Dissection of appropriate animal specimens is included. (Prerequisites: High school Biology (1 year) or BIOL 1101). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring.

BIOL 1112 Humans and the Environment
Study of the interrelationships which exist between humans and their environment. Ecological problems will be studied and applied to past, present and future situations. Intended for the non-science major. No laboratory. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, PN. Offered: Not offered in 1999-2000.

BIOL 1127 Principles of Anatomy & Physiology I
Part one of the two-semester anatomy and physiology sequence covers cell structure and function, tissues, chemistry as it relates to biological sciences, the integumentary, musculoskeletal and nervous systems. This sequence is designed for students who have been admitted to the Mayo Clinic Radiography Program. (Prerequisites: Enrollment in Radiography program). (3 C/2 lect, 2 lab). MNTC: CT, NS. Offered: Fall.

BIOL 1128 Principles of Anatomy & Physiology II
Part two of the two-semester anatomy and physiology sequence covers the autonomic nervous system, special senses, endocrine system, digestive system, respiratory system, cardiovascular system, lymphatic system, urinary system and reproductive system. This sequence is designed for students who have been admitted to the Mayo Clinic Radiography program. (Prerequisites: Enrollment in Radiography program and BIOL 1127). (3 C/2 lect, 2 lab). MNTC: CT, NS. Offered: Spring.

BIOL 1217 Anatomy & Physiology I
Part one of the two-semester Anatomy and Physiology sequence covers cell structure and function, tissues, chemistry as it relates to biological sciences, the integumentary, the musculoskeletal systems and the cardiovascular and lymphatic systems. This sequence is designed for students in the following programs: Nursing, Respiratory Therapy, Dental Hygiene, Clinical Neurophysiology, Pre-Physical Therapy, and other pre-professional programs. (Prerequisites: High school biology or BIOL 1101 or equivalent, and high school biology or BIOL 1101 or equivalent). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring, Summer.

BIOL 1218 Anatomy & Physiology II
Part II of the two-semester Anatomy & Physiology sequence covers the nervous, endocrine, respiratory, digestive, urinary and reproductive systems. (Prerequisites: CHEM 1117, BIOL 1217). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring, Summer.

BIOL 1220 Concepts of Biology
A study of the biochemical and structural basis of life including cellular respiration, photosynthesis, genetics, origins and evolution of life, community interactions and ecosystems.

BIOL 1230 Survey of Life Forms
A study of the diversity of plants and animals including the anatomical and physiological study of select organisms.

BIOL 2021 General Microbiology
This course covers basic microbiology principles and the nature of the host-pathogen relationship. The course is intended primarily for students preparing for programs in nursing (2 yr and 4 yr degree programs), medical technology, physical therapy, veterinary medicine, pharmacy, respiratory therapy, medicine, dental hygiene and medical laboratory technology. (Prerequisites: BIOL 1217 or equivalent college course). (4 C/3 lect, 2 lab). MNTC: CT, NS, PN. Offered: Fall, Spring.

BIOL 2100 Plant Biology
This is an introductory course which covers anatomy, physiology, life cycles and classifications of major plant divisions. The relationship of plants to topics of genetics, ecology, biotechnology and economic values is covered in the course. (Prerequisites: BIOL 1220 or BIOL 1230). (4 C/3 lect, 2 lab). MNTC: CT, NS, PN. Offered: Spring.

BIOL 2200 General Zoology
This is a survey course of the classification, evolution, ecology, anatomy and physiology of animals. Intended for biology majors and minors in medicine, veterinary medicine, dentistry and other preprofessional courses involving biological implications. (Prerequisites: BIOL 1220 or BIOL 1230). (4 C/3 lect, 2 lab). MNTC: CT, NS, PN. Offered: Fall.

BIOL 2300 Genetics
This course presents the fundamental concepts of classical transmission genetics and modern molecular genetics. Topics include Mendelian genetics, linkage and mapping, human genetics, population genetics, control of gene expression, genetic engineering and nucleic acid analysis. (Prerequisites: BIOL 1220). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Spring.
Course Descriptions

BUILDING UTILITIES MECHANIC

BU 1500 Power Plant Theory
Using slides, lecture, discussion, students will study the proper operation theory of boilers. Topics include hot water boiler systems, fitting, and accessories. Students will identify water tube and fire tube boilers along with steam fittings and accessories. (Prerequisites: None). (4 C/4 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 1510 Welding Theory
This course covers actual use of arc, gas, and M.I.G., T.I.G., welding along with proper safety and equipment care. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 1520 Welding and Equipment Repair
Students will weld various projects using oxy-act, GTAW, GMAW, SAW, skills will include braze welding, metal cutting using shears, Plasma cutters, and flame cutting. (Prerequisites: None). (3 C/0 lect, 3 lab, 0 OJT). Offered: Fall, Spring.

BU 1530 Plumbing Theory
This course covers various aspects of the plumbing trade. Consideration will be given to sanitary and waste systems along with proper venting. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 1540 Power Plant Operation
Students will have the opportunity to operate a boiler. Students will become familiar with fittings and accessories or a working steam boiler. Students will dismantle parts of the boiler for repair. Water will be tested to ascertain its content. (Prerequisites: None). (4 C/0 lect, 4 lab, 0 OJT). Offered: Fall, Spring.

BU 1550 Plumbing Lab
Actual plumbing situations will be encountered and students will solve plumbing installation problems. Other activities include using pipe wrenches, identifying different types of pipe and fittings, and establishing proper draining. (Prerequisites: Concurrent with BU 1530). (2 C/0 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

BU 1560 Basic Electricity
This course covers the basic concepts of AC and DC electricity. Included are voltage, current, resistance, and power usage in series, parallel, and combination circuits. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 1621 Electrical Theory I
This course covers wiring layout for general lighting circuits and switches in residential applications. The basic theory of inductors, capacitors, resistors, SCR’s, diodes, transistors, and AC electric motors is also presented. The student will also examine the basic design and installation of electric motor controls. (Prerequisites: BU 1560). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 1631 Electrical Lab I
This course covers the basic theory, operation, and practical applications of industrial electronics, electric motors, AC-DC circuits and general wiring diagrams in commercial applications. In this course students will also learn motor control requirements including: control symbols, line diagrams, wiring diagrams, inlays, contacts, and starters. (Prerequisites: BU 1621). (4 C/0 lect, 4 lab, 0 OJT). Offered: Fall, Spring.

BU 1641 Electrical Theory II
In this course students will continue to examine the basic design and installation of electric motor controls. The theory and applications of single-phase and three-phase transformers are also covered. The theory of programmable controllers and advanced motor controls is also presented. (Prerequisites: BU 1720). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 1651 Electrical Lab II
This course provides the student with advanced motor control applications including: jogging, counting, braking, plugging, reduced voltage starting, and latching relays. The theory, operation, installation, and practical application of programmable controllers is covered. Solid-state motor controls are also covered. The application and characteristics of single-phase and three-phase transformers are covered. (Prerequisites: BU 1631, BU 1641). (4 C/0 lect, 4 lab). Offered: Fall, Spring.

BU 1661 Electrical Safety and National Electric Code
This course covers the Minnesota licensing requirements and presents the National Electric Code. Topics include from Code are branch circuits, feeders, general requirements, overcurrent protection, grounding, conductors, and electrical safety. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 1720 Electrical Lab II
This course covers actual use of arc, gas, and M.I.G., T.I.G., welding along with proper safety and equipment care. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 1730 Electrical Theory III
This course covers the basic theory, operation, and practical applications of single-phase and three-phase transformers are also covered. The theory of programmable controllers and advanced motor controls is also presented. (Prerequisites: BU 1720). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 2500 Refrigeration Theory
This course covers fundamentals of refrigeration, tools and materials, basic refrigeration systems, compression systems, refrigerant controls, refrigerants, domestic refrigerators and freezers, and principles of installing and servicing small hermetic systems. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 2506 Refrigeration Lab
This course covers lab experiences working with tools, tubing, compressors, refrigerant controls, refrigerant, and testing equipment. (Prerequisites: BU 2500). (3 C/0 lect, 3 lab, 0 OJT). Offered: Fall, Spring.

BU 2512 Commercial Refrigeration
This course covers fundamentals of Commercial and Special Refrigeration; condensers, evaporators, compressors, troubleshooting. The concepts will be applied in BU 2518. (Prerequisites: BU 2500). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 2518 Commercial Refrigeration Lab
This course covers lab experience in commercial refrigeration. Students will operate and troubleshooting refrigeration equipment including compressors, flow controls, and heat exchangers. (Prerequisites: BU 2500). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

BU 2530 Refrigerant Certification
This course is designed to assist refrigeration and air conditioning technicians in becoming successfully certified. Technician will be EPA approved and certified in the areas tested which include Type I, II, III, or Universal if all sections are passed. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring.
**Course Descriptions**

**BU 2555  Building Utilities Mechanics Co-op**
This course is designed to provide the student with a purposeful occupational experience in the building utilities mechanic field. Each co-op experience is individualized. 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: None). (5 C). Offered: Spring.

**BU 2602  Facility Air Handling Systems Theory**
This course covers principles of larger HVAC air handling systems. Economizers/heat/cold decks and zones are analyzed and operated. Hydronic Systems are used. (Prerequisites: BU 2632, BU 2622, and concurrent enrollment in BU 2612). (4 C/4 lect, 0 lab, 0 OJT). Offered: Spring, Summer.

**BU 2612  Facility Air Handling Systems Lab**
This course covers air temperature controls on larger HVAC air handling systems. Electric/air/computer controls are used to operate student projects. (Prerequisites: BU 1560, and concurrent enrollment BU 2602). (2 C/0 lect, 2 lab, 0 OJT). Offered: Spring, Summer.

**BU 2622  Forced Air Heat/Cool Controls**
This course covers temperature and operating controls related to heat/cold systems. Emphasis is on wiring and troubleshooting control circuits. (Prerequisites: Concurrent enrollment BU 2632). (2 C/0 lect, 2 lab, 0 OJT). Offered: Spring, Summer.

**BU 2632  Forced Air Heating/Cooling Systems**
This course covers the electrical/mechanical and air moving components in heating and cooling systems using standard and high efficiency equipment. (Prerequisites: BU 1560, BU 2500). (3 C/3 lect, 0 lab, 0 OJT). Offered: Spring, Summer.

**BU 2642  Boiler Review**
Students will review boiler regulations, fittings, Minnesota law pertaining to high and low pressure boilers and turbines including hot water systems. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

**BU 2651  Building Utilities Mechanics Co-op IV**
This course is designed to provide the student with a purposeful occupational experience in the building utilities mechanic field. Each co-op experience is individualized. 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. One credit of co-op is equal to 36 hours of on-the-job training. (Prerequisites: All first year courses and/or instructor permission). (2 C/0 lect, 0 lab). Offered: Fall, Spring.

**BU 2655  Building Utilities Mechanics Co-op**
This course is designed to provide the student with a purposeful occupational experience in the building utilities mechanic field. Each co-op experience is individualized. 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: None). (5 C). Offered: Fall, Spring.

**BU 2661  Building Utilities Mechanics Co-op III**
This course is designed to provide the student with a purposeful occupational experience in the building utilities mechanic field. Each co-op experience is individualized. 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. One credit of co-op is equal to 36 hours of on-the-job training. (Prerequisites: All first year courses and/or instructor permission). (3 C/0 lect, 0 lab). Offered: Fall, Spring.

**BUSINESS**

**BUS 1101  Introduction to Business**
This is an introductory course which will cover the major functional areas of business, including management, marketing, finance, and their more specialized subfunctions. In addition, we will cover the foundations of American business, including the nature of the free enterprise system, business’s social responsibilities, and the structure of American business. Attention will also be given to the legal and international dimensions of modern business. (Prerequisites: None). (3 C/3 lect). Offered: Fall, Spring.

**BUS 1144  Opening and Managing a Business**
This course is designed to assist students in identifying and evaluating a business opportunity and the necessary steps involved in opening and operating a business. The course will introduce the elements of business ownership including: the various business forms, entry strategies, risk taking, innovation and business development. Students will analyze the market potential, evaluate the financial feasibility based on the market and determine the management infrastructure necessary to operate a successful business. Topics include: planning, financing options, location, marketing, personnel, cash flow management, inventory control and production/system. (Prerequisites: None). (4 C/4 lect). Offered: Spring.

**BUS 1150  Introduction to Desktop Publishing**
An introduction to desktop publishing using Macintosh computers and PageMaker and Microsoft word software. Discussions and practical hands-on experience with page design, layout, graphics and typography. (Prerequisites: None). (2 C/2 lect). Offered: Fall, Spring.

**BUS 2201  Principles of Marketing**
Provides the student with a general introduction to marketing analysis, planning, decision making and program implementation. Students gain an understanding of the principles of marketing and their interrelationship through a computerized business marketing simulation and development of a formal market plan. (Prerequisites: None). (3 C/3 lect). Offered: Fall, Spring.

**BUS 2210  The Legal Environment of Business**
A study of the legal environment in which business operates. Topics include an introduction to law and the legal system, litigation, administrative law, and alternative dispute resolution; antitrust, securities regulation, consumer protection, employment law, environmental protection, and international business law. (Prerequisites: None). (3 C/3 lect). Offered: Spring.
BUS 2212 Business and Economic Statistics
An introduction and overview of statistics. Topics will include (but not be limited to) descriptive statistics, probability and hypothesis testing. Statistical calculators will be used extensively throughout the class. Emphasis on application of statistical techniques and procedures for solving business-related problems, rather than mathematical theories. (Prerequisites: MATH 0099 or MATH 1103 or appropriate placement score). (4 C/4 lect). Offered: Fall, Spring.

BUS 2214 Retailing
The study of the fundamental and key components of retailing as a marketing approach to consumers and business growth. Elements of the retail marketplace will be explored including: the definition and description of the most common forms of successful retailers today and their relationships with other retailers in competition with suppliers, advertisers, and the all important consumer of today. Elements of site selection, store layout and design will set the stage for studying the analytical side of retailing by understanding and building merchandise budgets, balance sheets and methods of inventory control. The personal side of retailing will be covered by studying the topics of staffing and human resources, consumer behaviors and advertising in today’s world-wide market. (Prerequisites: None). (3 C/3 lect). Offered: Fall.

BUS 2215 Salesmanship
Emphasis will be on the processes of selling of oneself, products, firms, ideas, etc. This will include retail store salesmanship, outside sales, service and all other aspects of the selling profession. (Prerequisites: None). (2 C/2 lect). Offered: Fall, Spring.

BUS 2217 Financial Accounting
A study of assets, liabilities and owner’s equity in the preparation and use of financial statements. The accounting cycle is covered for a service and merchandising business. Interpreting financial reports for corporations will be emphasized. (Prerequisites: None). (4 C/4 lect). Offered: Fall, Spring.

BUS 2218 Managerial Accounting
A study of cash flow and managerial accounting principles including cost behavior, job order costing, process costing, cost-volume-profit relationships, standard costs, budgets, and differential analysis. (Prerequisites: BUS 2217). (4 C/4 lect). Offered: Fall, Spring.

BUS 2219 Business Law I
This course introduces students to the structure and processes of our legal system and then covers the substantive areas of contracts, sales, commercial paper, and agency. (Prerequisites: None). (3 C/3 lect). Offered: Fall, Spring.

BUS 2220 Principles of Management
Provides a general introduction to the broad field of management. Current applications in strategic planning and control, managing workplace dynamics, and understanding the impact of the Internet as a business management tool will be emphasized. (Prerequisites: None). (3 C/3 lect). Offered: Fall, Spring.

BUS 2234 Computerized Accounting
This course will give students an understanding of the basic structure of any computerized accounting system, modules, and fields. Students will also be introduced to basic functions of a popular spreadsheet program from building, editing, and formatting a spreadsheet to creating graphs that represent the material in the spreadsheet. (Prerequisites: BUS 2217). (3 C/3 lect). Offered: Spring.

BUS 2290 Business Topics
Designed to help familiarize the student with the current practices and trends in business and marketing through a series of guest lectures, field trips and computerized business games. (Prerequisites: None). (1-4 C/1-4 lect). Offered: Fall, Spring.

BUS 2294 Marketing Internship
Internship is the opportunity to earn credit from a job that provides work experience related to the student’s career objective. A student may earn up to 8 credits toward graduation. The student is required to submit a report at the end of each quarter describing his/her work experience. Grade is based upon an evaluation of student’s work experience and an employer’s evaluation. (A minimum of 75 hours of work experience per credit). (Prerequisites: None). (2-8 C/0 lect, 2-8 OJT). Offered: Fall, Spring.

BUS 2296 Business Internship
Work experience program designed to help business students apply classroom knowledge on the job. Designed to make the work experience a learning experience so that the student will be able to better understand the practical application of business techniques. (Prerequisites: None). (2-4 C/0 lect, 2-4 OJT). Offered: Fall, Spring.

CAD TECHNOLOGY

CAD 1120 Welding Technology
The purpose of this course is to teach the welding symbols and their applications. Basic drafting skills are incorporated into making complete weldment drawings. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

CAD 1123 Technical Illustration
This course will cover the basic techniques of pictorial drawings on oblique, isometric, diametric, and trimetric axes. Two point perspective will also be covered. The student will complete assembly, exploded and section drawings. One of the drawings will be linked. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

CAD 1129 Introduction to MasterCam
This course provides the related occupation students with the fundamentals of computer and engineering drawing. CAD of the Master CAM software will be used to draw parts, dimension parts and to prepare the student for the next step, CAM. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

CAD 1146 Schematic & PCB Layout
The purpose of this course is to teach students how to make schematic and layout printed circuit boards. A combination of board and CAD work will be required. A basic understanding of electronic components and theory will also be covered. (Prerequisites: None). (4 C/2 lect, 4 lab, 0 OJT). Offered: Fall.
CAD 1223 Technical Drafting I
A continuation of ET 1224. (Prerequisites: ET 1224). (2 C/1 lect, 2 lab). Offered: Spring.

CAD 1229 Technical Drafting II
A continuation of MET 1224. (Prerequisites: MET 1224). (2 C/1 lect, 2 lab). Offered: Spring.

CAD 1235 CAD II
A continuation of ET 1235, including 3-D and other advanced topics in AutoCAD. Major topics of instruction will include advanced drawing commands, using isoplane and elevation practices; also includes 3-D drawing of lines, surfaces, and meshes, dynamic viewing 3-D objects and usage of autoslip’s 3-D macros. (Prerequisites: ET 1235, CAD I). (3 C/1 lect, 4 lab, 0 OJT). Offered: Spring.

CAD 2323 Advanced Dimensioning
This course is designed to meet different drafting standards such as ANSI, 150, MIL or our own school standards. Tolerancing methods and dual dimensioning will be covered as well as the geometric tolerancing and dimensioning symbols and standards. Dimensioning in isometric and 3D will also be covered. (Prerequisites: CAD 1229). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

CAD 2324 Special Projects
In this course students will select an area of interest and specialize in advanced drafting work to reinforce skills and knowledge gained during the first year or a new area that was not covered in the regular program course offerings. Projects will be selected with approval of instructor. A contract will be written on required work. (Prerequisites: Second year student). (2 C/0 lect, 4 lab, 0 OJT). Offered: Fall.

CAD 2335 Working Drawings and Design
This course combined all facets of the first year classes into individual and team projects. More attention is given to geometric tolerancing, fits and detailing practices, and the assembly of parts. Students will have the opportunity to use CAD and design group projects. (Prerequisites: CAD 1229). (3 C/1 lect, 4 lab, 0 OJT). Offered: Fall.

CAD 2339 Three Dimensional CAD
This course offers students the understanding of 3D parametric solid modeling using SolidWorks. It also addresses the concepts of parametric design, design intent, and the necessary commands to carry out these functions. Items covered will be construction of 3D solid modeling parts, assemblies, and creating 2D automated drawings. Learning by example: students will design real world products with SolidWorks. Other application programs will be covered if time permits. (Prerequisites: CAD 1229). (3 C/1 lect, 4 lab, 0 OJT). Offered: Fall.

CAD 2423 Hydraulic/Pneumatic Drafting
In this course students will cover the theory of fluid and pneumatic power circuits. They will learn standard symbols and system components. Students will have an opportunity to design and make schematic drawings of basic power circuits. Piping will also be studied. (Prerequisites: CAD 1229, MET 2358). (2 C/1 lect, 2 lab, 0 OJT). Offered: Spring.

CAD 2424 Special Projects
In this course students will select an area of interest and specialize in advanced drafting work to reinforce skills and knowledge gained during the first year or a new area that was not covered in the regular program course offerings. Projects will be selected with approval of instructor. A contract will be written on required work. (Prerequisites: Second year student). (2 C). Offered: Spring.

CAD 2435 Mechanics
This course is designed to develop the ability to analyze problems and solve them using basic principles. Areas of force, work and energy, motion as well as fluids, temperatures and sound will be covered. Basic principles of electricity and light and their applications are also covered. (Prerequisites: MATH 1032). (3 C/1 lect, 4 lab, 0 OJT). Offered: Spring.

CAD 2439 HVAC Drafting
Drafting as it pertains to the heating, ventilation, and air conditioning industry. (Prerequisites: MET 2358). (3 C/1 lect, 4 lab). Offered: Spring.

CAREER ORIENTATION

CAOR 1101 Career & Lifestyle Planning
Students will determine interests, skills, values and career life goals by use of standardized assessments, computer software and self evaluation. Explore which occupations fit with anticipated life styles and evaluate occupational trends. Arrange for and carry out informal interviews in the area of occupational choice. Brief review of resume writing and interviewing skills. Use of the internet to search for careers. (Prerequisites: None). (2 C/2 lect). Offered: Fall, Spring, Summer.

CAOR 1103 Career Exploration Workshop
This course is designed to assist students in setting educational and occupational goals through assessment of interests and values, learning about the world of work, and learning to use career center resources. (Prerequisites: None). (1 C/1 lect). Offered: Fall, Spring, Summer.

CARPENTRY

CR 1610 Residential Blue Print Reading
The Purpose of this course is to develop fundamental skills necessary to interpret blueprints used the building trades. Topics included will be blueprint symbols and abbreviations, interpreting structural details, and “hands on” blueprint interpretation. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Summer.

CR 1612 Shop Practice I
In this course students are taught to use and maintain hand tools portable power tools and woodworking machines in a safe and efficient manner. (Prerequisites: CR 1511). (2 C/0 lect, 2 lab, 0 OJT). Offered: Summer.

CR 1613 Site Layout
In this course students will be taught operation techniques of various leveling instruments, how to do site and building layouts, and how to establish elevations for footings and foundations. (Prerequisites: None). (1 C/0 lect, 1 lab, 0 OJT). Offered: Summer.
Course Descriptions

CR 1614 Carpentry Theory I
This course covers information on the various hand tools and their uses. The student will identify the various power tools, their different attachments, and safety procedures for using each tool. The student will also learn about the different leveling instruments. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Summer.

CR 1622 Carpentry Theory II
In this course the student will identify a variety of building materials and their uses and will study how blueprints and plans are used on various projects. The student will also study footings and foundations, floor joist system, walls, roofs and ceiling applications. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall.

CR 1623 Rough Framing
In this course students will assemble floor systems and build exterior and interior walls. The students will be introduced to building practices, tools of the trade, and work habits. (Prerequisites: None). (2 C/0 lect, 2 lab, 0 OJT). Offered: Fall.

CR 1625 Footing and Foundation
The student will build footings and slab forms above and below grade, and pour and finish concrete. Wood foundations will also be studied. (Prerequisites: None). (2 C/0 lect, 2 lab, 0 OJT). Offered: Fall.

CR 1627 Roofing System
In this course students will be building rafters, setting trusses, and putting on roof materials. (Prerequisites: None). (2 C/0 lect, 2 lab, 0 OJT). Offered: Fall.

CR 1632 Construction Estimating
The focus of this course is to develop skills necessary to accurately estimate costs to build a residential structure. As residential construction is very competitive, accurate cost bidding is necessary if a builder is to compete successfully. Estimates will cover cost factors ranging from the foundation through the completed roof to the completed interior. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall.

CR 1634 Carpentry Theory III
In this course the student will identify different types of insulation and vapor barriers. The student will study different types of exterior finishes, windows, and doors. Gypsum wallboards, and their finishing processes will also be covered. (Prerequisites: CR 1614, CR 1622). (2 C/2 lect, 0 lab, 0 OJT). Offered: Spring.

CR 1635 Shop Practice II
In this course the student will layout and build cabinets using hand and power tools. The student will also study plastic laminations and apply their installation techniques. (Prerequisites: Instructor approval). (2 C/0 lect, 2 lab, 0 OJT). Offered: Spring.

CR 1636 Interior finishing
In this course the students will build projects relating to interior finishing and exhibit skills and craftsmanship required for the standards of trade. Mock-ups will be used to give a variety of construction projects. (Prerequisites: First semester classes). (4 C/0 lect, 4 lab, 0 OJT). Offered: Spring.

CR 1637 Exterior Finishing
This course covers installing open and closed cornices, applying siding and moisture barriers, and installing doors and windows of all types. (Prerequisites: None). (2 C/0 lect, 2 lab, 0 OJT). Offered: Spring.

CHEMISTRY

CHEM 1100 Chemistry and Our World Today
This is an introductory lecture/lab course for non-science majors that investigates the world of chemistry, the nature of matter and our everyday interactions with chemicals. Elementary concepts of chemistry will be introduced as they relate to economic, political, environmental and social issues. Through this unique approach to studying chemistry, students will use critical-thinking skills to access the impact of chemicals in the modern world. (Prerequisites: None). (3 C/2 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring.

CHEM 1101 Elements of Chemistry
This is an introductory study of the principles of chemistry. The course introduces the student to the basic chemical terminology, rules for properly handling numeric values and measurements, proper methods for making and recording laboratory measurements from a variety of scales and the interrelationships between laboratory data, theories and chemical laws are explored. The student is expected to solve basic problems involving elementary algebra and a variety of chemical laws and relations. This course is primarily intended for the non-science major and/or may be used as preparation for higher level chemistry courses or to update an outdated background. (Prerequisites: MATH 0098 or equivalent). (3 C/2 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring, Summer.

CHEM 1117 General Chemistry I
This course is designed for students enrolled in nursing, respiratory care, and other health related programs. This course may also be taken by students in the area of home economics, mortuary science and occupational therapy. This course includes discussion of measurements and conversions within the English and System International, chemical bonding and some medical properties of atoms, compounds and ions. Mole concepts, stoichiometry, periodicity, kinetic molecular theory, gas laws, solutions equilibrium, acid-base chemistry and pH, are covered plus brief discussion on organic chemistry. (Prerequisites: MATH 0098 or equivalent, high school chemistry or CHEM 1101 or equivalent). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring, Summer.

CHEM 1118 General Chemistry II
This course is designed for students enrolled in health-related programs including pre-BSN and Respiratory Therapy for Winona State University. Consists of a general introduction to organic and biological chemistry. The structure and reactivity of carbohydrates, lipids, proteins and nucleic acids will be described, and then the cellular metabolism of these compounds will be covered. Also discussed will be digestion, acid-base balance, and fluid and electrolyte regulation. The laboratory work consists of experiments designed to illustrate the topics covered in lecture. (Prerequisites: CHEM 1117 and one of the following: BIOL 1110, BIOL 1217, or BIOL 1220). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring.
CHEM 1127 General Inorganic Chemistry I
The first semester of a two-semester study of general inorganic chemistry for the science major. The course covers basic terminology, chemical principles and laws relating to chemical changes, present views as to the structure of matter and its influence on chemical changes. Problem solving related to conversion units, stoichiometry, percent composition, formulas of compounds, gas, liquid and solid state relations and solution mixture. (Prerequisites: MATH 0099 or equivalent; MATH 1117, or concurrent enrollment strongly recommended. High school chemistry with grade of C or better and/or CHEM 1101). (4 C/3 lect, 3 lab). MNTC: CT, NS, PN. Offered: Fall, Spring.

CHEM 1128 General Inorganic Chemistry II
The second semester of a two-semester study of general inorganic chemistry for the science major covering basic terminology, chemical principles and laws pertaining to the areas of basic thermodynamics, reaction kinetics, gaseous and solution equilibria, acid-base chemistry, solubility products and oxidation-reduction reactions. (Prerequisites: CHEM 1127 or equivalent; MATH 1115, highly recommended). (4 C/3 lect, 3 lab). MNTC: CT, NS, PN. Offered: Spring.

CHEM 2227 Organic Chemistry I
A thorough overview of atoms, molecules, structures and bonding in organic chemistry. Reactions of organic compounds as acids and bases as well as nucleophiles and electrophiles are covered. Stereoisomerism and simple synthesis of organic compounds are presented. Nucleophilic substitution and elimination reactions complete the course. Many functional groups are introduced and their reactivity studied. An introduction to theory and interpretation of IR and NMR is presented. This course is intended for preprofessional, science and engineering disciplines. (Prerequisites: CHEM 1127; CHEM 1128). (4 C/5 lect, 0 lab). MNTC: CT, NS. Offered: Fall.

CHEM 2228 Organic Chemistry II
An introduction to carbonyl compounds and addition reactions of electrophilic carbon atoms is presented. Nucleophilic substitution reactions of carboxylic acids and their derivatives are presented. Alkylation and condensations reactions are covered. An introduction of UV and mass spectroscopy is presented. Reactions of aromatic compounds, enolate ions and amines are presented. A thorough introduction to organic synthesis is also covered. (Prerequisites: CHEM 2227). (4 C/5 lect, 0 lab). MNTC: CT, NS. Offered: Spring.

CHEM 2237 Organic Chemistry Lab
An introduction to the basic techniques and procedures used in organic chemistry, such as melting point determination, recrystallization, distillation, extraction, gas-liquid chromatography and refractive index. The student is also required to keep a detailed laboratory notebook. (Prerequisites: Concurrent enrollment in CHEM 2227). (1 C/0 lect, 3 lab). MNTC: CT, NS. Offered: Fall.

CHEM 2238 Organic Chemistry Lab II
The material in this course is designed to reinforce chemistry concepts and reactions taught in CHEM 2227 and CHEM 2228. Column chromatography and other purification techniques are taught. Interpretation of spectroscopy and characterization of compounds are emphasized. Formal laboratory reports are required. (Prerequisites: Concurrent enrollment in CHEM 2228). (1 C/0 lect, 3 lab). MNTC: CT, NS. Offered: Spring.

CHILD DEVELOPMENT

CD 1200 Professional Relations in EC Careers
Students will explore career opportunities for working with young children in a variety of child development programs. Job requirements, duties, regulations, and personal/professional characteristics for becoming successful professionals in early childhood careers will be examined. Students will learn interviewing strategies and resume techniques. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall.

CD 1210 Foundations of Child Development
This course provides an overview of typical and atypical child development across cultures, from prenatal through school-age. Physical, social, emotional, language, cognitive, aesthetic, and identity/individual development will be explored. Integrating developmental theory with appropriate practices in a variety of early childhood care and education settings will be emphasized. (Prerequisites: None). (3 C/2 lect, 2 lab, 0 OJT). Offered: Fall.

CD 1220 Child Safety, Health and Nutrition
This course will guide the student in obtaining skills needed to establish and maintain a physically and psychologically safe and healthy learning environment for young children. Topics include illness and accident prevention, emergencies, children’s basic nutritional needs, and child abuse/neglect prevention and intervention. (Prerequisites: None). (4 C/3 lect, 1 lab, 0 OJT). Offered: Fall.

CD 1230 Guidance: Managing the Physical and Social Environment
This course provides an exploration of physical and social environmental factors that promote learning and social skill development in young children, infants through school-age. Students will be introduced to basic child guidance strategies for individual and group situations. Problem-prevention and positive guidance strategies will be emphasized. (Prerequisites: None). (4 C/3 lect, 1 lab, 0 OJT). Offered: Fall.

CD 1240 Family and Community Relations
Students will examine how current societal and community issues impact the development of children and the well-being of families. Cultural diversity and dynamics, bias, violence, and other issues will be explored, along with study of contemporary family structures, roles, and diversity. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall.

CD 1310 Infant/Toddler Development and Learning
This course provides an overview of infant/toddler development and caregiving practices in home or center-based settings. Students will integrate knowledge of developmental needs, developmentally appropriate environments, effective caregiving and teaching strategies, and observation methods. (Prerequisites: None). (4 C/3 lect, 1 lab, 0 OJT). Offered: Spring.

CD 1312 Preschool Development and Learning
This course provides an overview of preschool development and caregiving practices in home or center-based settings. Students will integrate knowledge of developmental needs, developmentally appropriate environments, effective caregiving and teaching strategies, and observation methods. (Prerequisites: None). (4 C/3 lect, 1 lab, 0 OJT). Offered: Spring.
Course Descriptions

CD 1314 School-Age Development and Learning
This course provides an overview of school-age development and caregiving practices in home, school, or center-based settings. Students will integrate knowledge of developmental needs, developmentally appropriate environments, effective caregiving and teaching strategies, and observation methods. (Prerequisites: None). (4 C/3 lect, 1 lab, 0 OJT). Offered: Spring.

CD 1340 Planning & Implementing Curriculum
This course examines the role of teacher in early childhood settings. Students will apply their knowledge of child development and developmentally appropriate activities in planning and implementing programs relevant the needs of individual children, varying in age groups, and child care settings. (Prerequisites: None). (4 C/3 lect, 1 lab, 0 OJT). Offered: Spring, possibly other semesters, as an evening course.

CD 2510 Internship
This course provides an opportunity to apply knowledge and skills in an actual child development setting. Students will observe and assess children’s behavior, facilitate free choice play, implement adult-directed learning experiences, and maintain professional relationships. (Prerequisites: Completion of 17 CD credits or instructor permission). (3 C/1 lect, 0 lab, 2 OJT). Offered: Fall, Spring, Summer.

CD 2530 Children with Difficult Behaviors
This course will help students to understand children’s behavior and identify intervention strategies to prevent and resolve problem behaviors, use behavior modification techniques effectively, and design behavior management plans. (Prerequisites: None). (3 C/2 lect, 0 lab, 0 OJT). Offered: Spring, possibly Summer.

CD 2560 Language and Literature Experiences
This course provides developmental framework for planning and implementing language and literature experiences in the early childhood home-based or center setting. Students will integrate knowledge of child development, learning environments, and teaching methods to promote and enhance whole language, conversation, literature, literacy, and bi-lingualism. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Spring, possibly Summer.

CD 2570 Multicultural Learning Experiences
This course provides an overview of multicultural and anti-bias learning experiences in center-based and home settings. Students will integrate knowledge of child development, learning environments, and teaching methods to promote and enhance multiculturalism and anti-bias in the early childhood setting. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Fall, possibly Summer.

CD 2580 Creative Development Experiences
This course provides an overview of creative/aesthetic learning experiences in center-based and home settings. Students will integrate knowledge of child development, learning environments, and teaching methods to promote and enhance children’s artistic, musical, movement, and dramatic play abilities. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Fall, possibly Summer.

CD 2600 Professional Leadership
This course prepares students to take active leadership and advocacy roles in the child development progression by examining the history, current trends, and future of child care and early childhood education. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Spring.

CD 2620 Inclusion: Special Needs and Mixes Age Groups
Students will examine the development of children with a range of special needs and disabilities. Early intervention and inclusion practices in early childhood settings, including mixed-age groupings will be emphasized. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Spring.

CD 2640 Program Planning
This course provides an advanced level exploration of program management skills for caregivers of young children. Emphasis is on organizing, implementing, and evaluating a quality, comprehensive child care program plan. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Spring.

CD 2810 Practicum I
This course provides an opportunity to apply knowledge and skills in an early childhood setting. Students will implement a variety of learning experiences that are developmentally appropriate for and culturally sensitive to a specific age and group of children. (Prerequisites: None). (3 C/0 lect, 0 lab, 3 OJT). Offered: Fall, Spring, Summer.

CD 2840 Practicum II
This course provides an opportunity to apply knowledge and skills in program planning for early childhood/special education leadership roles. Students identify, design, implement, and analyze a comprehensive program that includes schedules, daily plans, sensitivity to needs of individual children and families, integration of children with special needs, integration of community resources, co-operation with co-workers, and staff development considerations. (Prerequisites: None). (3 C/0 lect, 0 lab, 3 OJT). Offered: Fall, Spring, Summer.

CHIROPRACTIC TECHNICIAN

CT1520 Chiropractic Anatomy & Terminology
This course covers body structure and function and related medical terminology necessary to function in the chiropractic health care field. Emphasis will be placed on structural-functional relationships and the relation of the vertebral column and the nervous system to the body as a whole. The embryological and physiologic approach to a chiropractic sublimation are stressed. (Prerequisites: None.) (4C/4 lect, 0 lab, 0 OJT.) Offered: Fall

CT1521 Chiropractic Concepts of Motivating Health
This course covers how we can control the transfer of infectious diseases. The student will utilize a chiropractic science frame-of-reference to understand public health issues. As Chiropractic Technician’s you will examine the relationship which exists between the chiropractic practice and the community. Public health issues such as sanitation and immunizations are studied. The concepts of disease and communicable diseases are examined. We will discuss the promotion of wellness and the chiropractic concept of alternative ways to boost the patients immunity. The student will be encouraged to strive towards continued “wellness” with themselves as well as the patient they interact with. (Prerequisites: None) (2 C/1 lect, 2 lab, 0 OJT) Offered: Spring.
CT1522 Chiropractic: The Science, Philosophy and Ethical Standards
This course will focus on scientific data and historical philosophies and theories of chiropractic. This course will blend philosophical and ethical principles that are necessary standards of conduct in a chiropractic clinic. Emphasis will be placed on the development of meaningful framework for health with the practice of chiropractic. (Prerequisites: None) (3 C/2 lect, 2 lab, 0 OJT) Offered: Fall.

CT 1526 Chiropractic Clinic Procedures
This course will define what a Chiropractic Technician is and provide a framework for developing and maintaining control of a healthy appointment book, telephone technique, accounts payable, accounts receivable, collection, clinic accounting, filing, processing forms, receiving the patient, personalized letters, and organizational management components of the chiropractic clinic. (Prerequisites: None). (3 C/2 lect, 2 lab, 0 OJT). Offered: Fall.

CT1534 Introduction to Chiropractic Radiology Dynamics
This course stresses the importance of safety, the basics of film processing, and basic physics as related to the use of radiology in the chiropractic environment. Protection of patient and operator will be stressed as well as laws, regulations and ethical standards regarding radiology in a chiropractic clinic. This will provide appropriate coursework so that a student can test for ACRRT or the Minnesota Department of Health Exam. (Prerequisites: None). (3 C/2 lect, 2 lab, 0 OJT). Offered: Spring.

CT1538 Chiropractic Insurance Processing
This course details laws, codes, resource information that needs to be given to a chiropractic patient and guidelines that need to be followed when processing insurance claims in a chiropractic clinic. The importance of clinic documentation and education will be stressed. (Prerequisites: None) (3 C/2 lect, 2 lab, 0 OJT) Offered: Spring.

CT1540 Chiropractic Radiology Positioning
This course will focus on the skills to position the patient in views that are commonly taken in a chiropractic clinic. The course will prepare the student for ACRRT certification and the Minnesota Department of Health Exam. Filtering patient protection will be emphasized. A step by step procedure must be followed in a professional manner when performing radiographs. (Prerequisites: None) (4 C/2 lect, 4 lab, 0 OJT) Offered: Spring.

CT 1543 Chiropractic Exam and Diagnosis
This course will focus on the elements of a Chiropractic Exam. Emphasis is placed on the role of assisting the chiropractor in performing a chiropractic examination. The student will become familiar with the diagnostic terminology used most often in a chiropractic clinic and how they would relate to examinational procedures. (Prerequisites: None) (3 C/1 lect, 4 lab, 0 OJT) Offered: Fall.

CT 1720 Chiropractic Patient Education
This course will focus on student preparation to communicate with patients in a group or in a one-on-one situation. Educating overall wellness and preventive medicine. Defining and explaining the principle of chiropractic in a way that is easy for the patient to understand. Educating the public about the importance of chiropractic care. Conducting and participating in clinic staff meeting. Working as a team in a clinic atmosphere. (Prerequisites: Chiropractic: The Science, Philosophy and Ethical Standards) (2 C/2 lect, 2 lab, 0 OJT) Offered: Spring.

CT 1722 Conjunctive Therapy
This course offers the student an opportunity to study therapeutic procedures most common to a chiropractic practice. Essential theory on modalities will be covered as well as indications, cautions and contraindications. The course will focus on step-by-step general considerations that need to be followed, regardless of the type of modality used. Infection control applications in a chiropractic clinic. (Prerequisites: Chiropractic Anatomy or instructor approval) (4 C/2 lect, 4 lab, 0 OJT) Offered: Spring.

CT 1730 Chiropractic Internship: Preparation, Interviews and Updates
This course will focus on the preparatory steps that the student’s need to make to acquire a chiropractic internship. It will cover “technical skills” in a chiropractic clinic. Each internship is an individualized experience. A training plan is given to each student which will allow skills and knowledge acquired in the program to be applied during the internship. The student will identify any skills that they need to revisit during the course of the internship. (Prerequisites: Advisor approval) (5 C/1 lect, 0 lab, 12 OJT). Offered: Spring.

CIVIL ENGINEERING TECHNOLOGY

CET 1120 Soils Technology and Construction Materials
A study of the origin, physical properties, classification and engineering use of common construction materials, including soil, portland cement concrete, bituminous pavement, and wood. Commonly used laboratory and field tests are conducted and the duties of the inspector on the construction site are emphasized. (Prerequisites: Enrollment in CET program and ET 1110). (4 C/2 lect, 4 lab, 0 OJT). Offered: Fall.

CET 1210 Surveying I
A lecture and laboratory course in basic plane surveying techniques, data collection and mapping. Practical field exercises in the use of the tape, level, transit, total station and data collector. Electronic data collection methods are used to perform a topographic survey. An engineering base map is prepared using surveying software. All major surveying methods are presented in this course. (Prerequisites: MATH 1102 or Trigonometry). (3 C/2 lect, 4 lab, 0 OJT). Offered: Spring.

CET 2110 Surveying II
A course intended to increase skills in the use of surveying instruments by completion of a route survey. Necessary techniques and calculations are reviewed. Data obtained are used in preparation of digital terrain models, maps and profiles. (Prerequisites: CET 1210). (4 C/1 lect, 6 lab, 0 OJT). Offered: Fall.

CET 2210 Surveying III
A lecture and laboratory class in advanced theory and techniques of surveying. Units include: triangulation, Polaris observation, construction staking and the history and legal principles of land surveying. (Prerequisites: CET 2110). (4 C/1 lect, 6 lab, 0 OJT). Offered: Spring.

CET 2230 Introduction to Structural Design
An introduction to the basic elements of structures including wooden members, steel shapes and connectors, and reinforced concrete. Applications of the AISC Manual of Steel Construction is emphasized. (Prerequisites: ET 2140). (2 C/1 lect, 2 lab, 0 OJT). Offered: Spring.
CET 2231 Municipal and Highway Design
A study of the organization, procedures and the design factors necessary in the construction of modern streets and highways. Emphasis will be placed on those portions most commonly performed by technicians. A set of construction plans will be developed from field notes and data collected in CET 2110, Surveying II. (Prerequisite: ET 2145, CET 2110). (3 C/2 lect, 2 lab, 0 OJT). Offered: Spring.

CLINICAL NEUROPHYSIOLOGY TECHNOLOGY
CNT 1101 Orientation to CNT Overview of Neurophysiology. Introduction to EEG, includes: electrode placement, basic frequencies, normal rhythms, activation procedures and introduction to artifacts. (Prerequisites: Admission to CNT program, college level reading, writing and mathematics proficiency) (1C) Offered: Fall.

COMPUTER SCIENCE
COMP 1112 Introduction to Computers, with Applications Introduction to basic computer concepts including hardware, software, and social impact. Introduction to and hands-on experience with applications including word processing, spreadsheet, and database. Introduction to Internet use. This is a course for students who wish to develop basic computer literacy and acquire the background to be able to effectively use computer applications in school or on the job. (Prerequisites: College level reading). (3 C). MNTC: CT. Offered: Fall, Spring.

COMP 1150 Introduction to Computer Science Introduction to the field of computer science, including concepts of machine architecture, data representation, operating systems, networking and telecommunications, algorithms, programming languages, software engineering, data organization, and artificial intelligence. Intended as a first course for computer science majors. (Prerequisites: MATH 0099 or ASAP placement into MATH 1115; college level reading). (3 C). MNTC: CT. Offered: Fall, Spring.

COMP 2220 Concepts of Programming for Non-Computer Science Majors A course for non-computer science majors to introduce the concepts of data representation, algorithms, and programming in a high-level language. Algorithm development, modular design, and program debug. This course is intended for students who need an introduction to programming without the computer science theory content of the computer science programming sequence. (Prerequisites: MATH 0099 or ASAP placement into MATH 1115; college level reading). (4 C). MNTC: CT. Offered: Fall, Spring.

COMP 2233 Structured COBOL Programming An in-depth study of structured program design utilizing the COBOL language. Topics include structured design, sequential file processing, direct file processing, data organization, database manipulation, and report writing. (Prerequisites: Successful completion of COMP 1150; college level reading). (4 C). MNTC: CT. Offered: Fall.

COMP 2243 Introduction to Programming and Problem Solving A course for computer science majors to introduce the major concepts of problem solving, algorithm design, and programming. Algorithm development, analysis, and refinement. Top-down program development. Data types and control structures. (Prerequisites: MATH 1115, COMP 1150 may be taken concurrently with these classes; college level reading). (4 C). MNTC: CT. Offered: Fall, Spring.

COMP 2247 Algorithms and Data Structures Problem solving techniques with data structures such as records, dynamic structures, and pointer variables. Introduction to object-oriented concepts. Use of linked lists, stacks, queues, and binary search trees. Sorting and searching algorithms. Complexity of algorithms. (Prerequisites: COMP 1150, 2243; college level reading). (4 C). MNTC: CT. Offered: Fall, Spring.

COMP 2297 RPG Programming I An introduction to the elements of RPG (Report Program Generator) programming and program documentation. The specific orientation will be toward RPG as it is used on IBM mid-range hardware. Applications will be taken from its use in a day-to-day professional programming environment and in report generation. (Prerequisites: Successful completion of COMP 1150; college level reading). (4 C). Offered: Spring, Fall.

COMP 2298 RPG Programming II Tables, arrays, and structured coding techniques are used to write, compile and run programs. Multiple-occurrence data structures, Source Entry Utility (SEU), Data File Utility (DFU), exception time processing and subroutines are included. (Prerequisites: Successful completion of COMP 2297; college level reading). (2 C). Offered: Fall, Spring.

DENTAL ASSISTING
DA 1205 Introduction To Dental Assisting This course is designed to introduce the dental assisting student to the dental profession. The first component will introduce the student to the members of the dental team, training and credentialing requirements, methods of delivering dental care, and the dental professional organizations. The second component focuses on nonverbal and verbal communications. The final component reviews current concepts in dental ethics and jurisprudence. This course is to be taken the first year of the two year option. (Prerequisites: None) (1 C/ 1 lect) Offered: Fall.

DA 1210 Dental Science I Dental Science I covers anatomy and physiology of the teeth, the oral structures, and structures of the head and neck. Emphasis will be given to their anatomical parts, shape and form, clinical characteristics, development, and physiology. This course gives the student foundation information necessary to effectively communicate and perform in a dental setting. This course is to be taken the first year of the two year option. (Prerequisites: None) (3 C/2 lect, 1 lab) Offered: Fall.
DA 1215 Dental Practice Management
This course focuses on developing skills as a dental business assistant. Topics included are: reception skills, business letter writing, telephone techniques, bookkeeping/accounting procedures, banking procedures, dental insurance, preventive recall programs, appointment scheduling, inventory control and management general office procedures, and dental computer applications. This course also focuses on employment seeking skills to include preparation of resumes, job application letters, job application form, follow-up letters and preparing for an employment interview. This course is to be taken in the first year of the two year option. (Prerequisites: None) (2 C/1 lect, 1 lab) Offered: Fall.

DA 1220 Chairside Assisting I
Chairside Assisting I covers the following fundamental areas of four-handed dentistry: patient and team positioning; maintenance of the operating field; instrument transfer; dental instruments; supplies and equipment; patient management; prevention, recognition and treatment of medical emergencies; and operative dentistry. This course is to be taken concurrently with DA1225. This course is to be taken the second year of the two year program. (Prerequisites: None) (5 C/2 lect/3 lab) Offered: Fall.

DA 1225 Dental Infection Control
Dental Infection Control will prepare the dental assisting student to function aseptically and safely in the dental clinical environment. The course covers principles of microbiology and disease transmission, hazard communication and management, and current concepts of infection control in dental practice. Course content will review requirements and protocols as recommended by the American Dental Association, The occupational Safety and Health Administration, and the Centers for Disease Control. This course is a pre-requisite to all dental assisting clinical courses. This course is to be taken the second year in the two year option. (Prerequisites: High School Diploma or GED). (2 C/1 lect, 1 lab, 0 OJT). Offered: Fall.

DA 1230 Preventive Dentistry
Preventive Dentistry focuses on dental disease prevention. Specific emphasis is on the health of oral tissues, dental decay and periodontal disease, plaque removal techniques, gum stimulation techniques, nutritional counseling and patient dental education presentations. This course is to be taken the second year in the two year option. (Prerequisites: None) (2 C/1 lect, 1 lab) Offered: Fall.

DA 1250 Dental Science II
Dental Science II is a course with four separate focuses. Introduction to Anatomy and Physiology will include an overview of the body layout and each body system. Dental Charting will teach the student how to correctly record patient information, chart oral conditions, and services rendered. Oral Pathology reviews disease processes and dental disease conditions. Dental Pharmacology reviews a study of common drugs and therapies used in dentistry. This course is to be taken the first year of the two year option. (Prerequisites: “C” letter grade average or better in DA 1210, Dental Science I). (3 C/2 lect, 1 lab, 0 OJT). Offered: Spring.

DA 1255 Dental Materials
This is a study of the properties, uses, and manipulation of chairside and dental laboratory materials. These materials are used in the reconstruction and restoration of the teeth and oral structures. The students will have extensive laboratory experience with the chairside and dental laboratory materials. This course is to be taken the first year of the two year option. (Prerequisites: DA 1210, Dental Science I with grade “C” or better). (4 C/2 lect, 2 lab) Offered: Spring.

DA 1260 Chairside Assisting II
Chairside Assisting II will introduce the student to basic concepts of assisting for each of the dental specialties; to include: Pediatric Dentistry, Fixed Prosthodontics, Removable Prosthodontics, Endodontics, Oral and Maxillo-Facial Surgery, Periodontics, Orthodontics, and Public Health Dentistry. For each specialty, the student will learn terminology, treatment techniques, instrument set-ups, procedural order, and patient pre-operative and post-operative instructions. This course is to be taken in the second year of the two year option. (Prerequisites: DA 1220, DA 1225, DA 1230) (4 C/2 lect, 2 lab) Offered: Spring.

DA 1265 Expanded Functions
This course covers the theory and pre-clinical/clinical experiences required by the Minnesota Board of Dentistry in preparation for becoming a Registered Dental Assistant in Minnesota. After the theory and demonstrations are presented, the students receive practical experience on mannequins and patients under the direct supervision of the dental assisting instructors and the clinic dentist. Students will also be required to demonstrate appropriate professional behavior and skill in patient communications, chairside assisting, dental infection control, and dental practice management. This course is to be taken in the second year of the two year option. (Prerequisites: All first semester courses or Dental Assisting Certification and permission of instructor and successful completion of all required course work) (7 C/2 lect, 5 lab) Offered: Spring.

DA 1280 Dental Assisting Internship
This course is designed to provide the student with a meaningful occupational experience in the dental assisting field. A training plan will be developed for each student including three separate rotations in three different dental practices. Two rotations will be in a general dental practice and one rotation will be in a specialty practice. Seminars are scheduled as part of the required internship experience. This internship is required by the American Dental Association as an integral part of an accredited dental assisting program’s curriculum. Prerequisites: Students must have attained a 2.0 cumulative GPA and successfully completed all Dental Assisting Program required courses. (7 C 36-40 hours per week for 9-10 weeks) Offered: Summer.

ds 1300 Dental Radiology
The course content includes theoretical concepts of the characteristics of radiation, effects of radiation exposure, dental radiographic anatomy and pathology, radiation biology and protection, dental x-ray film processing, and intraoral radiographic procedures. The course content for Dental Radiology is part of the Expanded Functions curriculum. (Prerequisites: Dental Assisting: DA 1205, DA 1220, DA 1225, DA 1210; Dental Hygiene: DH 1512, DH 1510, DH 1511) (3 C/2 lect, 1 lab). Offered: Spring.
DENTAL HYGIENE

DH 1510 Principles of Dental Hygiene I
Introduction to the etiology and prevention of dental diseases, infection control, patient assessment, normal oral conditions, periodontal assessment, selective polishing, patient education and the history of the dental hygiene profession. (Prerequisites: None). (2 C). Offered: Fall.

DH 1511 Dental Hygiene Practice I
Preclinical laboratory sessions designed to introduce basic instrumentation techniques necessary for the practice of dental hygiene. The theory, functions and procedures introduced in DH 1510 will be applied. (Prerequisites: DH 1510 concurrently). (3 C/0 lect, 3 lab, 0 OJT). Offered: Fall semester.

DH 1512 Oral Anatomy
The focus of this course is on the anatomical components and functions of the teeth and tooth supporting structures, soft tissue landmarks of the oral cavity, dental terminology. Embryology and histology of the maxillofacial area and dental structures are emphasized. The skeletal structure, muscular function, blood supply, and innervation of the maxillofacial region will also be covered. (Prerequisites: BIOL 1217 concurrent). (4 C). Offered: Fall.

DH 1520 Principles of Dental Hygiene II
This course is designed to continue the student’s education in the basic clinical theory, functions and procedures necessary for comprehensive patient treatment with an emphasis on primary preventive measures, clinical dental hygiene skills and management of medical emergencies. (Prerequisites: DH 1510). (2 C/2 lect, 0 lab, 0 OJT). Offered: Spring.

DH 1521 Dental Hygiene Practice II
A continuation of Dental Hygiene Practice I introducing the student to basic clinical theory, functions, and procedures necessary for comprehensive patient treatment. Students will continue practice on student partners until all basic competencies are satisfied and will then begin treating clients in the clinical setting. (Prerequisites: DH 1510, DH 1511, DH 1512) (5 C). Offered: Spring.

DH 1523 Oral Pathology
Introduction to the basic inflammatory and immune responses as they relate to the human body. The course will focus on the fundamental disease processes involving the maxillofacial region. (Prerequisites: DH 1512, BIOL 1217) (2 C/2 lect) Offered: Spring.

DH 1524 Periodontology
Discussion of the pathogenesis, diagnosis, and treatment of periodontal disease. Emphasis will include the progression of periodontal disease, diagnostic methods, treatment modalities, and the role of the dental hygienist in the prevention and treatment of periodontal disease. (Prerequisites: DH 1512, DH 1510,) (2 C) Offered: Spring.

DH 2530 Principles of Dental Hygiene III
A continuation of Principles of Dental Hygiene II with an emphasis on advanced dental hygiene skills and applied auxiliary skills. This course will familiarize the dental hygiene student with the properties and uses of various dental materials. The focus will be on composition, chemistry, and clinical application of commonly used materials in dentistry. (Prerequisites: DH 1510, DH 1520). (3 C/2 lect, 1 lab, 0 OJT). Offered: Fall.

DH 2531 Dental Hygiene Practice III
A continuation of Dental Hygiene Practice II with supervised clinical experience and a weekly seminar. Students will apply basic theories, functions and procedures necessary for comprehensive client treatment. (Prerequisites: DH 1521). (6 C). Offered: Fall.

DH 2532 Pain Control
A lecture and laboratory course in the basic and current concepts in the administration of local al anesthestic and nitrous oxide/ oxygen analgesia. The content areas include anatomical considerations, local anesthetic and nitrous oxide armamentarium, pharmacology and clinical action of local anesthetics and nitrous oxide, patient evaluation, local and systemic complications, techniques of maxillary and mandibular anesthesia and nitrous oxide administration. (Prerequisites: DH 1512, DH 1521) (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

DH 2533 Dental Pharmacology
Survey of drug groups with special emphasis on the drugs used in dentistry. The course will include content in the following: Physical and chemical properties of the drug covered, modes of administration, therapeutic and adverse effects, and drug interactions. (Prerequisites: CHEM 117, DH 1520, DH 1521.) (2 C) Offered: Fall.

DH 2540 Principles of Dental Hygiene IV
A continuation of Principles of Dental Hygiene III with an emphasis on maintenance of dental implants, subgingival irrigation, special needs patients, nutrition counseling, resume writing and job interviews, legal and ethical responsibilities of the dental team, dental specialties, and health care delivery issues. (Prerequisites: DH 1510, DH 1520, DH 2530) (3 C) Offered: Spring.

DH 2541 Dental Hygiene Practice IV
A continuation of Dental Hygiene Practice III with supervised clinical experience and a weekly seminar. Students will apply basic and advanced theories, functions, and procedures necessary for comprehensive client treatment. (Prerequisites: DH 2531) (6 C) Offered: Spring.
DH 2542 Community Dental Health
This course provides a spectrum of experience which contributes to the continuing development of insight into community health problems and the needs of people. It provides an understanding of how private dentistry and dental public health can work together to meet the needs of the community. When completed the student will have a working knowledge of the public health process. The laboratory portion of this course includes a community dental health project. The laboratory sessions are designed to assist the students in needs assessment, program planning, program implementation, funding, and program evaluation. This course includes the development and presentation of a table clinic at a continuing education professional meeting. (Prerequisites: High school algebra or the college equivalent) (3 C/2 lect, 1 lab, 0 OJT) Offered: Spring.

DS 1300 Dental Radiology
The course content includes theoretical concepts of the characteristics of radiation, effects of radiation exposure, dental radiographic anatomy and pathology, radiation biology and protection, dental x-ray film processing, and intraoral radiographic procedures. The course content for Dental Radiology is part of the Expanded Functions curriculum. (Prerequisites: Dental Assisting: DA 1205, DA 1220, DA 1225, DA 1210; Dental Hygiene: DH 1512, DH 1510, DH 1511) (3 C). Offered: Spring.

DIGITAL ARTS

DIGI 1117 Introduction to Digital Arts
This course will include an introductory level study of software programs used by arts areas including paint and draw, electronic and desktop publishing, interactive and video authoring, desktop video and audio, and other programs used in Digital Arts areas. Hardware issues of special importance to Digital Arts will also be covered, including color printing, CD ROM production, audio and video digital storage issues, capture cards, digital input devices, and cross platform issues for IBM and MAC computers. Entry level aspects of artistic and aesthetic aspects of design are introduced in this course. (Prerequisites: None). (3 C). Offered: Fall, Spring, Summer.

DIGI 1127 Digital Audio Production
This course is intended to give students “hands-on” experience with business audio production. Students will be shown basic studio production techniques including: basic microphone use, basic audio board use, DAT recording techniques, program content and design, commercial spot production and recording, basic audio-studio procedures. Students will produce programs for possible airing on KPRR public radio station. (Prerequisites: None). (2 C). Offered: Fall, Spring.

DIGI 2211 Digital Video Composition I
This course will enable the student to develop a foundation of video production skills including production techniques such as image composition, planning scripting, etc. The course will place emphasis on use of video technology as a creative and artistic tool. Students will study and work with audio for video productions, lighting, and video equipment operation. Students will study and use computer based digital video production software and systems to create video production projects with Adobe Premiere and/or other software. (Prerequisites: DIGI 1117, 1147; and MUSC 1127 or permission of instructor). (3 C). Offered: Fall.

DIGI 2212 Digital Video Composition II
The content of this course is at an intermediate level for digital video production. Adobe Premiere and/or other software will be used to create sophisticated desktop video productions. Students will learn to use filters, audio, titles, advanced editing techniques, animated images and motion, modify sound and images, and capture and compress files using computer based digital video technology. Students will continue to develop writing and scripting skills for video based media production; and to enhance their critique and evaluation skills for the video and multimedia fields. Throughout the course the emphasis will be on use of video technology as a creative and artistic tool. (Prerequisites: DIGI 2211). (3 C). Offered: Spring.

DIGI 2217 Digital Projects I
This course is intended to be a collaborative lab course involving all area of emphasis in the Digital Arts A.S. degree. Students with an emphasis in Computer Graphics, Music Technology, and Multimedia Production will work together to create projects such as interactive CD-ROMs, videos, CD’s and case design, web sites and web pages. The projects will be designed, coordinated, and critiqued, by both the faculty and students. The final projects will then be made available to all of the team members (i.e. copy of created programs, CD’s, etc). (Prerequisites: Completion of first year of Digital Arts program). (3 C). Offered: Fall.

DIGI 2218 Digital Projects II
This course is intended to be an advanced collaborative lab course involving all areas of emphasis in the Digital Arts A.S. degree. Students with an emphasis in Computer Graphics, Music Technology, and Multimedia Production will work together to create projects such as interactive CD-ROMs, videos, CD’s and case design, web sites and web pages. The projects will be designed, coordinated, and critiqued, by both the faculty and students. The final projects will then be made available to all of the team members (i.e. copy of created programs, CD’s, etc). (Prerequisites: DIGI 2217 and completion of first year of Digital Arts program). (3 C). Offered: Spring.

DIGI 2240 Multimedia Production
This course is the first of a two part “hands-on” introduction to the world of multimedia production. The course will center on two multimedia software standard production tools: Director and SoundEdit-16. Students will produce basic sound/animation programs as well as interactive kiosks and other projects. The student will learn basics of animation, sound editing, and basic computer scripting (Lingo). This class will continue with DIGI 2241. (Prerequisites: ART 1120 or consent of instructor). (3 C). Offered: Fall.

DIGI 2241 Intermediate Multimedia Production
This course is the second of a two part “hands-on” introduction to the world of multimedia production. The course will continue investigation of two multimedia software standard production tools: Director and SoundEdit-16. Students will continue production of multimedia projects including: Shockwave internet animations; integration with HTML web page writing; basic Quicktime Video production and implementation; intermediate LINGO scripting techniques. Students will create several multimedia projects which will be incorporated in UCR web pages and information kiosks. (Prerequisites: DIGI 2240 or consent of instructor). (3 C). Offered: Spring.
DIGI 2247 Digital Arts Internship
Internship is the opportunity to earn credit from a job that provides work experience related to the student’s career objectives. A student may earn up to three credits toward graduation. The student is required to submit a report at the mid-term and the end of the semester describing his/her work experience. Students could also lead labs to create distant learning courses, serving as experts to faculty working on interactive presentations, create publicity media for the public information office, work on the information kiosks, among other University/College based projects. The grade is based upon the evaluation of the student’s work experience as evaluated by the employer and faculty course advisor. (A minimum of 50 hours of work experience per credit). (Prerequisites: Completion of first year of Digital Arts program and consent of instructor). (1-3 C). Offered: Fall, Spring.

EARTH SCIENCE
ESCI 1101 Earth Systems Science
A first course for students interested in Planet Earth. Earth Systems Science is a study of the whole Earth as a system of many interactive parts and focuses on the changes within and between the atmosphere, biosphere, hydrosphere and the solid earth. This course is interdisciplinary and draws on geology, astronomy, meteorology, and oceanography. (Prerequisites: None). (3 C/2 lect, 2 lab). MNTC: CT, NS, PN. Offered: Fall, Spring, sometimes Summer.

ESCI 1114 Physical Geology
This is an introduction to the fundamental processes that shape planet earth. Emphasis is placed on plate tectonics as a framework for understanding these processes. Major content areas include the rock cycle (minerals, rocks, volcanoes, weathering), surface processes (rivers, glaciers, deserts, oceans), earthquakes (hazards and uses), and natural resources (energy and mineral). This course also includes laboratory study of rocks, minerals, and maps. Field trips to significant geological localities are an important part of the course. (Prerequisites: None). (4 C/3 lect, 2 lab). MNTC: CT, NS, PE. Offered: Fall.

ESCI 1124 Solar System Astronomy
A survey of the solar system, including the earth-moon system, the planets and their satellites, asteroids, meteors, comets, and the nearest star, our sun. Study includes the history of astronomy leading up to our modern view of the sun and planets as provided by optical and radio telescopes, spectrographic study and manned and robotic spacelflight. Topics include light and telescopes, planetary surfaces and atmospheres, the origin of planetary systems and the search for extraterrestrial life. Lab work is supplemented by field trips and observations using the unaided eye and telescopes. (Prerequisites: None). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Fall.

ESCI 1134 Stellar Astronomy
This course is a non-mathematical introduction of stellar astronomy for the non-science major. The course covers topics that include light spectra, the sun, stars and galaxies. In the laboratory, students will use computer simulation to study the night sky and the topics covered in class. (Prerequisites: None). (3 C/2 lect, 2 lab). MNTC: CT, NS. Offered: Spring.

ESCI 1144 Environmental Geology
This course examines the relationship between geology and short-term human concerns (periods of no more than a few hundred years). Topics include earthquake hazards, volcanoes, flooding, mass wasting, groundwater and surface water problems, radioactive waste disposal, energy and mineral resources, and radon. Laboratory and field experiences are an integral part of the course. (Prerequisites: None). (4 C/3 lect, 2 lab). MNTC: CT, NS, PN. Offered: Spring.

ECONOMICS
ECON 1101 Introduction to Economics
Provides a general economic education for both the non-major transfer student and the career student. Issues covered include product markets, resource markets, environmental problems, unemployment, and inflation. Not a substitute for ECON 2214-2215. (Prerequisites: None). (3 C). MNTC: CT, PN, SS. Offered: Fall, Spring, Summer.

ECON 1901 Introduction to Economics: Honors
Provides a general economic education for both the non-major transfer student and the career student. Major units of study are: microeconomic analysis of demand and supply in determining prices in competitive versus monopolistic markets; macroeconomic analysis of changes in the price level, national output, employment, the supply of money; and international issues including currency exchange rates. (Prerequisites: MATH 0098, ENGL 1117 or 1917). (3 C/3 lect, 0 lab, 0 OJT). MNTC: CT, GP, SS. Offered: Usually Spring, every other year.

ECON 2214 Principles of Economics: Micro
Emphasis of this course is microeconomic theory. Other topics include: labor and capital markets and the economics of education. (Prerequisites: MATH 1113 or 1115 or permission of instructor). (4 C). MNTC: CT, SS, PN. Offered: Fall.

ECON 2215 Principles of Economics: Macro
Emphasis of this course is macroeconomic theory. Other topics include: rational expectations and international trade. (Prerequisites: MATH 1113 or 1115; ECON 2214, or permission of instructor). (4 C). MNTC: CT, SS, GP. Offered: Spring.

ELECTRONICS
ELEC 1005 Electricity I
Students will learn the fundamental principles of dc analysis including Ohm’s Law, Kirchhoff’s Laws, Thevenin’s and Norton’s Theorem, Superposition Theorem, and Maximum Power Transfer Theorem. Capacitance, magnetic circuits, and inductance are introduced. Laboratory exercises which include the use of circuit simulation software are used to reinforce concepts presented in the classroom. (Prerequisites: None). (4 C/1 lect, 6 hours lab). Offered: Spring, Fall.

ELEC 1010 Electricity II
Students will learn the fundamental principles of ac network analysis. Laboratory exercise which include the use of circuit simulation software are used to reinforce concepts presented in the classroom. (Prerequisites: ELEC 1005). (4 C/1 lect, 6 hours lab). Offered: Spring, Fall.
ELEC 1015 Electronics I
Students will learn the fundamental principles of semiconductor devices, including diodes, bipolar transistors, and field effect transistors (JFET’s and MOSFET’s). Applications such as amplifiers and switching circuits will be covered. Laboratory exercises are used to reinforce concepts presented in the classroom and to enhance the student’s ability to make measurements using test equipment such as meters, function generators, and oscilloscopes. Circuit simulation software is also used in the course. (Prerequisites: None). (4 C/1 lect, 6 lab, 0 OJT). Offered: Spring, Fall.

ELEC 1020 Electronics II
Students will learn the fundamentals of operational amplifiers and study their applications along with the principles of feedback and frequency response. Other topics are the thyristor family, power supplies, and voltage regulators. Laboratory exercises which include the use of circuit simulation software are used to reinforce concepts presented in the classroom. (Prerequisites: ELEC 1015). (4 C/1 lect, 6 lab, 0 OJT). Offered: Spring, Fall.

ELEC 1025 Digital I
This course covers digital systems as they are analyzed through the use of Boolean Algebra. Flip flop circuits and arithmetic circuits are also covered. (Prerequisites: None). (4 C/1 lect, 6 lab, 0 OJT). Offered: Fall, Spring.

ELEC 1030 Technical DOS
This course will cover the different commands used in MS DOS, and using those commands in batch files, and config.sys. files. The course will also include the different applications that can be used to enhance the computer and how to rearrange the memory to increase operation of the computer system. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

ELEC 1035 Technical Windows
This course will cover the different applications that come with MS Windows. The software operation of the applications will be discussed which will include the parameters in the applications INI files and how Windows uses these parameters. The networking of computers in a peer to peer configuration will be done by the students. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

ELEC 1040 Technical Works
This course will cover the different aspects of MS Works. The word processor, database, spreadsheet and communication packages will be discussed and how they can be integrated. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

ELEC 1045 Programming Applications I
This course will be an introduction to using Visual Basic to create tools that can be used in Electronics. Visual Basic programs will be created to enhance the students programming skill and to create applications that can be used in their electronics career. (Prerequisites: None). (3 C/2 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

ELEC 1050 Schematic Capture I
This course will cover the different computer software command that can be used to create schematics. The course will also introduce the student to the proper layout of schematic drawings. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

Course Descriptions

ELEC 1055 Electronics Shop
In this course students will learn concepts and techniques of electronic assembly. Each student will be expected to construct an electronic project selected by the instructor. Training includes weekly sessions in wire preparation, soldering, circuit board fabrication, component mounting, harness typing, chassis fabrication, safety procedures, and use of tools. (Prerequisites: Enrollment in Electronics program or permission of instructor). (1 C/ 0 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

ELEC 1060 Quality Soldering
This course involves understanding and applying solder to various types of electronic assemblies, from single sided boards to double sided boards. This course also involves analyzing and inspecting solder joints on different types of boards. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

ELEC 2005 Advanced Electric Circuits
This course is offered to Electronics Engineering Technology students and to students desiring advanced concepts in electric network analysis. Students will solve systems of simultaneous equations derived from mesh and nodal analysis of complex dc and ac networks. Phasor notation is introduced and used in ac circuit analysis and in network theorems that were introduced in previous courses. Laboratory exercises which include the use of circuit simulation software are used to reinforce concepts presented in the classroom. (Prerequisites: ELEC 1010). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

ELEC 2010 Advanced Electronics
This course will cover topics primarily related to electronic measurements and instrumentation. Logic analyzers, digital oscilloscopes, and other digital instruments, including counters and digital multimeters will be studied and used in the laboratory. Time and frequency domain measurement techniques will be studied. (Prerequisites: ELEC 1020, ELEC 2025). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall, Spring.

ELEC 2015 Digital II
This course covers digital systems as they are analyzed through the use of Boolean Algebra. Jk-flip flops are used for counters and other sequential circuits. Memory systems along with analog to digital converters are analyzed. Introduction to computers concludes this course. (Prerequisites: ELEC 1025). (4 C/1 lect, 6 lab, 0 OJT). Offered: Fall, Spring.

ELEC 2020 Electronics Design
In this laboratory course students will design, build, and test an electronics project of their choice. Students are provided with the opportunity to apply design principles to an approved technical project. The student is involved with both the mechanical and the electrical design from breadboard to the finished unit. Emphasis is placed on design, component selection, wiring and fabrication, chassis design and preparation, construction technique, and testing procedures. Periodic records are kept of the student’s progress and two written technical reports are required. (Prerequisites: ELEC 1020, ELEC 2025). (4 C/1 lect, 6 lab, 0 OJT ). Offered: Fall, Spring.

ELEC 2025 Microprocessors I
This course will provide an introduction to microcomputer organization, hardware, and programming. Topics covered include addressing modes, subroutines, machine and assembly language programming, and the use of assemblers. (Prerequisites: None). (4 C/1 lect, 6 lab, 0 OJT). Offered: Fall, Spring.
**EMERGENCY MEDICAL CARE**

**EMC 1121 EMS: First Responder**
This course is designed for students who will be in law enforcement or in another position where they will be responding to emergencies and accidents. It includes CPR, vital signs and handling trauma to the musculoskeletal system and a variety of other emergencies listed in the course outline. (Prerequisites: Enrolled in Law Enforcement or consent of instructor). (3 C/2 lect, 2 lab). Offered: Fall, Spring.

**EMT 1200 Emergency Medical Technician**
This course is intended for students who wish to become certified as an EMT-Basic. The course is approximately 120 hours in length. Upon successful completion, participants are eligible for the National Registry of EMT’s exam. (6 C). Offered: Fall, Spring.

**ENGINEERING**

**ENGR 1152 Logic Design**
This course covers fundamental digital circuit designs. The logic, the electronic devices and their configurations developed to accomplish the logic and how the logic is incorporated into a microcomputer. (Prerequisites: MATH 1128 and Computer Programming C, C++, Pascal or others, or by permission of instructor). (4 C/3 lect, 0 lab). MNTC: CT, NS. Offered: Spring.

**ENGR 1153 Microprocessors**
This course is the study of programmable logic devices, member devices, and microprocessors. Input/output for a microprocessor and peripheral devices. Interrupt driver input/output. Design of microprocessor based systems. Integrated laboratory. Laboratory exercises involving the operating characteristics microprocessors are studied. The course is intended to be a lower division course for those majoring in electrical engineering. (Prerequisites: MATH 1127). (4 C/3 lect, 2 lab). MNTC: CT, NS, MA. Offered: Spring.

**ENGR 2211 Statics**
This course is the study of rigid body dynamics in equilibrium. The study of the techniques to analyze a system constrained from motion and to determine the reaction forces and moments of forces acting on the system to keep it from accelerating. Application of the equations of equilibrium to determine the analysis of structures, frames, mechanisms, statically determine beams and cables. The nature and influence of friction on a static system is studied. The Principle of Virtual work is applied. Vector analysis and calculus is used for the application of definitions to dynamic systems. (Prerequisites: MATH 1128, PHYS 1127). (3 C). MNTC: CT, NS. Offered: Fall.

**ENGR 2212 Dynamics**
This course is the study of rigid body dynamics in fixed and rotating systems. The techniques to analyze a system moving with linear accelerations and/or angular accelerations to determine the reaction forces and moments of force acting on the various components of the system. The time dependent analysis of vibrating/rotating systems is studied. An extensive use of vector analysis and calculus is used for the application of definitions of dynamic systems. (Prerequisites: MATH 1128, PHYS 1127). (3 C/3 lect, 0 lab). Offered: Spring.

**ENGR 2213 Electrical Engineering (Linear Circuit Analysis I)**
This course is a study of linear circuits. The techniques for the solution and ultimate understanding of electric circuits are studied. Techniques include: Mesh analysis, Nodal analysis, Trees and co-trees. Thévenin’s and Norton’s methods for source transformations are studied. Equivalent circuits, natural and step response to RLC circuits, sinusoidal steady state analysis with phasors and three phase power are also studied. The course is intended to be a lower division course for those majoring in engineering. (Prerequisites: MATH 1128 and concurrent enrollment in MATH 2227). (4 C/3 lect, 2 lab). MNTC: CT, NS. Offered: Fall.
ENGR 2214 Electrical Engineering (Linear Circuit Analysis II)
This course is a study of linear circuits. The more rigorous methods for the solution and ultimate understanding of electric circuits are studied. These techniques are: the method of La Place transforms and Bode diagrams. Complex circuits involving filters (lowpass, highpass, bandpass, band reject) are studied. Laboratory exercises involving the operating characteristics of semiconductor devices are studied. The application of these semiconductor devices: filters, amplifiers (push-pull, Hartley); are also studied. (Prerequisites: ENGR 2213, MATH 2227, and concurrent enrollment in MATH 2228). (4 C/3 lect, 2 lab). Offered: Fall.

ENGINEERING TECHNOLOGY

ET 1110 Introduction to Problem Solving Techniques
Introduction to engineering problem-solving techniques and to the presentation of solutions. Topics include computer hardware and software, methodologies for computer-aided problem solving and presentation using spreadsheets, equation solvers, database management and word processing programs. Students will be introduced to currently used engineering software. (Prerequisites: None). (2 C/1 lect, 2.33 lab, 0 OJT). Offered: Fall.

ET 1124 Architectural Drafting
The student will study basic house design. Included will be room planning, plot plans, electrical plans, and floor plans. Estimating building cost, materials and workmanship specifications and other areas will be discussed. A field trip to a residence under construction will be scheduled during the course. (Prerequisites: None). (2 C/0 lect, 4 lab, 0 OJT). Offered: Fall.

ET 1224 Engineering Drafting I
Basic class in drafting to provide a working knowledge of industry graphic language as well as fundamental skills of freehand sketching and instrument drawing. Linework and lettering practice, geometrical construction, projection drawing theory, the multiview system, auxiliary and section views, dimensioning, and projection will be covered. (Prerequisites: None). (2 C/0 lect, 4 lab, 0 OJT). Offered: Spring.

ET 1235 CAD I
A beginning course using the PC and AutoCAD software. Instructional topics include object generation and manipulation commands, plotting using 3 coordinate systems, dimensioning, blocks and attributes, and using isoplane and elevation practices. (Prerequisites: MET 1146 or ET 1110). (3 C). Offered: Spring.

ET 2140 Introductory Statics and Strength of Materials
Basic concepts relating to equilibrium of bodies, force, movement, resultants of force systems, mechanical system isolation, equilibrium, centroids, and moment of inertia. Principles applied to investigation of simple structures. Analytical and experimental investigation of the behavior of engineering materials as related to the design procedure of basic structural members and connections. Concepts include stress, strain and elongation. (Prerequisites: MATH 1104; PHYS 1107). (3 C/2 lect, 2.67 lab per week, 0 OJT). Offered: Fall.

ET 2145 Fluid Mechanics
Basic concepts relative to fluid mechanics, fluid flow and simple hydraulic systems. (Prerequisites: Math 1102). (2 C/2 lect, 0 lab per week). Offered: Fall.

ENGLISH

ENGL 0840 Developmental Reading
This class will cover reading/study strategies for success in a variety of content areas. Some of the topic areas may include: social sciences, science and technology, and humanities. (Prerequisites: ASAP placement score of 20). (4 C/4 lect, 0 lab). Offered: Fall, Spring, Summer.

ENGL 0900 Basic Grammar and Usage for ESL Students
This course is designed to introduce second language learners to the basic elements of English grammar: Subject-verb identification and agreement, sentence structure, punctuation, pronoun usage, capitalization, modifiers, irregular verbs, count/non-count nouns. (Prerequisites: Appropriate test score from CELSA - Combined English Language Skills Assessment). (2 C/2 lect, 0 lab). Offered: Fall, Spring, Summer if needed.

ENGL 0910 Basic Grammar and Usage
This course will cover basic sentence components including subject/verb identification and agreement, run-on sentences, punctuation, capitalization, pronoun usage, and parallel structure. (Prerequisites: None). (1 C/1 lect, 0 lab). Offered: Fall, Spring.

ENGL 0940 Intro. to College Writing: Sentence to Paragraph
The goal of the course is to provide students not yet reading and writing at college level with strategies to improve their reading comprehension and with guided practice to improve their writing of sentences and paragraphs. (Prerequisites: None). (3 C/3 lect, 0 lab). Offered: Fall, Spring, possibly Summer.

ENGL 0970 Reading, Vocabulary, and Academic Skills for ESL Students
This course is designed to develop the reading, vocabulary, and academic skills of second language learners so they can succeed in mainstream classes. Emphasis will be given to reading speed and comprehension, listening and notetaking skills, college textbook vocabulary, and reading/study strategies for specific content areas. (Prerequisites: Appropriate test score from CELSA - Combined English Language Skills Assessment). (4 C/4 lect, 0 lab). Offered: Fall, Spring, summer if needed.

ENGL 0990 Intro. to College Writing: Paragraph to Essay
In English 0990, students will learn to read carefully, to react thoughtfully in speaking and writing, and to use these reactions as a source of ideas for writing paragraphs and short personal essays. Students will learn relevant invention, revision, and editing skills. The goal of this reading-based writing course is to prepare students for college-level work. (Prerequisites: None). (3 C/3 lect, 0 lab). Offered: Fall, Spring, possibly Summer.

ENGL 1102 Listening and Speaking Skills for ESL Students
This course is designed to develop the listening and speaking skills of the second language learner. Oral practice with the rhetorical structures of the language and common conversational situations will be emphasized along with accurate listening comprehension. (Appropriate test scores from CELTL- Comprehensive English Language Test: Listening). (4 C/4 lect, 0 lab). Offered: Fall, Spring, Summer if needed.
ENGL 1103 Writing Skills for ESL Students
This course is designed to develop the writing skills of second language learners. Students will move from writing correct sentences to well-developed paragraphs and then to short compositions. (Prerequisites: Appropriate test score from CELSA - Combined English Language Skills Assessment). (4 C/4 lect, 0 lab). Offered: Fall, Spring, Summer if needed.

ENGL 1109 Technical Report Writing
Students learn to plan, write, edit, and present a proposal following the format and style guidelines of their profession. Based on the concepts learned in ENGL 1117, they expand their examination of external resources, develop additional critical thinking skills, and begin to analyze and synthesize texts, especially those texts applied to their profession. Students will demonstrate their ability to support individual readings or primary texts by combining documented and textual evidence. (Prerequisites: ENGL 1117). (3 C/3 lect, 0 lab). Offered: Fall.

ENGL 1110 Literary Impressions for ESL Students
This course uses multiethnic fiction, non-fiction, and poetry to help the second language learner develop the reading strategies and literary vocabulary needed to comprehend and analyze literature. Creative writing and critical thinking skills are also included. (Prerequisites: ENGL 1103. Appropriate test score from CELSA - Combined English Language Skills Assessment). (3 C/3 lect, 0 lab). Offered: Spring.

ENGL 1111 College Reading
This class is designed for students who have acquired the basic framework of comprehension, vocabulary, and reading strategies necessary for critical reading of expository materials. This course is for competent readers who are uncertain of their ability to do college work. (Prerequisites: College level reading skills). (2 C/2 lect, 0 lab). Offered: Fall, Spring, Summer.

ENGL 1117 Reading and Writing Critically I
This course introduces the student to the writing process for both single and multiple-source essays. Through analysis and evaluation, students will respond first to individual sources in essays based on personal experience. The course encourages students to support generalizations with convincing evidence and to challenge the ideas in written and oral discourse of others while respecting multiple points of view. (Prerequisites: ASAP of 30 or successful completion of appropriate developmental course(s). (4 C/4 lect, 0 lab). MNTC: CT, CM. Offered: Fall, Spring, Summer.

ENGL 1118 Reading and Writing Critically II
This course concludes the emphasis on writing from multiple sources and the development of critical thinking skills begun in ENGL 1117. Based on the concepts learned in the first course, study will expand the examination of external resources, develop additional critical thinking skills, and introduce the analysis and synthesis of texts, especially literary texts. Students will demonstrate their ability to support individual readings of primary texts by combining documented and textual evidence. (Prerequisites: Successful completion of ENGL 1117). (4 C/4 lect, 0 lab). MNTC: CT, CM. Offered: Fall, Spring, Summer.

ENGL 1917, 1918 English, Honors
The English 1917, 1918 Honors sequence is designed to parallel the English 1117, 1118 composition sequence, but the honors courses are designed for those students who score 90 percent and above on the English portion of the ASAP or who have the instructor’s permission. These honors courses will fulfill the same requirements as English 1117, 1118, but will have the added benefit of being listed on the transcript as “Honors English”.

ENGL 1917 Reading and Writing Critically I: Honors
This course utilizes two or three primary sources which the students read, analyze, and write about, focusing specifically upon a topic such as “The Quest for a Sense of Self”. The course also includes a flexible scheduling component, consisting of library research methodology and tools, both technical and non-technical. (Prerequisites: No courses; writing score of 35-40 or instructor’s permission). (4 C/4 lect, 0 lab). MNTC: CT, CM. Honors equivalent to ENGL 1117. Offered: Fall.

ENGL 1918 Reading and Writing Critically II: Honors
The course will utilize primary sources in a variety of disciplines, focusing on argumentative issues in various disciplines and writing style unique to a particular discipline. Being interdisciplinary in nature, the course will cover style sheets from MLA, APA, or CBE. The flexible scheduling portion of the class will focus on research techniques with Internet and the use of Internet in the professions, including e-mail, lists, Usenet, Telnet, FTP, Web and Gopher. (Prerequisites: Successful completion of ENGL 1117 or 1917; writing score of 35-40 or instructor’s permission). (4 C/4 lect, 0 lab). MNTC: CT, CM. Honors equivalent to ENGL 1118. Offered: Fall.

ENGL 1121 Mythology & Ancient Legend
A study of the more important myths of classical literature with reference to the major archetypal patterns, as related to ways in which these have been transformed by various artists and authors. (Prerequisites: Minimum reading and writing ASAP score of 27; permission of instructor). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Spring.

ENGL 1630 College English
This course uses an editorial focus to study and examine principles of language use; students review and refine the application of standard editorial principles. Students edit a variety of prepared texts representative of business, professional, and academic writing. Designed for practical application, this course allows students to refine those editorial skills they will apply in designing, editing, or transcribing documents in professional settings. Students learn the process for making informed language decisions; they learn to think their way through language applications. (Prerequisites: College level reading and writing skills recommended). (3 C/3 lect, 0 lab). Offered: Fall, Spring.

ENGL 2251 Fiction Writing
This course emphasizes improving students’ ability to read and critique fiction as aspiring writers and to write fiction. Other topics: Elements of fiction, Approaches to reading fiction as writers, and Process for generating ideas, writing, and revising. (Prerequisites: ENGL 1117 or ENGL 1917 and ENGL 1118 or ENGL 1918; or permission of instructor). (3 C/3 lect, 0 lab). MNTC: CT, CM. Offered: One semester per year.
ENGL 2260 Literature: Topical Studies
This course focuses on a specific topic chosen by the instructor who teaches the class. It could focus on an author or a group of authors, a period, a literary genre, or a theme. Specific course content and number of credits will vary depending upon the nature of the course and may be repeated up to 9 credits for credit if the focus of the class is different. Examples: Literature of the 1920’s, Afro-American Writers, Twentieth Century Poetry, or Literature of the American Frontier. (Prerequisites: ENGL 1118 or ENGL 1918 recommended; college level reading, writing skills). (1-4 C/1-4 lect, 0 lab). MNTC: CT, HA, HD. Offered: Periodically.

ENGL 2273 Early American Literature
This course is a survey of American Literature from its beginnings to the time of the Civil War. Representative authors may include Bradstreet, Wheatley, Taylor, Frenaye, Paine, Bryant, Hawthorne, Cooper, Emerson, Jacobs, Dickinson, Douglass, and others. (Prerequisites: ENGL 1118 or ENGL 1918 recommended; college level reading and writing skills). (3 C/3 lect, 0 lab). MNTC: CT, HA, HD. Offered: Fall.

ENGL 2274 Modern American Literature
This course will focus on the development of Asian-American literature as a specific genre that grew out of the immigrant experiences of the Chinese, Japanese, Filipino, Korean, and other Asians who have helped to shape American society and culture. Development of Chinese American literature and Chinese-American literature. (Prerequisites: ENGL 1118 or ENGL 1918 recommended; college level reading and writing skills). (3 C/3 lect, 0 lab). MNTC: CT, HA, HD. Offered: Spring.

ENGL 2275 Asian-American Literature
This course will focus on the development of Asian-American literature as a specific genre that grew out of the immigrant experiences of the Chinese, Japanese, Filipino, Korean, and other Asians who have helped to shape American society and culture. Development of Chinese American literature and Chinese-American literature. (Prerequisites: ENGL 1118 or ENGL 1918 recommended; college level reading and writing skills). (3 C/3 lect, 0 lab). MNTC: CT, HA, HD. Offered: Periodically.

ENGL 2276 Best Sellers
This course will examine definitions, history, and patterns of ‘best sellers’—the scope and variety of works within this genre—through selected readings and visual adaptations. (Prerequisites: College level reading and writing skills). (3 C/3 lect, 0 lab). MNTC: CT, HA, HD. Offered: Fall, possibly Summer.

ENGL 2277 Women and Literature
This course focuses on literature by and/or about women. Course content will evolve around questions such as these: What are the images of women in literature? How can feminist literary criticism help us to analyze literary texts? How has women’s literature been marginalized? How are women’s identities and experiences incorporated in literary texts? What can we learn about the different approaches to the human condition by reading works by women? The particular course content, which will vary from year to year, will include such sub-titles as “Women & the Development of the Novel,” “Images of Women in Fiction,” or “Afro-American Women Writers.” Course may be repeated up to 3 times for credit if the focus of the class is different. (Prerequisites: ENGL 1118 or ENGL 1918 recommended; college level reading, writing skills). (2-3 C/2-3 lect, 0 lab). MNTC: CT, HA, HD. Offered: Yearly.

FASHION MERCHANDISING - SEE RETAIL MERCHANDISING

FREN

FREN 1001 Introduction to French-Speaking Cultures (in English)
Introduction to French-speaking regions and cultures: geography, history, social institutions, cultural values, and the arts. Emphasis on development of cultural sensitivity with applications to functioning in the target culture. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, GP. Offered: Fall, Spring.

FREN 1101 Beginning French I
An introduction to the fundamentals of French including speaking, listening, reading and writing, in the context of Francophone cultures. Sensitivity to cultural differences is emphasized. Designed for the student with NO previous foreign language study. This course uses audio and video tapes, computers, and news media. (Prerequisites: None). (4 C/4 lect, 0 lab). MNTC: CT, GP. Offered: Fall, Spring.

FREN 1102 Beginning French II
Conclusion of the introduction to fundamentals of French, including speaking, listening, reading, and elementary creative writing. Emphasis on awareness and sensitivity to cultural differences. This course uses text, audio and video tapes, news media and computers to teach structure and content in the context of the cultures of some of the 44 Francophone communities in the world. (Prerequisites: FREN 1101 or 2-3 years high school French or equivalent). (4 C/4 lect, 0 lab). MNTC: CT, GP. Offered: Spring.

FREN 1111 French Conversation Topics
Development of French conversational skills (pronunciation, vocabulary, expansion and correct structure usage) based on multiple media, such as current events, magazine and news articles, poetry, film, music and art from Francophone communities throughout the world. Course content varies each semester so that course may be repeated for additional language practice. (Prerequisites: FREN 1101). (2 C/2 lect, 0 lab). MNTC: CT, GP. Offered: Fall, Spring.

FREN 2101 Intermediate French I
Short literary forms (poetry, short stories, excerpts from novels or theater), and authentic texts such as songs and news articles are basis for reading, speaking, interpretation, vocabulary development and writing practice. Review/expansion of selected structure topics. Emphasis on discovering cultural, social, religious and linguistic values and differences within a Francophone cultural context. (Prerequisites: 1 yr college, 3-4 years of high school French or equivalent). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Fall.

FREN 2902 Intermediate French II (Honors Credits)
Intermediate French, continued. Short literary forms such as poetry, short stories, excerpts from novels or theater, and authentic media such as news articles, music and art are basis for reading, interpretation, speaking, vocabulary development and writing practice. Review/expansion of selected structure topics. Emphasis on discovering cultural, social, religious and linguistic differences within a Francophone cultural context. (Prerequisites: FREN 2101 or equivalent). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Spring.
GENERAL STUDIES

GSCL 1000 Community CPR/First Aid and Safety
Community CPR/First Aid and Safety is a course that prepares the student to recognize an emergency, implement an emergency action plan, provide basic emergency care, and learn methods of preventing injuries and emergencies. Skill assessment will be included for: assessing a victim, breathing emergencies, obstructed airway techniques, and CPR techniques for conscious and unconscious adults, children, and infants; control of bleeding; treating shock; and applying splints and slings. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring, Summer.

GSCL 1102 Basic Anatomy & Physiology
This course is designed to assist the student in developing a basic understanding of normal anatomy and physiology of the human body. Such knowledge is essential to understanding common disease processes. Medical terminology is incorporated to assist the student to interpret and use common medical abbreviations and symbols. (Prerequisites: None). (4 C). Offered: Fall, Spring, Summer.

GSCL 1104 Applied Psychology
This course will help to prepare students to successfully handle many challenges they will face in their personal and professional lives. Students will explore and comprehend basic psychological principles within the context of everyday life. Students are provided the framework for exploring the physical, cognitive, and psychosocial processes of life span development including issues such as self-esteem, emotions and attitudes, and interpersonal relationships. The course also emphasizes the need for effective communications skills, managing emotions, problem solving/critical thinking skills, and personal goal achievement. The course provides a way for students to self check understanding and apply concepts immediately to their own lives. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall, Spring, Summer Session I.

GSCL 1415 Medical Terminology
The course is based on a systems approach. Students will also learn to interpret and use common medical abbreviations and symbols. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

GSCL 1500 Understanding Human Relations in the Workplace
This course covers the study of the importance of interpersonal skills and social interactions with co-workers, supervisors, and customers. Students will evaluate individual strengths and weaknesses and will be introduced to techniques for improvement. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

GSCL 1510 Managing Parenting & Employment
This course focuses on the dual demands that impact employed parents as they manage both work and family expectations. Topics include personal and parent growth, family communication and development, child development characteristics, and managing children’s behavior. Time management strategies for busy families will be emphasized. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

GSCL 1540 Applied Psychology
This course provides students with an introduction to the fundamental concepts of psychology and the scientific research underlying the science. It will help students understand how these concepts and principles affect their thought processes, behaviors and relationships with others. Topics such as stress, coping, conflict, and human diversity are discussed. Life from infancy through old age is examined as students study the intellectual, social, and psychological demands individuals face at every stage of life. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Spring.

GSCL 1550 Introduction to Windows
This course will introduce the student to Windows. The student will learn how to use Windows for file management, application startup, and customizing Windows. (Prerequisites: None). (2 C/2 hrs per wk). Offered: Fall, Spring.

GSCL 1676 Computer Basics
This course covers an introduction to the microcomputer through hands-on experience with the IBM PC or compatible computer. Students do projects using word processing, spreadsheet, and database software. (Prerequisites: None). (1C/1 hour per week). Offered: Fall, Spring.

GSCL 2870 Employment Strategies
This course offers a highly individualized approach to developing job seeking skills. The student will create resumes, job application letters, complete job application forms, and prepare for the employment interview. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring, Summer.

GEOGRAPHY

GEOG 1614 Human Geography
An introductory study of the human geography of the world in terms of the spatial distribution of cultural and physical phenomena, and a philosophical analysis of the interrelationships of those elements. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, SS, GP. Offered: Fall, Spring.

GEOG 1615 Economic Geography
A study of the spatial distribution of global economic activities, and the cultural and physical influences on economic systems. Simple and complex systems will be analyzed, as will resource use and abuse, ecological factors, and international relations. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, SS, GP. Offered: Fall.

GERMAN

GERM 1001 Life and Culture in the German Speaking Countries
An introductory survey of various topics related to life, language, culture, and civilization in the German-speaking countries with an emphasis on Germany. Students will begin to develop an appreciation for the history, arts, and culture in those countries, in addition to an understanding of various aspects of current daily life. (Prerequisites: None). (2 C/2 lect, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring - alternate years.
GERM 1101 Beginning German I
An introduction to the fundamentals of the German language, including comprehension, speaking, reading, writing, and culture. Conversation, grammar, audio and video tapes, short readings, computer work, and cultural topics are all a part of the course. For students with very little or no previous experience with the German language. (Prerequisites: None). (4 C/4 lect, 0 lab). MNTC: CT, GP. Offered: Fall, Spring.

GERM 1102 Beginning German II
A continuation of the introduction to the fundamentals of the German language begun in GERM 1101, including comprehension, speaking, reading, writing and culture. Conversation, grammar, audio and video tapes, short readings, computer work, and cultural topics are all a part of the course. (Prerequisites: GERM 1101 or 2-3 years of HS German or equivalent, basic English comprehension skills or instructor’s permission). (4 C/4 lect, 0 lab). MNTC: CT, GP. Offered: Spring.

GERM 1130 German in Business
An introduction to German as it is used in offices and businesses. Emphasis is on communicative skills such as understanding simple spoken and written business German, using the telephone, making arrangements, etc. Vocabulary development and a basic grammar review are included. Each student will research a company from a German-speaking country. (Prerequisites: Successful completion of GERM 1101 or 2-3 year of high school German). (2 C/2 lect, 0 lab). MNTC: CT, GP. Offered: Spring - alternate years.

GERM 2101 Intermediate German I
The course focuses on authentic cultural, historical and literary texts in German for reading, interpretation, speaking and writing practice. These authentic texts include original newspaper and magazine articles, advertisements, letters, graphs, tables, brochures, short stories, fairy tales, songs, and poems. Selected grammar topics are reviewed and/or expanded. Supplemental activities include use of videotapes, audio tapes, and computers. (Prerequisites: A. Successful completion of GERM 1102 or 3-4 levels of high school German. B. Reading level 2, Writing level 2, or instructor’s permission in special cases. (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Fall.

GERM 2902 Intermediate German II (Honors Credits)
The course focuses on authentic cultural, historical and literary texts in German for reading, interpretation, speaking and writing practice. These authentic texts include original newspaper and magazine articles, advertisements, letters, graphs, tables, brochures, short stories, fairy tales, songs, and poems. Selected grammar topics are reviewed and/or expanded. Supplemental activities include use of videotapes, audio tapes, and computers. (Prerequisites: A. Successful completion of GERM 2101 or equivalent experience. B. Reading level 2, Writing level 2, or instructor’s permission in special cases. (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Spring.

HEALTH
HLTH 1102 Industrial Safety and First Aid
This course will consist of lectures, video scenarios, demonstrations, and practice in emergency first aid care. The course will cover different safety aspects in industry, safety engineering, industrial hygiene, life safety and the importance of the Occupational Safety and Health Act (OSHA) and the Right To Know Act. An American Red Cross Adult CPR and Standard First Aid Certificate will be issued after successful completion of the course. (Prerequisites: None). (2 C). MNTC: CT, EC. Offered: Fall and Spring.

HLTH 1110 Cardiopulmonary Resuscitation (CPR for the Professional Rescuer/Basic Life Support)
This course will consist of lecture, demonstration, video scenarios, and practice in cardiopulmonary resuscitation and emergency cardiac care. This course includes instruction in Adult CPR, Infant/Child CPR, Two-person CPR and the use of pocket masks and bag-valve masks. This course will provide the professional rescuer with the knowledge and skills necessary in an emergency to help sustain life, reduce pain, and minimize the consequences of respiratory and cardiac emergencies until more advanced medical help can arrive. Certification will be given to those who successfully complete the course. (Prerequisites: None). (1 C). MNTC: CT, EC. Offered: Fall, Spring, Summer.

HLTH 1111 Health Education
This course gives the student a meaningful and useful background in a number of major health areas. The class includes a study of stress, mental health, human sexuality, nutrition/fitness, drugs, disease, aging, death and dying, consumerism and health care, ecology, and safety. Designed to help the individual student understand and cope with their environment and to be a responsible citizen. (Prerequisites: None). (3 C). MNTC: CT, EC. Offered: Fall, Spring, Summer.

HLTH 1114 Responding to Emergencies
This course is designed to prepare students to respond appropriately and with confidence in emergency situations until more advanced help arrives. Instruction will include discussion, lecture, demonstration, video scenarios, and practice. The course includes certifications in Community CPR (Adult, Infant and Child) and Responding to Emergencies for those who successfully complete the course. Also included are situations involving sudden illness, severe bleeding, delayed help situations and healthy lifestyle practices. (Prerequisites: None). (3 C). MNTC: CT, EC. Offered: Fall, Spring, Summer.

HLTH 1132 Drug Use and Abuse
This course allows students to explore many of the historical and current patterns associated with the use of drugs in our society and other cultures and societies of the world. Discussions will include the social, legal, medical, psychological, and rehabilitative aspects of drug use. Health risks and implications surrounding drug use and HIV and AIDS will also be covered. Students will examine their attitudes, values, and assumptions concerning drug use. (Prerequisites: None). (3 C). MNTC: CT, EC. Offered: Fall, Spring.
**Course Descriptions**

**HITH 1135 Holistic Health: Intro. to Complementary Health**
This course in holistic health allows students to explore complementary/alternative therapies such as acupressure, aromatherapy, biomagnetic therapy, herbal remedies, and mind/body control. Discussions will include the social, political, and economic aspects of holistic health care, and the healing aspects of exercise and nutrition. Updated research from the national Institutes of Health; Office of Alternative Medicine; and the insurance industry’s views on alternative therapies will also be discussed. (Prerequisites: None). (2 C). Offered: Fall.

**HITH 2126 Women’s Health Issues**
Students will have an opportunity to identify major health issues confronting women today. This course will examine lifestyle choices dealing with health prevention and promotion. It will explore health issues from the traditional medical mode to the holistic model using an integrative approach. This course will include a overview of critical contemporary women’s health topics. (Prerequisites: None). (3 C). MNTC: CT, HD, EC. Offered: Fall, Spring.

**HEALTH UNIT COORDINATOR**

**HUC 1510 Introduction to Health Unit Coordinating**
Introduction to Health Coordinating will give the students an overview of the role of the non-clinical member of the health care team. Fundamentals necessary to perform routine job expectations such as medical abbreviations, rules and application of alphabetical indexing and filing, methods of health care delivery, hospital organization and interdepartmental communications and infection control awareness will be taught. (Prerequisites: None) (3 C/3 lect, 0 lab) Offered: Fall, Spring.

**HUC 1515 Station Procedures I**
Station Procedures will instruct the student in basic procedures necessary in performing the non-clinical functions on a nursing station and allow them hands on practice in a classroom setting of various tasks such as preparing and maintaining patient charts, reading and transcription of physicians orders, professional communication and independent problem solving involved with patient admissions, authorizations, transfers, ordering and maintaining unit supplies and equipment. (Prerequisites: Completion or enrolled in HUC 1510, Intro to HUC and HUC 1524, Intro to Medications for the HUC) (3 C/3 lec, 0 lab) Offered: Fall, Spring.

**HUC 1516 Station Procedures II**
The course will focus on basic anatomy related to diagnostic test and scheduling, laboratory tests and requisitioning, test results, filing of test results, coordination of patients diagnostic tests, non clinical responsibilities in medical emergencies, and identification of resources available for problem solving. Time will also be spent in this class to finalize internship schedules and preparation requirements. (Prerequisites: Successful completion of HUC 1515, Station Procedures I) (3 C/3 lec, 0 lab) Offered: Fall, Spring.

**HUC 1519 Health Unit Coordinator Communications and Professional Issues**
The course will focus on professional communication in a healthcare setting with an emphasis on telephone etiquette, verbal, and nonverbal communication. Ethical issues will be addressed in regard to things such as Advanced Directives, Living will, and Patient bill of right. Work habits, co-worker interaction, interviewing and job advancement skills will also be focused on during the course. (Prerequisites: None) (3 C/3 lec, 0 lab) Offered: Fall, Spring.

**HUC 1524 Introduction to Medications for the Health Unit Coordinator**
Introduction to Medications for the Health Unit Coordinator will be a system approach to learning medications as they relate to body systems and diseases. Students will learn how to spell and classify commonly used drugs in each category. They will be introduced to the PDR and other drug reference manuals, systems of measurements, abbreviations, components of drug orders, and drug legislation and standards. (Prerequisites: None) (2 C/2 lec, 0 lab) Offered: Fall, Spring.

**HUC 1529 Health Unit Coordinator Internship**
Students will apply classroom skills to a clinical setting. Experience will be gained in daily performing all the non-clinical functions on a patient care unit. The clinical experiences will give the student opportunity to complete admission, discharge, and transfer paper work, schedule diagnostic tests, order and maintain unit supplies and transcribe physician orders accurately. (Prerequisites: Completion or current enrollments in all program required courses) (4 C/1 lect, 0 lab, 3 OJT). Offered: Fall, Spring.

**HISTORY**

**HIST 1611 The Ancient World**
This course will begin with a survey of ancient near Eastern, Egyptian, Indian and Chinese civilizations and then describe the development of the Greek world. A study of the Roman Republic and Empire and its relations with the world around it will end the course. The religion, philosophy and political development of each of these civilizations will be included to provide a flavor of their background and unique culture. (Prerequisites: None). (3 C/3 lec, 0 lab) MNTC: CT, SS, GP. Offered: Fall.

**HIST 1612 The Medieval World**
This course will trace the decline and fall of the Roman state and the changes during the Middle Ages in Europe, North Africa, the Middle East and Asia to about 1400 CE. The rise of Islam and its spread through the Medieval world will be discussed along with its impact on the European, Byzantine and Middle Eastern civilizations around it. The impact of the Mongols on the medieval world will also be addressed. Considerable emphasis will be placed upon the various institutions, policies, and cultural patterns at various times and places that explain the growth and decline of a given civilization and its interactions with the civilizations around it. (Prerequisites: None). (3 C/3 lec, 0 lab) MNTC: CT, SS, GP. Offered: Spring.
HIST 1613 Foundations of Western Civilization: From Ancient Greece to 1715
The course begins in Ancient Mesopotamia and focuses on European developments until the death of Louis XIV. It shall cover the Greek World, Roman Empire and the origins of Christianity, the Middle Ages, the ideas formulated in the Renaissance, the various aspects of the Reformation, and the growth of absolutism and constitutional monarchies. (Prerequisites: None). (4 C/4 lect, 0 lab). MNTC: CT, SS, GP. Offered: Fall.

HIST 1614 Europe in the Modern Age
This course traces the history of Europe from the Enlightenment to the present. It will include an analysis of the Age of Reason, the French Revolution, Napoleonic era and social and intellectual movements. In addition it will deal with the unification of Germany and Italy, the Russian Revolution, causes and results of World Wars I and II, the Cold War, and the disintegration of the Soviet Union. (Prerequisites: None). (4 C/4 lect, 0 lab). MNTC: CT, SS, GP. Offered: Spring.

HIST 1615 War and Peace in the 20th Century
The course will begin with the diplomatic background of World War I and then investigate the peace efforts that ended it, the developments that led to World War II, the failure of peace after that war that led to the Cold War and the conflicts associated with it, such as Korea and the Vietnam War. The break up of the Soviet Union and the conflicts that emerged out of it and a discussion of the Gulf War will end the course. Emphasis will be placed on the interests of all parties in the various struggles to show why they chose war or peace in their interactions. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, SS, GP. Offered: Fall.

HIST 1616 History of Minnesota
The course covers Minnesota’s history from the paleo cultures, the pre-European Amerindian cultures, the settlement of New France, the French and British exploration and fur trade, post Revolutionary War, to the Industrial Revolution. Climatic, geo-physical, socio-economic, political, and cultural development will be traced and analyzed. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, SS, HD. Offered: Fall, Spring.

HIST 1617 U.S. History to 1865
The course begins in the pre-Columbian Americas with a discussion of Native American migration, settlement, culture, language groups and civilizations. It is followed by a section dealing with contact between European and Native American peoples, European colonization, and the various battles for continental supremacy. The American War for Independence, the construction of the new nation, and the era of Jacksonian Democracy make up the third portion of the course. Finally, the topics of territorial expansion, immigration, slavery, and the Civil War’s causes and results round out the course. (Prerequisites: None). (4 C/4 lect, 0 lab). MNTC: CT, SS, GP. Offered: Fall, Spring.

HIST 1618 History of Religion
This course traces the origins and the development of the belief systems, personalities and historical events of the world’s great religions as well as some pre-historical and lesser known religions. It will also offer a comparative analysis of the fundamental aspects of the religions covered. However, the emphasis of the course will be on the historical and philosophical, not theological aspects of these religions. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, SS, GP. Offered: Spring.

HIST 1620 Issues in American History
A study of domestic and foreign policy issues from the 17th century to the close of the 20th century. American social, economic, political and foreign developments will be traced. Issues studied will be examined in the context of their occurrence to the way they are viewed in present day America. (Prerequisites: HIST 1624 or 1625 or permission of instructor). (3 C/3 lect/0 lab). MNTC: CT, SS, GP. Offered: Spring.
HONORS

ECON 1901 Introduction to Economics: Honors
Provides a general economic education for both the non-major transfer student and the career student. Major units of study are: microeconomic analysis of demand and supply in determining prices in competitive versus monopolistic markets; macroeconomic analysis of changes in the price level, national output, employment, the supply of money; and international issues including currency exchange rates. (Prerequisites: MATH 0098, ENGL 1117 or 1917). (3 C/3 lect, 0 lab). MNTC: CT, GP. Offered: Usually Spring, even years.

ENGL 1917, 1918 English, Honors
The English 1917, 1918 Honors sequence is designed to parallel the English 1117, 1118 composition sequence, but the honors courses are designed for those students who score 90 percent and above on the English portion of the ASAP or who have the instructor’s permission. These honors courses will fulfill the same requirements as English 1117, 1118, but will have the added benefit of being listed on the transcript as “Honors English”

ENGL 1917 Reading and Writing Critically I: Honors
This course utilizes two or three primary sources which the students read, analyze, and write about, focusing specifically upon a topic such as “The Quest for a Sense of Self”. The course also includes a flexible scheduling component, consisting of library research methodology and tools, both technical and non-technical. (Prerequisites: No courses; writing ASAP score of 35-40 or instructor’s permission). (4 C/4 lect, 0 lab). MNTC: CT, CM. Honors equivalent to ENGL 1117. Offered: Fall.

ENGL 1918 Reading and Writing Critically II: Honors
The course will utilize primary sources in a variety of disciplines, focusing on argumentative issues in various disciplines and writing style unique to a particular discipline. Being interdisciplinary in nature, the course will cover style sheets from MLA, APA, or CBE. The flexible scheduling portion of the class will focus on research techniques with Internet and the use of Internet in the professions, including e-mail, lists, Usenet, Telnet, FTP, Web and Gopher. (Prerequisites: Successful completion of ENGL 1117 or 1917; writing ASAP score of 35-40 or instructor’s permission). (4 C/4 lect, 0 lab). MNTC: CT, CM. Honors equivalent to ENGL 1118. Offered: Spring.

HORT 1310 Soil Science
To gain an understanding of the physical and chemical properties of soil. To recognize differences in soil quality as it affects plant growth. To modify a soil by using soil amendments. An understanding of soil principles is critical to the cultural management of any horticultural crop. Soil is important as a plant growth medium which acts as a reservoir of fertility and physical support of plant roots. This course covers topics in the basic study of soils including physical, chemical, and biological properties of soils, soils formation, soil classification, soil pH and soil surveys. Soil amendments as used in horticultural crop soils will also be discussed. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Fall.

HORT 1315 Plant Materials I - Woody Plants
This course covers the characteristics and identification of deciduous and evergreen trees and shrubs grown in the upper Midwest. A thorough knowledge of native and commercial plant materials is vital background to any horticultural occupation. Particular attention is placed upon identification of the plant materials and the classification of these materials according to cultural and landscape use characteristics. (Prerequisites: None). (3 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

PHIL 2971-2972 Philosophical Problems: Honors
This course is designed to offer the philosophy student an opportunity to pursue philosophical problems. Specific course topics will vary (examples: the concepts of freedom, virtue, or reality; the nature of truth or goodness; utopia/dystopia). Course may be retaken if the content is different. Primary readings and discussion-oriented. (Prerequisites: Recommended ASAP scores of 33 in reading and writing or permission of instructor and PHIL 1114). (3 C/3 lect, 0 lab). MNTC: CT, HA, EC. Offered: Usually Spring.
HORT 1316  Applied Plant Biology for Horticulture Careers
The course will focus on the fundamentals of botany of higher plants that are basic to a good understanding of plant science. Direct horticultural applications will be emphasized. An understanding of plant structure and their growth processes is a cornerstone to all other horticulture knowledge. This course is an overview of the taxonomic, structural, and growth characteristics of higher living plants. Topics covered include plant structure, plant classification, plant growth processes, and basic genetic principles. (Prerequisites: None). (2 C/1 lect, 1 lab, 0 OJT). Offered: Fall.

HORT 1318  Introduction to Turfgrass Management
The development and culture of turfgrass is important in many societies for functional, recreational, and ornamental reasons. A thorough understanding of common turfgrasses and their culture is an important tool in the management of cultured turf. This course is designed to cover topics in turfgrass structures, growth processes, seasonal turfgrasses, cultural practices, and seed blends. (Prerequisites: None). (2 C/1 lect, 1 lab, 0 OJT). Offered: Fall.

HORT 1320  Plant Materials II - Herbaceous Plants
Identification, description, uses, cultural requirements, adaptability and maintenance of non-woody ornamental plants with emphasis on annuals, biennial, perennials, and bulbs. (Prerequisites: None). (3 C/1 lect, 2 lab, 0 OJT). Offered: Spring.

HORT 1323  Introduction to Horticulture
This course examines the fundamentals of horticulture principles and their relation to horticulture business from careers to specific crops. An exploration of the diverse areas of the horticulture industry. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Spring.

HORT 2301  Directed Study
Individual study or a project in some field related to this discipline, directed and adapted to any program area by appropriate members of the faculty. Opportunity for in-depth exploration of concepts, technology, materials, or programs in specific area to expand professional competency and self-confidence. Planning, organizing, implementing and evaluating knowledge obtained from formal education and experience. (Prerequisites: Instructor approval). (1 C/0 lect, 1 lab, 0 OJT). Offered: Fall, Spring Summer I and II.

HORT 2302  Directed Study
Individual study or a project in some field related to this discipline, directed and adapted to any program area by appropriate members of the faculty. Opportunity for in-depth exploration of concepts, technology, materials, or programs in specific area to expand professional competency and self-confidence. Planning, organizing, implementing and evaluating knowledge obtained from formal education and experience. (Prerequisites: Instructor approval). (2 C/0 lect, 2 lab, 0 OJT). Offered: Fall, Spring, Summer I and II.

HORT 2330  Plant Propagation
This course will present a study of plant propagation principles and techniques. Topics include propagation by seed, cuttings, grafting, budding, specialized stems-roots, and micropropagation techniques. In addition, propagation environmental requirements and micropropagation techniques will be covered. Propagation and production of field and container nursery crops will also be included. (Prerequisites: HORT 1316). (3 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

HORT 2331  Greenhouse Operations and Management
Greenhouses structures are a means by which flowering and foliage plants can be forced to grow on a more accelerated and uniform schedule. Greenhouses have evolved from single-standing glass framed structures to multiple-sectioned mechanized greenhouse ranges. Many greenhouses today have automated systems for lighting, watering, transport, and environmental control. This course will present information applicable to greenhouses ranging in size from small single units to large automated complexes. Topics include greenhouse structures, glazing materials, bench systems, irrigation systems, and environmental control. (Prerequisites: None). (3 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

HORT 2338  Landscape Design I
The ability to produce high quality landscape designs requires and integration of artistic and technical skill. The landscape design professional must be able to (1) carefully analyze and integrate client and site information into the landscape design, (2) apply graphic design skills, and (3) develop the ability to assess the visual feel of the design. Student will learn the various components of the total landscape plan. (Prerequisites: HORT 1315; HORT 1320). (2 C/0 lect, 2 lab, 0 OJT). Offered: Fall.

HORT 2348  Horticulture Business Management
This course covers a comprehensive analysis of the many factors involved in a successfully managed horticulture business. The course emphasizes basic principles of business management and the application of these principles to horticultural businesses. Discussion of how and why management skills, techniques, and strategies of horticulture businesses changes to meet the demands of the customer. Customer service and relations and retail sales concepts will also be a part of this course. (Prerequisites: None). (3 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

HORT 2350  Integrated Plant/Pest Management
This course covers an introduction to identification and control of pests affecting the turf and landscape industry. A basic understanding of entomology, plant pathology, physiological, nutrition, mechanical, cultural, biological, and environmental factors affecting plants. (Prerequisites: None) (2 C/1 lect, 1 lab, 0 OJT). Offered: Spring.

HORT 2399  Horticulture Seminar
Enhance critical thinking skills through the preparation and presentation of an in-depth study relating to the horticulture industry. (Prerequisites: Completion of two full semesters or consent of Instructor). (1 C/ 0 lect, 1 lab, 0 OJT). Offered: Spring.
Course Descriptions

HTFL 1311 Basic Floral Arrangement/Design
This course covers the identification and arrangement of flowers, greens, accessories, and materials used by the retail florist. The principles of floral design are emphasized with the use and construction of design materials. Fresh flowers and permanent design materials are used in the class. (Prerequisites: None). (2 C/0 lect, 2 lab, 0 OJT). Offered: Fall.

HTFL 1321 Advanced Floral Design
This course covers the identification and arrangement of flowers, greens, accessories, and materials used by the retail florist. The principles of floral design are emphasized in the construction of advanced design styles, i.e., wedding and sympathy and others. (Prerequisites: HTFL 1311). (2 C/0 lect, 2 lab, 0 OJT). Offered: Spring.

HTFL 2302 Floriculture/Garden Center Internship
On-the-job internship experience or additional college laboratory or classroom experience designed to make the student more acceptable to industry within his or her chosen program or occupational emphasis. (Prerequisites: Completion of one semester and consent of Instructor). (2 C/0 lect, 0 lab, 108 hrs OJT). Offered: Spring, Fall, Summer I and II.

HTFL 2304 Floriculture/Garden Center Internship
On-the-job internship experience or additional college laboratory or classroom experience designed to make the student more acceptable to industry within his or her chosen program or occupational emphasis. (Prerequisites: Completion of one semester and consent of Instructor). (4 C/0 lect, 0 lab, 216 hrs OJT). Offered: Spring, Fall, Summer I and II.

HTFL 2341 Greenhouse Crop Production
Greenhouse crop production typically follows cycles in which peak harvests are centered around heavy consumer demand due to seasonal holidays or events. The intent of this course is to apply greenhouse practices to poinsettia, potted chrysanthemum, cut chrysanthemum, lily, bulb crops, azalea, cyclamen, kalanchee, freesias, snapdragons, alstroemeria, roses, hydrangea, carnation, foliage plants, bedding plants, and miscellaneous greenhouse crops. Topics include variety selection, soil requirements, nutrient selection and monitoring, and crop maturation stages. Although greenhouse crops can be categorized by seasonal production practices, some of these crops may be grown on a year round basis. (Prerequisites: HORT 2331). (4 C/2 lect, 2 lab, 0 OJT). Offered: Spring.

HTFL 2342 Interior Plants and Plantscaping
A through knowledge of foliage plant materials is essential in order for interior foliage specialists to work effectively with interior foliage installations. This course covers topics in foliage plant characteristics, requirements, and identification. Particular attention is placed upon identification of foliage plant materials and the classification of these materials according to cultural and interior site use characteristics. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Spring.

HTFL 1322 Turf and Grounds Management
The production of high quality turfgrass and landscape plantings requires specialized turf and grounds management skills. Principles and practices of landscape maintenance including turf, trees, shrubs, annual and perennial flowers, vines and ground covers, as well as landscape features, will be discussed and performed. An integration of turf and grounds maintenance theory and practice will be applied to residential areas, parks, golf course, athletic fields, and commercial and recreational grounds. The maintenance, operation, and safety of turf and grounds power equipment is also a part of this course. (Prerequisites: HORT 1318). (4 C/1 lect, 3 lab, 0 OJT). Offered: Spring.

HTFL 2302 Landscape, Golf Course and Grounds Maintenance Internship
On-the-job internship experience or additional college laboratory or classroom experience designed to make the student more acceptable to industry within his or her chosen program or occupational emphasis. (Prerequisites: Completion of one semester and consent of Instructor). (2 C/0 lect, 0 lab, 108 hrs OJT). Offered: Spring, Fall, Summer I and II.

HTFL 2304 Landscape, Golf Course and Grounds Maintenance Internship
On-the-job internship experience or additional college laboratory or classroom experience designed to make the student more acceptable to industry within his or her chosen program or occupational emphasis. (Prerequisites: Completion of one semester and consent of Instructor). (4 C/0 lect, 0 lab, 216 hours OJT). Offered: Spring, Fall, Summer I and II.

HTFL 2343 Landscape Installation/Construction
Landscape installation and construction projects will attempt to provide reasons, and practical work experience, about why and how to design and build when installing a landscape. Landscape irrigation theory and practice is also included. (Prerequisites: HORT 2338 or consent of instructor). (4 C/1 lect, 3 lab, 0 OJT). Offered: Spring.

HTFL 2345 Golf Course Field Operations
This course covers the practical applications of golf course maintenance and construction techniques. Emphasis will be on turfgrass observation and diagnosis with recommendations for appropriate solutions. (Prerequisites: HORT 1318). (3 C/1 lect, 2 lab, 0 OJT). Offered: Spring.

HTFL 2347 Landscape Design II
This course is the second in a series of landscape design laboratory experiences and is focused on more advanced landscape design projects. This course allows the student to test their problem-solving ability and to apply design methods to landscape projects. The intent of this series of design courses is to allow the student to build design proficiency and independent problem-solving skills when working with landscape design projects. While the course content of each of the design labs is essentially the same, the content goals will be applied to specific landscape design projects so that the student may experience the breadth of landscape design. An introduction of Computer Aided Design (CAD) to landscape design projects will be introduced. (Prerequisites: HORT 2338, HORT 1315, HORT 1320). (2 C/0 lect, 2 lab, 0 OJT). Offered: Spring.
HUMAN SERVICES TECHNICIAN

HS 1511 Medication Administration for Unlicensed Personnel
This course includes the study of legal requirements concerning drugs and drug administration, general information about medications, terminology related to medication administration and the use of reference sources. Students will learn actions, usual doses, toxic symptoms and special considerations of a variety of drugs. While students will not administer medications, they will participate in laboratory practice reading actual labels, preparing, and role-play administering medications. (Prerequisites: None). (2 C/1 lect, 1 lab, 0 OJT). Offered: Fall, Spring.

HS 1522 Introduction to Human Services
This course covers the role and responsibilities of human services workers and introduces the student to human services agencies. Interpersonal communication skills are stressed throughout the course, and basic interviewing skills will be studied by working through a computer program. Profession ethics, self-understanding, boundary issues, problem solving, and group process are also covered. The student will create resumes, write job application letters, complete a job application form, and prepare for the employment interview. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT). Offered: Fall, Spring.

HS 1530 Health Issues
This course presents basic information about nutrition and chronic disease conditions, prevention, causes and treatments. Exploration of attitudes toward persons with conditions will be emphasized. (Prerequisites: None). (2 C/1 lect, 1 lab, 0 OJT). Offered: Spring.

HS 1532 Therapeutic Techniques
This course involves the identification of specific therapeutic techniques for clients with a variety of disabilities. Emphasis is placed on observation, reporting, and recording skills as well as identifying and modifying behaviors and/or teaching new behaviors. Students will have the opportunity for Non-Violent Crisis Intervention certification. (Prerequisites: None). (2 C/1 lect, 1 lab, 0 OJT). Offered: Fall, Spring.

HS 1550 Abnormal Psychology Theory
This course explores major and minor mental health disorders and treatment strategies. It provides students with practical knowledge and skills necessary to therapeutically relate to the emotionally ill-disturbed person in any setting. (Prerequisites: None). (2 C/2 lect, 1 lab, 0 OJT). Offered: Spring.

HS 1555 Mental Health Field Experience
This course provides the student with the opportunity to integrate classroom learning with supervised field experience which includes observation and actual work experience in a client setting for mental health issues. Each student will receive experience in one of the following areas: community based treatment center, halfway houses, detoxification facility, social services or a board and lodging facility. (Prerequisites: NA 1600; HS 1550). (3 C/0 lect, 0 lab, 3 OJT). Offered: Fall, Spring.

HS 1560 Chemical Dependency Theory
This course explores chemical Dependency in relation to attitudes, signs, symptoms, medical aspects, commonly abused drugs as well as the effects on individuals, families and communities. Cause, prevention, intervention, treatment and consequences are examined. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

HS 1565 Chemical Dependency Field Experience
This course provides the student with the opportunity to integrate classroom learning with supervised field experience which includes observation and actual work experience in a client setting for chemical health issues. Each student will receive experience in one of the following areas: community based treatment center, halfway houses, detoxification facility, social services or a board and lodging facility. (Prerequisites: NA 1600; HS 1560). (3 C/0 lect, 0 lab, 3 OJT). Offered: Fall, Spring.

HS 1570 Developmental Disabilities Theory
This course is a study of developmental disabilities with an emphasis on mental retardation. Basic ideas, concepts, and issues relating to several developmental disabilities are presented. Mental retardation is studied by exploring the history, causes, legislation, classification, education, community resources, rehabilitation, and employment needs. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring.

HS 1575 Developmental Disabilities Field Experience
Provides the student with the opportunity to integrate classroom learning with supervised field experience which includes observation and actual work experience in a client setting for developmentally disabled individuals. Each student will receive experience in one of the following five areas: community based residential facility, sheltered workshop, community based work site, educational setting or other day program facility. (Prerequisites: NA 1600; HS 1570). (3 C/0 lect, 0 lab, 3 OJT). Offered: Fall, Spring.

HUMANITIES

HUM 1103 Humanities Through the Arts
This course studies how human values are revealed through the arts. The course will briefly survey art forms selected from among the following: architecture, dance, drama, film, literature, music, painting, photography, and sculpture — with an emphasis on the relationship between form and meaning as well as on the development of each person's own critical and analytical skills. (Prerequisites: College level reading, writing). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring.

HUM 1111 The Greeks & Romans, the Middle Ages, and the Renaissance
This course concentrates on the creative works and ideas from the perspective of early Greek and Roman authors and the writers of the Middle Ages and Renaissance, approximately 900 BC to 1600 AD. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring, possibly Summer.

HUM 1112 Baroque through the Romantic periods, and the Modern Age
This course will cover the central concerns of human beings as expressed through the creative works and ideas of major artists and thinkers who attempt to understand and define the human condition. The ideas of writers since the Renaissance and their shifting perceptions of life through the Baroque, Neoclassical, and Romantic periods and into the modern age, from approximately 1600 to present. (Prerequisites: College level reading/writing skills). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring, possibly Summer.
HUM 1114 Ethics & Its Application in Healthcare
The classical themes on ethical theory and moral reasoning are presented in this survey course as the foundation for examination of contemporary problems on ethics as they impact health personnel, patients and the community. Various ethical issues are examined, including death and euthanasia, economic justice or allocation of scarce resources, AIDS, confidentiality, abortion, discontinuance of life support and living wills. Issues of the workplace and professional ethics will also be addressed. (1 C/1 lect, 0 lab). Offered: Fall, Spring, Summer.

HUM 1121 Women’s Perspectives
In an effort to better understand what it means to be a human being, students will examine the autobiographical accounts of several women who have confronted adversity with courage. Their lives represent a variety of historical, cultural and personal events; some examples might include: Armenian Exodus of 1915, Cultural Revolution of China, Apartheid in South Africa, Internment Camps of WWII, The Jewish Holocaust, Civil Rights Movement of the 1960s, AIDS and other illnesses. In addition to autobiographies, poetry, music, art, and drama will be incorporated into the course content. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Spring.

HUM 1131 The Art of Being Human
This course is an introduction to the methods, techniques, and scope of the study of the humanities. The focus is on the concern with the conduct of human life. What makes life good, enriched, in short, worth living? Study will be based on readings and TV tapes professionally prepared for the course. (Prerequisites: College level reading/writing skills). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring, possibly Summer.

HUM 2941-2943 Nobel Conference: Honors
This course will focus on the topic of the Nobel Conference held yearly at Gustavus Adolphus. Students will read and analyze works by the participants at the conference, studying the issue from a multiplicity of angles. Attendance at the conference is a requirement. This course can be repeated up to three times for credit. Previous course/conference topics have included “Unlocking the Brain” and “Unveiling the Solar System”. (Prerequisites: None). (2 C). Offered: Fall.

INTERIOR DESIGN OPTION - SEE RETAIL MERCHANDISING

JOURNALISM

JOUR 1106 American Cinema
Hollywood filmmaking as an art form, economic force, and as a system of cultural communication. Stylistic elements are examined from the perspective of various genre. Students will learn the language of American cinema, increase their understanding of how films work as art and how they convey meaning as cultural artifacts and, most importantly, how to become more active and critical viewers. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, HD. Offered: Fall, Spring, Summer.

JOUR 1110 Introduction to Mass Communications
This course will cover the nature, function and responsibilities of mass media. Areas include propaganda, newspapers, magazines, radio, music recording, book publishing, advertising, films, public relations, and on-line journalism. Lectures and discussion. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, EC. Offered: Fall, Spring, Summer.
JOUR 2261 Publications Laboratory (Newspaper)
Participation in college newspaper activities. Staff assignments given to students based on individual needs and abilities.
(Prerequisites: None). (1 C). Offered: Fall.

JOUR 2262 Publications Laboratory (Newspaper)
Participation in college newspaper activities. Staff assignments given to students based on individual needs and abilities.
(Prerequisites: None). (1 C). Offered: Spring.

JOUR 2294 Journalism Internship
On-the-job experience in commercial mass communications.
(Prerequisites: Sophomore standing and permission of instructor/department). (4 C). Offered: Fall, Spring.

LAW ENFORCEMENT

LAWE 1105 Introduction to Law Enforcement
Major topics of the course include the history and evolution of law enforcement, police operations and procedures, the court system, corrections and the juvenile justice system. (Prerequisites: None). (3 C/3 lect, 0 lab). Offered: Fall, Spring.

LAWE 1110 Police Report Writing
Major topics of the course will include field notes, report structure and organization, basic grammar, data retrieval and use, and uses of police reports. (Prerequisites: Should complete program English requirements before taking this class). (2 C/2 lect, 0 lab). Offered: Fall, Spring.

LAWE 1112 Introduction to Criminal Investigations
Major topics of the course will include preliminary investigations, investigative techniques, and investigation of specific offenses. The course will involve active participation in the different techniques and in processing evidence. (Prerequisites: None). (3 C/3 lect, 0 lab). Offered: Fall, Spring.

LAWE 2117 Minnesota Statutes
The major content of this course deals with statutes that the new peace officer would most likely deals with during the course of their first years of employment. (Prerequisites: None). (3 C/3 lect, 0 lab). Offered: Fall, Spring.

LAWE 2120 Human Behavior for Law Enforcement
The major focus of this course deals with the types of reactions peace officers may encounter with people who are experiencing emotional or psychological difficulties. (Prerequisites: Enrollment in the Law Enforcement program; PSYC 1611). (2 C/2 lect, 0 lab). Offered: Fall, Spring.

LAWE 2122 Criminal Procedure
The major topics of this course include the content and meaning of the Fourth, Fifth, and Sixth Amendment to the United States Constitution; the rules of arrest, search and seizure; the legalities of confessions; proper identification procedures; and court procedures. (Prerequisites: Enrollment in the LAWE Program). (3 C/3 lect, 0 lab). Offered: Fall, Spring.

LAWE 2125 Community Policing and Service
Major topics of the course will include police administration, various police duties and responsibilities, police statistics and research, and police work involving community service. (Prerequisites: Enrollment in the Law Enforcement program; completion of general education requirements for the program). (1 C/1 lect, 0 lab). Offered: Fall, Spring.

MACHINE TOOL

MT 1510 Machine Tool Theory I
This course consists of classroom study of shop safety, hand tools, dimensional measurement, sawing machines, drilling machines, turning machines and vertical milling machines. (Prerequisites: None). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall.

MT 1512 Blueprint Reading I
This course consists of classroom study of basic blueprint reading principles. Topics covered are angle projection, title blocks, visible lines, working drawings, dimensioning, hidden lines, circular features, sectional views, multiple detail drawing, tolerancing methods, threads, fits and removed sections. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

MT 1530 Machine Tool Theory II
This course consists of classroom study of preparation for machining operation, types of materials, horizontal milling machines, rotary tables, indexing devices, gears, gear cutting and grinding processes. (Prerequisites: MT 1510). (2 C/2 lect, 0 lab, 0 OJT). Offered: Spring.

MT 1538 Blueprint Reading II
This course consists of classroom study of geometric tolerancing. The student will be given a introduction to geometric characters. Time will also be spent using MasterCam to draw working shop prints. (Prerequisites: MT 1512). (2 C/2 lect, 0 lab, 0 OJT). Offered: Spring.

MT 1540 Basic CNC Programming and Operation
This course will familiarize the student with operations involving programming and operation of computer numerical machines. (Prerequisites: MT 1550). (3 C/1 lect, 2 lab, 0 OJT). Offered: Spring.

MT 1550 Machine Shop Lab I
The student will receive hands-on experience in the use of lathe vertical milling machine, horizontal milling machines, drilling operation, band sawing. The course will also include demonstration on the use of hand tools. Safety will be strongly emphasized. (Prerequisites: None). (10 C/0 lect, 10 lab, 0 OJT). Offered: Fall.

MT 1580 Machine Shop Lab II
This course is a continuation of MT 1550 where the student will receive more in-depth experience on lathe, milling machine, surface grinder, cylindrical grinder, and assorted machine tools. Safety will be strongly emphasized. (Prerequisites: MT 1550). (8 C/0 lect, 8 lab, 0 OJT). Offered: Spring.

MT 2600 Precision Machine Theory I
This course covers high speed and carbide feed and speeds, EDM principles, metallurgical principles, manufacturing theory, manufacturing processes and measuring concepts. (Prerequisites: MT 1530). (3 C/3 lect, 0 lab, 0 OJT). Offered: Fall.

MT 2620 CNC Operation Lab I
This course covers the basics in setup, operation, and tear down of CNC machining centers, turning center, and wire EDM. (Prerequisites: MT 1540). (5 C/0 lect, 5 lab, 0 OJT). Offered: Fall.

Education For Life and Work
MT 2630  CNC Programming I
This course is intended to give the student an understanding of the numerous codes used in CNC programming. The student will write numerous programs for CNC machining centers; CNC turning centers; and CNC wire EDM. (Prerequisites: MT 1540). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

MT 2645  Precision Machine Lab I
This course covers precision setup, operation and inspection on the lathe, mill, surface grinder, cylindrical grinder and heat treating process. (Prerequisites: MT 1580). (5 C/0 lect, 5 lab, 0 OJT). Offered: Fall.

MT 2650  Precision Machine Theory II
This course is a continuation of MT 2600 in a greater depth along with problem solving. (Prerequisites: MT 2600). (3 C/3 lect, 0 lab, 0 OJT). Offered: Spring.

MT 2657  Precision Machine Lab II
This course is a continuation of the topics covered in MT 2645. (Prerequisites: MT 2645). (4 C/0 lect, 4 lab, 0 OJT). Offered: Spring.

MT 2667  Machine Tool Special Projects
This course is intended for the student to design and build a project using lathes, mills, grinders and CNC machines. (Prerequisites: None). (2 C/0 lect, 2 lab, 0 OJT). Offered: Spring.

MT 2670  CNC Operation Lab II
This course will be a continuation of MT 2620. The student will run more complex programs that will be generated on the master cam and down loaded to the machining centers and the turning center. (Prerequisites: MT 2620). (5 C/0 lect, 5 lab, 0 OJT). Offered: Spring.

MT 2680  CNC Programming II
This course is a continuation of MT 2630 in a greater depth along with creating CNC programs using MasterCam. (Prerequisites: MT 2630). (2 C/2 lect, 0 lab, 0 OJT). Offered: Spring.

MATH 0098  Elementary Algebra
A basic algebra course designed to provide the fundamentals of algebra including sets of numbers, numeric and algebraic expressions and equations, fractions, exponents, and radicals. Knowledge of basic mathematics expected. (Prerequisites: Appropriate ASAP score or successful completion of MATH 0093 as required by the placement test). (4 C). Offered: Fall, Spring, Summer.

MATH 0099  Intermediate Algebra
This course is a fundamental component of algebra beyond the level of Elementary Algebra. Topics include linear and quadratic inequalities, systems of linear equations, and functional notation. Considered primarily as providing a foundation for college level mathematics and science. (Prerequisites: Successful completion of MATH 0098 or appropriate ASAP score). (4 C). Offered: Fall, Spring, Summer.

MATH 1015  Applied Technical Math
This course covers the basic arithmetic skills of fractions, decimals, percents, and ratio/proportion. In addition, applied geometry, measurement, and basic statistical skills will be covered to support diploma, technical programs. Simple linear equations are solved. Basic right triangle trigonometry is introduced to support core program areas. Emphasis is on problem solving with specific application packets designed to interface with the student’s specific core program. In addition to lectures, cooperative learning and lab activities are used to support learning. Students will use scientific calculators throughout the course. (Prerequisites: None). (3 C/2 lect, 1 lab). Offered: Fall, Spring.

MATH 1030  Principles of Technical Math I
Basic arithmetic skills using fractions, decimals, percents, proportions, and powers/roots are used in application problems. English/metric measurements are used to analyze and solve technical problems. Algebraic topics include algebraic symbolism, and linear and literal equations with applied problems. This course covers geometric properties of angles, triangles, polygons, and circles; these skills are applied to technical problems. Team work is emphasized. Scientific calculators are used throughout the course. (Prerequisites: None). (3 C/2 lect, 1 lab). Offered: Fall.

MATH 1032  Principles of Technical Mathematics II
Trigonometric topics include trigonometric ratios, right and oblique triangle trigonometric applications, and vector analysis. Geometric area and volume, advanced topics in algebra including fractional equations, systems of equations, and quadratic equations will also be covered. Team work is emphasized. Scientific calculators are required. (Prerequisites: MATH 1030 or equivalent). (3 C/2 lect, 1 lab). Offered: Spring.

MATH 1101  Math for Technology
This course is a prerequisite for all technology math students. Important technical math skills including scientific calculator usage for scientific and engineering notation will be covered. Basic algebraic skills will be covered. (Prerequisites: MATH 0098 or appropriate ASAP Score). (1 C/1 lect, 0 lab). Offered: Fall, Spring.
MATH 1102 College Math
This course is for technology students. Skills and applications of algebra, right and oblique triangle trigonometry, and graphing will be stressed. Emphasis will be placed on cooperative learning and problem solving techniques. (Prerequisites: MATH 1101). (4 C/4 lect, 0 lab). Offered: Fall, Spring.

MATH 1104 College Calculus for Technology Programs
A course for technology students stressing algebraic and trigonometric skills and the understanding and applications of differential and integral calculus. (Prerequisites: MATH 1102 or equivalent; college reading level and high school writing level). (5 C). MNTC: CT, MA. Offered: Spring.

MATH 1111 Contemporary Concepts in Mathematics
A Liberal Arts course for the student who wishes to acquire a broad background in mathematics without taking the usual sequences of specialized courses. Topics will include: numeration systems, geometry, logic, problem-solving, triangle trigonometry, mathematics of finance, probability, and statistics. (Prerequisites: Successful completion of MATH 0098 (A or B preferred) or appropriate ASAP score; college level reading; Writing level 2). (3 C). MNTC: CT, MA. Offered: Fall, Spring, Summer.

MATH 1113 Finite Math with College Algebra
An introductory course in mathematical modeling and decision making with emphasis on business applications. Students will use matrices to solve problems and will get experience using Present and Future Value financial problems. (Prerequisites: MATH 0099 with B or better or equivalent; college level reading skills). (4 C). MNTC: CT, MA. Offered: Fall, Spring.

MATH 1115 College Algebra
The first college level algebra course. Topics include but are not limited to: Polynomial, Rational, Radical, Exponential, and Logarithmic functions and their Inverses, solving and graphing higher order equations, optimization applications, methods of solving systems of equations, and conic sections. (Prerequisites: Appropriate ASAP score or successful completion of MATH 0099 (B or better recommended) or equivalent; college level reading; ASAP writing score of at least 22). (3 C). MNTC: CT, MA. Offered: Fall, Spring, Summer.

MATH 1117 Precalculus
For students requiring further experience with advanced algebra prior to Calculus. Topics include Trigonometric Functions and their inverses, Law of Sine’s, Law of Cosines, Vectors, complex numbers, linear and non-linear inequalities and equations; graphing polar equations, mathematical induction, analytic trigonometry, sequences, series, and matrices, higher order rational, polynomial, exponential, and logarithmic functions. (Prerequisites: MATH 1115 or equivalent, or appropriate ASAP score; college level reading). (4 C). MNTC: CT, MA. Offered: Fall, Spring, Summer.

MATH 1119 Applied Calculus For Businesses and Economics
A college level introductory calculus course with emphasis on applications. Topics include a brief algebra review, mathematical modeling with regression, derivatives and their application, integration, and partial derivatives. (Prerequisites: MATH 1113 or MATH 1115 or appropriate placement score; college level reading). (3 C). MNTC: CT, MA. Offered: Fall, Spring, Summer.

MATH 1127 Calculus I
A Liberal Arts course for the student pursuing a career in engineering, mathematics, pre-med, computer science, and other science related fields. (Prerequisites: 4 years of high school mathematics including trigonometric functions with a “B” average; college level reading). (5 C). MNTC: CT, MA. Offered: Fall, Spring.

MATH 1128 Calculus II
A Liberal Arts course for the student pursuing a career in engineering, mathematics, pre-med, computer science, and other science related fields. Topics will include more on transcendental functions, trigonometric functions and hyperbolic functions, applications of the definite integral including: areas, volumes of rotation, arc length, surface area, equations of motion, hydrostatic pressure, work and centers of mass; techniques of integration, L’Hopitals rule, improper integrals, sequences and infinite series, Taylor series, conic sections, the polar coordinate system, and parametric forms. (Prerequisites: MATH 1127; college level reading). (5 C). MNTC: CT, MA. Offered: Fall, Spring.

MATH 1191 Special Mathematics Topics
(1-3 C). (Prerequisites: College level reading). MNTC: CT, MA. Offered: Fall, Spring, Summer.

MATH 2051 Quality Control - Statistical Process Control Theory
An introduction to quality control measures in the workplace. Students will use statistical process control methods to analyze data and solve applied problems. (Prerequisites: MATH 1015 or MATH 1030 or equivalent math skills). (1 C/1 lect, 0 lab, 0 OJT). Offered: Spring.

MATH 2052 Quality Control - Statistical Process Control Lab
Students will apply the theory of quality control measures and statistical process control to business and industrial situations. Process analysis and process measurement tools will be created and used to suggest quality improvement steps. (Prerequisites: MATH 1015 or MATH 1030 or equivalent math skills). (1 C/0 lect, 1 lab, 0 OJT). Offered: Spring.

MATH 2208 Fundamentals of Statistics
An introduction and overview of math statistics. Topics will include (but not limited to) descriptive statistics, probability, and hypothesis testing. Computers and graphics calculators will be used extensively throughout the class. (Prerequisites: MATH 0099 or 1111 or appropriate placement score; college level reading). (4 C). MNTC: CT, MA. Offered: Fall, Spring, Summer.

MATH 2218 Discrete Mathematics
A course for mathematics and/or computer science majors. Topics include sets, relations, symbolic language, graph theory, matrices, and Boolean algebra. (Prerequisites: Successful completion of MATH 1115 or equivalent; reading level 3; writing level 2; college level reading). (4 C). MNTC: CT, MA. Offered: Fall, Spring.
MATH 2237 Multivariable and Vector Calculus
First in a sequence which is a continuation of the first year of calculus. Topics are selected from the following: coordinate and vector geometry, vector valued functions, velocity-acceleration and curvature, cylindrical and spherical coordinate systems, partial differentiation and applications, double and triple integrals, Green’s - Stoke’s Divergence Theorems, Frenet Formulas. (Prerequisites: MATH 2128; college level reading). (5 C). MNTC: CT, MA. Offered: Fall.

MATH 2238 Differential Equations & Linear Algebra
An in-depth look at topics such as mathematical models, first-order differential equations, applications of linear and nonlinear equations, and other topics. (Prerequisites: MATH 2237; college level reading). (5 C). MNTC: CT, MA. Offered: Spring.

MECHANICAL ENGINEERING TECHNOLOGY

MET 1123 Manufacturing Material and Processes I
The course includes blueprint reading, use of hand tools and inspection of equipment, and performing basic lathe, milling machine, surface grinder, and drill press operation. Safety related to the use of all equipment will be stressed. Students will complete a project incorporating all of the course content listed above. (Prerequisites: None). (2 C/1 lect, 2 lab, 0 OJT). Offered: Fall.

MET 1146 Manufacturing Material and Processes II
A lecture/lab course designed to provide a knowledge of materials and processes in the manufacturing of products, machines and structures. Units include foundry, conventional and non-conventional machine tool processes and numerical control. Field trips to industry is an integral part of the class. (Prerequisites: MET 1123). (4 C). Offered: Fall.

MET 1224 Engineering Drafting II
A continuation of ET 1224. Major topics include sheet metal layout, descriptions, tolerancing and other advanced topics. (Prerequisites: ET 1224). (2 C/1 lect, 4 lab, 0 OJT). Offered: Spring.

MET 2358 Machine Design
This course covers mechanisms used to transmit rotary motion and power. Students will design power transmission beginning with ideas and producing layout, detail and assembly drawings. Students will work in small groups similar to industrial practices. They will learn to use vendor’s catalogs, assign part numbers, provide cost analysis and to generate bills of materials. (Prerequisite: MET 1224). (5 C). Offered: Fall.

MET 2458 Product Design
The students will apply design concepts and equations to determine the best design for a given set of conditions (load, power, stress and deflection). The class will provide a typical mechanical design experience as a member of an industrial design team. Each team selects a design problem involving a simple mechanism, investigates alternatives for its solution; then prepares a complete graphic display of solutions including an assembly drawing, details, manufacturing processes required and tooling specifications. (Prerequisites: MET 2358). (5 C). Offered: Spring.
MA 1180 Medical Science II The second of a two-semester course designed to familiarize the Medical Assistant student with the structure, functions, and interrelationships of the body systems in health as well as disease. The student will be introduced to normal human anatomy and physiology, common pathology seen in various human body systems and the treatment modalities for common diseases/disorders. The course approaches this task body-system by body-system, incorporating basic pharmacology as well. The laboratory complements the didactic material, utilizing animal dissection, models, and basic physiology exercises. (Prerequisites: Successful completion of MA 1170) (3C/2 lect, 2 lab) Offered: Spring.

MA 1270 Clinical Procedures I The first of a two-semester course, this provides a basis for understanding the physician's office and how it functions. The student practices Standard Precautions and medical asepsis; performs vital signs, takes a health history, rooms patients and assists with a routine physical exam; identifies instruments and performs sterilization techniques; performs ear instillations/irrigations; performs eye instillations and visual acuity; applies physical therapy modalities; orders and maintains office supplies and equipment. Physician, patient, and co-worker relationships are examined through role playing and patient simulation. (Prerequisites: Admission to the MA program) (2C/1 lect, 2 lab) Offered: Fall.

MA 1280 Clinical Procedures II The second of a two-semester course, this course provides the theory, principles and procedures/techniques for the following: pharmacology, medication administration (oral and injection), electrocardiography (performing and mounting a 12 lead EKG), cast application and removal, suture removal, and minor office surgery. It will prepare the student for assisting with specialty exams (gynecologic, sigmoidoscopic, prenatal, pediatric) with emphasis on patient instruction, patient understanding of the procedure, patient comfort and general patient rapport. The student will be introduced to principles of x-ray and x-ray procedures and be responsible for maintaining office supplies and equipment. Physician, patient and co-worker relationships are examined through role playing and patient simulation. Occasional usage of a community health facility is utilized. (Prerequisites: Successful completion of MA 1270) (4C/2 lect, 4 lab) Offered: Spring.

MA 1840 Medical Assistant Externship Upon successful completion of the nine-month academic/laboratory experience, the MA student spends six weeks in the physician’s office or small clinic obtaining practical experience of administrative, clinical and laboratory duties prior to entering the job market. The student does not receive any remuneration for the externship. (Prerequisites: Successful completion of the academic portion of the MA program and current CPR certification - adult, child, infant) (6C/35-40 hrs per wk) Offered: Summer.

MUSIC

MUSC 1201 History and Survey of Musical Literature I A listening course designed to further the students understanding of the music they hear through short studies of types of composition against a historical background. Emphasis on Renaissance and Baroque Eras. (Prerequisites: None). (3 C). MNTC: CT, HA. Offered: Fall.


MUSC 1221 Popular Music in the United States This course is a survey of American Popular Music from 1840 to the present. The music styles studied include Blues, Gospel, Folk, Bluegrass, Country, Ragtime, Jazz, Latin Music, Musical Theater, Rock and Contemporary Popular Music. (Prerequisites: None). (3 C). MNTC: CT, HA. Offered: Fall, Spring, Summer.

MUSC 1301 Concert Choir Rehearsal of choral literature, the study of tone building, balance, interpretation and other factors which embody principles of good choral training. Public concerts will be given by the group and by smaller ensembles selected from the personnel of the choir. (Prerequisites: None). (1 C). MNTC: CT, HA. Offered: Fall, Spring.

MUSC 1302 Concert Band Standard literature for band studied for sight reading, development of tone and technique. Public appearances by the group and by small ensemble groups formed from various sections of the band. (Prerequisites: None). (1 C). MNTC: CT, HA. Offered: Fall, Spring.

MUSC 1321 AİRES Variety of choral and performance style is the predominant feature of the ensemble including vocal jazz, show, choral and chamber. Extensive work with choreography and public performance make this ensemble “performance intensive”. Music expression, stage presence, audience dynamics and singing technique are stressed. (Prerequisites: None). (1 C). MNTC: CT, HA. Offered: Fall, Spring.

MUSC 1322 Jazz Band Rehearsal and performance of Jazz ensemble music. Musical expression, nuance, style and performance technique are stressed. Performance and audience dynamics as part of the human and humane nature of music are gathered through many varied public performances. (Prerequisites: None). (2 C). Offered: Fall, Spring.

MUSC 1331 Vocal Ensemble Rehearsal and performance of ensemble music of different periods and styles. (Prerequisites: None). (1 C). MNTC: CT, HA. Offered: Fall, Spring.

MUSC 1332 Instrumental Ensemble Students are asked to demonstrate an understanding of music’s role in society present and past. Philosophies are expected to include global, inclusive and personality specific dimensions. (Prerequisites: None). (2 C). MNTC: CT, HA. Offered: Fall, Spring.

MUSC 1401 Class Piano Basic knowledge of piano technique will include note reading in both Treble and Bass clef, with emphasis on rhythmic reading; playing and transposing simple pieces in the keys of CFGDAE; and harmonizing with tonic and dominant 7th chords. (Prerequisites: None). (2 C). MNTC: CT, HA. Offered: Fall, Spring.
**MUSC 1402 Class Piano**
Basic knowledge of piano technique will continue with expanded note and rhythm reading; playing and harmonizing in the keys of D-Flat, A-Flat, A-Flat, B-Flat, B, and F#; transposing and harmonizing activities are continued; easy classical pieces are explored; chord progressions, triads and inversions, and arpeggios are presented. (Prerequisites: MUSC 1401 or consent of instructor). (2 C). MNTC: CT, HA. Offered: Spring.

**MUSC 1421 Class Voice**
Group instruction in the fundamentals of correct vocal production, breathing, breath management, posture, vocal health, and stage presence. This class should be of special interest to students who are planning to teach music classes at any level as it will give them the opportunity for greater understanding and development of their voices and how to teach others these concepts. (Prerequisites: None). (2 C). MNTC: CT, HA. Offered: Fall, Spring.

**MUSC 1450 Applied Music - Vocal**
Individualized voice lessons cover from basic to advanced vocal technique and performance practices for all voice ranges from qualified instructors. (Prerequisites: None). (1 C). MNTC: CT, HA. Offered: Fall, Spring, Summer.

**MUSC 1460 Applied Music - Instrumental**
Individualized instruction on all major instruments from qualified music instructors. Students of all ability levels are welcome. Will cover basics to advanced technique and performance practice. (Prerequisites: None). (1 C). MNTC: CT, HA. Offered: Fall, Spring, Summer.

**MUSC 1501 Music Theory I**
This course is the first class in a four-semester sequence required for all music majors and minors. The course begins with a review of basic music fundamentals, including: properties of sound; music notation, scales and modes; intervals; chord quality and function; seventh chords and their inversions. This course is designed to work in conjunction with MUSC 1502, Sight Singing and Ear Training. (3 C). MNTC: CT, HA. Offered: Fall.

**MUSC 1502 Music Theory II**
This course is the second class in a four-semester sequence required for all music majors and minors. The course continues from MUSC 1501. Topics covered will include: four-part voice leading, harmonic progressions, dominant seventh chords and leading-tone seventh chords, non-dominant seventh chords, modulations, secondary dominants and leading-tone chords, binary and ternary form, and music composition applications. This course is designed to work in conjunction with MUSC 1522, Sight Singing and Ear Training II. (Prerequisites: MUSC 1501 or consent of instructor). (3 C). MNTC: CT, HA. Offered: Spring.

**MUSC 1521 Sight-Singing and Ear-Training I**
This course is the first class in a four-semester sequence required for all music majors and minors. The course is designed to improve sight singing and writing of music after hearing it (dictation). Sight singing and dictation will include: basic rhythm; intervals; and melodic recognition. The treble and bass clef will be the only clefs used. This course is designed to work in conjunction with Music Theory I, MUSC 1501. (2 C). MNTC: CT, HA. Offered: Fall.

**MUSC 1522 Sight-Singing and Ear-Training II**
This course is the second class in a four-semester sequence required for all music majors and minors. The course is designed to improve sight singing and writing of music after hearing it (dictation). This course is designed to work in conjunction with Music Theory II (MUSC 1502). (Prerequisites: MUSC 1521 or consent of instructor). (2 C). MNTC: CT, HA. Offered: Spring.

**MUSC 1601 Electronic Music Synthesis I**
This course is a “hands-on” introduction to the world of contemporary electronic music. The relationship between computer, software, and electronic instruments will be investigated by the student. Basic MIDI concepts and applications, studio recording concepts, multi-track recording, digital editing, and digital processing will be investigated by the student. The student will be presented with and practice the use of numerous software and hardware packages in the multi-station electronic music lab. The student will then be given individual lab time in either studio A or B electronic music studio where the student will create music compositions and audio projects. (Prerequisites: None). (2 C). MNTC: CT, HA. Offered: Fall.

**MUSC 1602 Electronic Music Synthesis II**
This course is the second of a two part “hands-on” introduction to the world of contemporary electronic music. The relationship between computer, software, and electronic instruments will be investigated by the student. This course will continue with use of concept investigated in the first course. Additional areas will include: writing music and data CDs; creation of sound and music for video productions, basic Quicktime video editing and production. The student will be presented and practice the use of numerous software and hardware packages in the multi-station electronic music lab. The student will then be given individual lab time in production studio A where the student will create music and audio/video projects. (Prerequisites: MUSC 1601). (2 C). MNTC: CT, HA. Offered: Spring.

**MUSC 1621 Audio Production I**
This course is the first of a two part “hands-on” introduction to the world of contemporary music recording technology. This course is a core-curriculum course for the “Digital Arts” program as well as for potential transfer students wishing to attain a Bachelor of Music-Recording Engineering degree. The student will learn basic terminology and practice of contemporary recording theory and practice. The student will be given individual lab time for production practice in Studio A or B. (Prerequisites: None). (2 C). MNTC: CT, HA. Offered: Fall.
MUSC 1622  Audio Production II
This is a continued course, which will familiarize students with the fundamentals of recording studio sound engineering. This course will emphasize the understanding of sound and acoustics; microphone design, construction and placement; and equalization and its application and its aesthetic treatment. This course will include some hands-on experience in the recording studios on campus and final preparation for potential internship in an area recording studio. (Prerequisites: Successful completion of MUSC 1127). (2 C). Offered: Spring.

MUSC 2501  Music Theory III
This course is the third class in a four-semester sequence required for all music majors and minors. The course continues from MUSC 1502. Topics covered will include: polyphony of the late Renaissance, Eighteenth Century two-voice counterpoint and composition, the fugue, chromatic harmony, borrowed chords, Neapolitan-sixth chords, augmented-sixth chords, variation techniques, sonata form, and the Rondo forms. This course is designed to work in conjunction with Sight Singing and Ear Training III, (MUSC 2521). (Prerequisites: MUSC 1501, 1502). (3 C). MNTC: CT, HA. Offered: Fall.

MUSC 2502  Music Theory IV
This course is the fourth class in a four-semester sequence required for all music majors and minors. The course continues from MUSC 2501. Topics covered will include: chords; chromatic mediant; Nineteenth and Twentieth century theory and composition practice including: harmonic practices of the Romantic, Impressionistic, and Contemporary Periods. This course is designed to work in conjunction with Sight Singing and Ear Training IV, MUSC 2522. (Prerequisites: MUSC 2501). (3 C). MNTC: CT, HA. Offered: Spring.

MUSC 2521  Sight-Singing and Ear-Training III
This course is the third class in a four-semester sequence required for all music majors and minors. The course is designed to improve sight singing and writing of music after hearing it (dictation). This course is designed to work in conjunction with Music Theory III (MUSC 2502). (Prerequisites: MUSC 1521, 1522, or consent of instructor). (2 C). MNTC: CT, HA. Offered: Fall.

MUSC 2522  Sight-Singing and Ear-Training IV
This course is a four-semester sequence required for all music majors and minors. The course is designed to improve sight singing and writing of music after hearing it (dictation). This course is designed to work in conjunction with Music Theory IV (MUSC 2502). (Prerequisites: MUSC 1521, 1522, 2521). (2 C). MNTC: CT, HA. Offered: Spring.

NETWORKING SPECIALIST

NETW 1060  Cisco Networking Academies I
This course is the first course of a four course series. The four courses are designed to teach students the skills needed to design, build, and maintain small to medium-size networks. This provides them with the opportunity to enter the workforce and/or further their education and training in the computer field. (Prerequisites: None). (4 C). Offered: Fall, Spring.

NETW 2065  Cisco Networking Academies II
This course is the second course of a four course series. The four courses are designed to teach students the skills needed to design, build, and maintain small to medium-size networks. This provides them with the opportunity to enter the workforce and/or further their education and training in the computer field. (Prerequisites: None). (4 C). Offered: Fall, Spring.

NETW 2060  Cisco Networking Academies III
This course is the third course of a four course series. The four courses are designed to teach students the skills needed to design, build, and maintain small to medium-size networks. This provides them with the opportunity to enter the workforce and/or further their education and training in the computer field. (Prerequisites: None). (4 C). Offered: Fall, Spring.

NETW 2065  Cisco Networking Academies IV
This course is the fourth course of a four course series. The four courses are designed to teach students the skills needed to design, build, and maintain small to medium-size networks. This provides them with the opportunity to enter the workforce and/or further their education and training in the computer field. (Prerequisites: None). (4 C). Offered: Fall, Spring.

NURSING

NURS 1117  Fundamentals of Nursing
This course introduces the student to the profession of nursing and stresses the role of the registered nurse as provider and manager of health care. An introduction to Maslow’s Hierarchy of Basic Human Needs and the fundamental skills used to meet these needs are presented. Nursing process is utilized to assess health needs and individualize patient care. The role of therapeutic communication in the nurse-patient relationship is stressed. The student is introduced to alterations in basic human needs with an emphasis on musculoskeletal deficits and care of the elderly. Perioperative nursing care with management of intravenous fluids, pain, and infection is stressed. Oral and parenteral medication administration with relevant pharmacology is introduced. Spiritual and cultural needs are addressed. (Prerequisites: Admission into the nursing program. Previous or concurrent registration in BIOL 1217, CHEM 1117, ENGL 1117 or ENGL 1917. CPR*) A grade of C is required. (6C/3 lect, 9 lab) Offered: Fall and Spring.

NURS 1118  Adult Nursing I
This course provides an overview of nursing care for adults with cardiac, hematology, respiratory, and integumentary health problems. The course also discusses nursing care for adults with altered immunity, cancer, and diabetes mellitus. The course has three hours of lecture per week. The students also attend one clinical laboratory and one college laboratory period per week. Prior to each clinical experience the student prepares by developing an individual plan of care for their assigned patient. In addition the student must complete an elderly assessment and teaching project. LPNs who graduated from an LPN program before 1983 are required to meet the Minnesota Board of Nursing Abilities that are evaluated in N1117: to be arranged. (Prerequisites: Satisfactory completion of Semester I requirements as identified in the ADN program sequence. Previous or concurrent registration in BIOL 1218, BIOL 2021, PSYC 2626, CPR*. A grade of C is required.) (6C/3 lect, 9 lab) Offered: Fall and Spring.
NURS 1120 Transition for LPNs
This course provides an overview of the RCTC ADN Nursing Program. The emphasis of lecture and discussion is on the RN role of assessment and planning nursing care for patients with multisystem needs and disorders. The assignments allow the student to apply the nursing process to selected patients in the acute care setting. The course has one and half hour of lecture a week and four acute care clinicals. The course builds on the LPN’s knowledge and experience and allows the student to explore the role of the RN. LPNs who graduated from an LPN program before 1983 are required to meet the Minnesota Board of Nursing Abilities that are evaluated in N1117 and N1118: to be arranged. (Prereq: Satisfactory completion of BIOL 1217, CHEM 1117, ENGL 1117 or ENGL 1917. Previous or concurrent registration in BIOL 1218, BIOL 2011, PSYC 2626. Current CPR*. Current LPN license.) (2C/1.5 lect, 1.5 lab) Offered: Fall and Spring.

NURS 2207 Maternal Newborn Nursing
This course is designed to help the student develop a comprehensive knowledge of the growth and development of families from conception of the fetus to maturation of the reproductive adult. It includes care of the mother and newborn and understanding of the needs of the entire family during the childbirth experience. The course reflects the concept that childbirth is a normal event which affects each family and its individual members in a unique way. It emphasizes the importance of each family’s interactions to the well being of its members and stresses health promotion through education that will enable women/families to meet their health care needs. (Prereq: Satisfactory completion of Semester II requirements as identified in the ADN program sequence. Previous or concurrent registration in SOC 1614 or SOC 1914 and HUM 1114. Concurrent registration in NURS 2217. CPR* A grade of C is required.) (3C/3 lect/8 lab: 1/2 semester. Family study to be arranged.) Offered: Fall and Spring.

NURS 2208 Mental Health Nursing
This course is designed to help students develop a comprehensive knowledge of psychiatric-mental health nursing. The course introduces students to various perspectives on mental health and mental illness and concepts related to effective communication in a mental health setting. Students will focus on increasing sensitivity to human behavior and effective communication by developing therapeutic use of self within the context of the therapeutic milieu. With involvement in the milieu of the psychiatric unit the student reflects on how one behavior affects other behaviors. Emphasis is placed on self-awareness, analysis of effective communication techniques, and the application of the nursing process in the care of psychiatric patients. Community mental health experience to be arranged. (Prereq: Satisfactory completion of Semester II requirements. Previous or concurrent registration in SOC 1614 or SOC 1914 and HUM 1114. Concurrent registration in NURS 2217. CPR*. A grade of C is required.) (3C/3 lect, 9 lab: 1/2 semester) Offered: Fall and Spring.

NURS 2209 Pediatric Nursing
This course is designed to help the student develop a comprehensive knowledge of the growth and development of all children. Pediatrics includes care of the well child and children with disabilities with emphasis on assessing the effects of illness and/or hospitalization on growth and development of the child and family. The concept throughout this course is that child and family health or disability relates to growth and development from infancy through adolescence. The course prepares the student to provide care to children with both acute and chronic illness. Communicable diseases, and congenital birth defects. Clinical experience is designed for application of theory to patient care. At the completion of this semester students are required to take the PRE-RN review examination. This is a computerized exam designed as a diagnostic instrument to assist nursing students structure their review prior to writing the NCLEX-RN. (Prereq: Satisfactory completion of semester III requirements as identified in the ADN program sequence. Previous or concurrent registration in SPCH 1114 or 1130. Concurrent registration in NURS 2218. CPR*. A grade of C is required.) (3C/3 lect, 9 lab: 1/2 semester.) Offered: Fall and Spring.

NURS 2217 Adult Nursing II
This course is designed to provide an overview of gerontological nursing, including RN roles in acute, long term, and community based settings. Standards of nursing care are defined for adults with chronic and terminal illness as well as health problems related to neurological, sensory, gastrointestinal, hepatic, biliary, renal and reproductive systems. (Prereq: Satisfactory completion of semester II requirements as identified in the ADN program sequence. Previous or concurrent registration in SOC 1614 or SOC 1914 and HUM 1114. Concurrent registration in NURS 2207 and NURS 2208. CPR*. A grade of C is required.) (5C/2 lect, 9 lab) Offered: Fall and Spring.

NURS 2218 Advanced Concepts in Nursing
This course provides an overview of the nursing care for critically ill patients. Principles of nursing management of patients with endocrine disorders, multisystem organ dysfunction, and common emergencies including trauma and burns are examined. Organ donation/transplant issues and nursing implications are discussed. Ethical considerations and priority nursing interventions are applied to course content. Each student has one acute care clinical laboratory period a week. Students will have an opportunity to observe in a critical care and/or emergency care setting to correlate RN roles and health team collaboration in meeting priority patient health needs. (Prereq: Satisfactory completion of Semester III requirements as identified in the ADN program course sequence. Previous or concurrent registration in SPCH 1114 or 1130. Concurrent registration in NURS 2209. CPR*. A grade of C is required.) (3C/3 lect, 9 lab: 1/2 semester.) Offered: Fall and Spring.
NURS 2219 Leadership and Management in Nursing
This course is a study of nursing leadership and management. Students learn to assign, supervise, and evaluate nursing care for a group of patients by leading a group of nursing peers. Students provide comprehensive care to multiple patients including discharge planning to assist in the role transition to a beginning staff nurse. Course content also includes current trends in health care delivery systems and the implications for nursing. Students complete a research paper on a community health problem which effects individual health and develop a plan to modify the problem. At the completion of this semester, students are required to take the PRE-RN review examination. This is a computerized exam designed as a diagnostic instrument to assist nursing students structure their review prior to writing the NCLEX-RN. The student will have a four hour observation experience in a community-based setting to correlate RN roles and health team collaboration in meeting patient health needs. (Prereq: Satisfactory completion of Semester III requirements as identified in the ADN program sequence. Previous or concurrent registration in SPCH 1114 or 1130. Concurrent registration in NURS 2220, CPR*. A grade of C is required.) (4C/2 lect, 18 lab/1/2 semester.) Offered: Fall and Spring.

NURS 2220 Professional Practice Issues
This course is designed to assist the student make an effective role transition from the nursing student to the graduate nurse. Students formulate a beginning personal philosophy of nursing that will guide their nursing practice and provide direction in setting career goals. A career planning unit introduces students to the employment seeking process in nursing. Additional course content includes defining nursing roles and responsibilities, levels of educational preparation, the concept of delegation, and legal and ethical issues pertaining to the discipline of nursing. (Prereq: Satisfactory completion of Semester III requirements as identified in the ADN program sequence. Previous or concurrent registration in SPCH 1114 or 1130. Concurrent registration in NURS 2219. A grade of C is required. CPR*) (1C/2 lect; 1/2 semester.) Offered: Fall and Spring.

*CPR  Students must complete a CPR course prior to beginning nursing program and must be current throughout the program. This course must be either the American Heart Association Course C or Red Cross Basic Life Support Course (Adult one- and two-person, and infant and child).

NURSING ASSISTANT

NA 1600 Nursing Assistant/Home-Health Aide Theory  This 64-hour course introduces the concepts of basic needs and basic nursing skills in the long-term care and/or home care environment. Skills are taught in a simulated laboratory setting utilizing demonstration of skills and guided practice. Performance mastery of skills is emphasized. The student must successfully complete this class to participate in the clinical component. This course meets the Federal OBRA law and Minnesota Department of Health requirements for educating the Nursing Assistant/Home-Health Aide. It is part of the Human Services Technician and Surgical Technologist programs. It is a prerequisite for Hospital Nursing Assistant and Practical Nursing. (Prerequisites: None). (3 C/2 lect, 1 lab, 0 OJT) Offered: Fall, Spring, Summer.

NA 1601 Nursing Assistant/Home-Health Aide Clinical
In meeting Federal OBRA regulations and Minnesota Department of Health Guidelines this clinical will give the student actual experience in the long-term care facility. The student will perform tasks necessary to meeting the basic needs of the resident. Upon completion of this class and its prerequisite the student will be eligible to complete the State Nursing Assistant/ Home-Health Aide Competency Evaluation which is necessary for employment in long-term care facilities and home health agencies. (Prerequisites: NA1600) (1 C/0 lect, 1 lab) Offered: Fall, Spring, Summer.

NA 1602 Hospital Nursing Assistant
This course will give the student who has completed a 75-hour Nursing Assistant program the knowledge and skills necessary for employment in a hospital or other acute care setting. The student will be provided with classroom and laboratory experience which will aid in preparation to care for the acutely or chronically ill patient. Actual experience in the hospital setting will be provided during clinical. (Prerequisites: CPR, NA 1600; NA 1601) (2 C/1 lect, 1 lab, 0 OJT) Offered: Fall, Spring, Summer.

NUTRITION

NUTR 1211 Principles of Nutrition
This course covers the composition of, the sources of, and the human requirements of carbohydrates, lipids, proteins, vitamins and minerals in the diet throughout the life-cycle. Metabolism of nutrients, energy balance and fluid and electrolyte balance will also be discussed. (Prerequisites: BIOL 1217 or BIOL 1220, one college chemistry course above CHEM 1101). (3 C). Offered: Fall, Spring, sometimes Summer.

PERSONAL LIFE

PL 1102 Self Esteem
Origins of one’s self esteem; impact of self talk; positive affirmations; value of realistic goal setting; impact of distorted and irrational thinking; features, characteristics and manifestations of perfectionism and procrastination; value of one’s support system; self evaluation. (Prerequisites: None). (1 C). Offered: Fall, Spring, Summer.

PL 1104 Stress Management
This course examines the positive and negative ramifications of stressors and practical interventions to manage stress more completely. Course content is designed to challenge students through awareness of the model of stress and use of various strategies to develop healthier coping skills. (Prerequisites: None). (1 C). Offered: Once per year or on demand.

PHARMACY TECHNICIAN

PHRM 1101 Orientation to Pharmacy Practice
An overview of the various responsibilities and functions of the pharmacy technician and how this is related to the role of the pharmacist will be introduced. Emphasis will be placed on the differences in the scope of the work responsibilities of the pharmacy technician in community based and institutional based pharmacies. Issues related to work performed by the technician, delegation by the pharmacist and skills needed for interaction with the client will be a part of this course. An overview of the drug approval process will also be presented. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT) Offered: Fall.
PHRM 1102 Pharmaceutics I
This course will begin exploring the actions, uses, and side effects of drugs and introduce the student to dosage forms, administration routes, and drug stability parameters. The basics required to interpret medication orders, and use specialized equipment will also be covered. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

PHRM 1103 Pharmacy Calculations
In this course, students will perform the basic mathematical calculations necessary for pharmaceutical calculations required for usual dosage determinations and solution preparation. The student will also be introduced to various calculations in specialty areas, such as pediatrics and critical care. (Prerequisites: MATH 0098). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

PHRM 1104 Pharmaceutics II
This course will begin exploring the actions, uses, and side effects of drugs and introduce the student to sterile product preparation and techniques to ensure quality of products and safety of personnel. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

PHRM 1105 Pharmacy Law and Ethics
Moral and ethical issues related to the role of the pharmacy technician will be covered. Delegation by the pharmacist and interactions with patients as related to legal and ethical issues will be discussed. Laws which govern medication dispensing, licensing requirements, and controlled substances will become familiar to the student. A grade of “C” is required. (Prerequisites: First semester program courses). (2 C/2 lect, 0 lab). Offered: Spring.

PHRM 1106 Pharmacy Management and Inventory Skills
This course provides the students with a working knowledge of the functions relating to drug purchasing and inventory control. The student will learn the usual technician functions associated with an institutional drug distribution system including the manipulative and record keeping functions. Major topics include: inventory and purchasing procedures and records, maintaining controlled substance records, inspection of nursing supplies, and physician order sheets and patient medication profiles. A grade of “C” is required. (Prerequisites: First semester program courses). (2 C/2 lect, 0 lab). Offered: Spring.

PHRM 1107 Compounding and Unit Dose Lab
This course introduces the student to the compounding of medications and packaging of unit dose medications. The student will gain “hands-on” experience in preparing these products. A grade of “C” is required. (Prerequisites: First semester program courses). (3 C/2 lect, 2 lab). Offered: Spring.

PHRM 1108 IV Admixture Lab
This course will introduce the student to the role and responsibilities of the pharmacy technician in working with intravenous drug admixture orders. The student will gain “hands-on” experience in preparing small and large volume parenterals. A grade of “C” is required. (Prerequisites: First semester program courses). (3 C/2 lect, 2 lab). Offered: Spring.

PHRM 1109 Outpatient Dispensing Laboratory
This course will provide a “hands-on” introduction to pharmacy equipment and procedures required to fill outpatient prescriptions. Skills will be learned by completing assigned tasks in the laboratory setting. A grade of “C” is required. (Prerequisites: First semester program courses). (3 C/2 lect, 2 lab). Offered: Fall.

PHRM 1194 Sterile Products Dispensing Externship
The student will participate in sterile products dispensing activities at an off campus pharmacy in order to develop skills by working under actual job conditions. A grade of “C” is required. (Prerequisites: All program courses or concurrent enrollments in PHRM 1195 and 1196). (2 C/0 lect, 2 lab). Offered: Summer.

PHRM 1195 Unit Dose Dispensing Externship
The student will participate in unit dose dispensing activities at an off campus pharmacy in order to develop skills by working under actual job conditions. A grade of “C” is required. (Prerequisites: All program courses or concurrent enrollments in PHRM 1194 and 1196). (2 C/0 lect, 2 lab). Offered: Summer.

PHRM 1196 Outpatient Dispensing Externship
The student will participate in outpatient dispensing activities at an off campus pharmacy in order to develop skills by working under actual job conditions. A grade of “C” is required. (Prerequisites: All program courses or concurrent enrollments in PHRM 1194 and 1195). (2 C/0 lect, 2 lab). Offered: Summer.

PHIL 1114 Introduction to Philosophy
This course is designed to introduce students to main fields of investigation of the problems of philosophy. Study will include principal methods and schools of philosophy and historical and contemporary views. With the goal of expanding students knowledge of the human condition and human cultures, especially in relation to behavior, ideas, and values expressed in works of philosophy. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, EC. Offered: Fall, Spring, possibly Summer.

PHIL 1125 Ethics
Examination of problems that arise when human beings attempt to think systematically about conduct and values. The course will include a survey of historical views about the right and the good. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, EC. Offered: Fall, Spring.

PHIL 1145 Logic
A study of the differences between logical and fallacious reasoning, functions and use of language, rules of good definition, and sound argument. To expand the method of natural deduction, the emphasis is on applying deductive rules to construct valid arguments, especially ones drawn from ordinary language, and on using decision procedures for detecting the presence or the absence of logical properties. (Prerequisites: None). (3 C/3 lect, 0 lab). Offered: Spring.
PHIL 2971-2972 Philosophical Problems: Honors
This course is designed to offer the philosophy student an opportunity to pursue philosophical problems. Specific course topics will vary (examples: the concepts of freedom, virtue, or reality; the nature of truth or goodness; utopia/dystopia). Course may be retaken if the content is different. Primary readings and discussion-oriented. (Prerequisites: Recommended ASAP scores of 33 in reading and writing; and PHIL 1114 or permission of instructor). (3 C/3 lect, 0 lab). MNTC: CT, HA, EC. Offered: Usually Spring.

PHYSICAL EDUCATION

PHED 1100 Badminton
Designed to acquaint students with the game of badminton. Studies will be made of the proper techniques used in playing the game of badminton, i.e., serves, drives, clears, smashes, drops. Some emphasis will be placed on singles and doubles game strategies. The course will also include game and tournament play. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1101 Canoeing
This course in recreational canoeing allows students to experience both lake and whitewater canoeing. Students will learn the fundamentals of canoeing: proper stroke technique, situation water reading, current equipment, water safety, and river rescue. (Prerequisites: None). (1 C). Offered: Spring, Summer.

PHED 1103 Social Dance
This course provides the opportunity to develop physical skills in the performance of a number of social/ballroom dances as well as an appreciation for the art and skill of social dance. The dances will include the fox-trot, waltz, lindy, cha-cha, and two-step, as well as several contemporary line dances. (Prerequisites: None). (1 C). Offered: Spring, Summer.

PHED 1105 Lifetime Fitness
Lifetime fitness provides contemporary information concerning the beneficial effects of a healthy lifestyle and how to implement and live such a lifestyle. It also includes laboratory inventories that help to assess an individuals current health lifestyle and provide guidelines for modifications and change. (Prerequisites: None). (3 C/2 lect, 2 lab). Offered: Fall, Spring.

PHED 1106 Soccer
This course is intended to introduce the student to the basic and intermediate aspects of soccer. Through instruction, demonstration, practice and play the student will learn the skills, rules, and strategies involved in the game of soccer. It will also cover some of the basic aspects of conditioning, fitness and the benefits of exercise. Time will be spent working in groups and developing teamwork. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1107 Cycling (Non-motorized)
The student will learn the basic rules of operation of the bicycle, rules of the road, and how to properly care for equipment. It is expected that the student will realize the value of cycling in achieving physical fitness and will be encouraged to have a carry-over interest in cycling. (Prerequisites: None). (1 C). Offered: Fall, Spring, Summer.

PHED 1110 Bowling
This course is intended to teach students how to bowl using the spot bowl system. Students will learn how to keep score and select appropriate equipment. (Prerequisites: None). (1 C). Offered: Fall, Spring, Summer.

PHED 1111 Archery
This course is designed to teach students the history of archery, terminology and skills useful for a lifetime activity. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1112 Jogging/Walking
This course is designed to introduce the student to various aspects of jogging and walking activities. Topics to be covered include but are not limited to stretching, form, fitness principles, and proper equipment needed for jogging and fitness walking. The course will help students to develop lifelong fitness programs by developing and understanding aerobic principles, cardiovascular conditioning, nutrition and performance enhancement. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1114 Softball
Physical education activity course offering instructions on skill development, playing strategy, scoring, and rules applicable to slow pitch softball. (Prerequisites: None). Offered: Fall.

PHED 1115 Volleyball
This course is intended to introduce the student to all aspects of power volleyball. Through instruction, practice and play the student will learn the skills, rules and strategies involved in the game of power volleyball. It will also cover some of the basic aspects of conditioning, fitness and the benefits of exercise. Students will learn the importance of teamwork and working in groups. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1117 Swimming
Physical education activity course designed to educate the novice swimmer with demonstrated knowledge of basic water safety and current rescue techniques. Instruction will be given in a variety of swimming strokes along with analysis and endurance swimming involving the various strokes. (Prerequisites: None). (1 C). Offered: Spring - alternate years.

PHED 1119 Aerobic Dance
An aerobic exercise program done to music. Classes are designed to include a warm-up, an aerobic (high and low impact) workout, muscle toning and a cool-down. (Prerequisites: None). (1 C). Offered: Fall, Spring, Summer.

PHED 1122 Circuit Training
This course is designed to teach students techniques in weight training, in both free weights and machines, and cardiovascular endurance activities. The student will also be exposed to basic anatomy/physiology principles regarding warm-up, stretching and body musculature. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1126 Step Aerobics
An aerobic exercise class that uses a 4” - 10” step bench. Each class will include a warm-up, a step segment, muscle toning and a cool-down. (Prerequisites: None). (1 C). Offered: Fall, Spring.
PHED 1127 Body Toning
An exercise program designed to increase your muscle tone, strength and flexibility. Dyna bands, hand weights and exercise bars are used to add resistance. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1130 Tennis
This course is designed to cover the basic fundamentals of tennis and to develop an appreciation for the game. It will also cover some of the basic aspects of fitness. (Prerequisites: None). (1 C). Offered: Fall, Summer.

PHED 1131 Golf
This course is designed to introduce the student to the grip, stance and swing used in golf. The class is divided between skill development, the rules of the game and course management during a round of golf. (Prerequisites: None). (1 C). Offered: Fall, Spring, Summer.

PHED 1138 Outdoor Winter Activities
This course is designed to introduce the student to a wide variety of winter activities, i.e. cross country skiing, downhill skiing, snow shoeing, ice skating, boot hockey, broom ball, ice fishing, and winter jogging. (Prerequisites: None). (1 C). Offered: Spring.

PHED 1141 Hiking/Orienteering
Orienteering is the use of map and compass. Hiking is a long walk. This class is designed to allow use of map and compass and as a leisure activity and an enjoyable means to physical fitness. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1143 Self-Defense
This course is designed to provide the student with a variety of practical skills necessary to escape a physical attack. Special tactics such as throws, kicks, falls, submission holds and counter moves are taught. Students are taught how to get away from potentially dangerous situations safely. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 1144 Introduction to Scuba
This course includes the basics of enjoyable safe diving taught through academic training, and confined and open water diving sessions. Successful completion of all of the elements of the course earns an PADI (Professional Association of Dive Instructors) Open Water certification. The course is divided into two parts, the academic and pool practice sessions, and the open water dives at an area lake. (Prerequisites: None). (1 C). Offered: Spring.

PHED 2210-2236 Varsity Athletics
All courses are one credit. Participation is limited to varsity athletes. Daily practice and attendance at scheduled events are required. (Prerequisites: None). (1 C). Offered: Fall, Spring.

PHED 2250 Prevention and Care of Athletic Injuries
This course will give you the knowledge and the practical experience to identify, treat, rehab, and prevent many common injuries that occur in athletic settings. (Prerequisites: None). (2 C). Offered: Fall, Spring.

PHED 2270 Introduction to Physical Education
The course is designed to introduce the student to professional fields of physical education. Study will include history, philosophy, objectives, career opportunities, scientific and scholarly disciplines, allied fields, future problems and prospects. (Prerequisites: None). (2 C). Offered: Spring.

PHED 2294 Physical Education Internship
On the job supervised work experience in the field of HPER. (Prerequisites: Physical Ed or REC major or minors and consent of instructor). (2-3 C). Offered: Fall, Spring.

PHYSICS

PHYS 1101 Elements of Physics
This course is a non-mathematical introduction to physics for the non-science major. The course covers topics that include units and measurement, linear motion, Newton’s laws of motion, work and energy, temperature and heat, heat transfer, specific heat and latent heat, waves, sound, reflection and refraction, mirrors and lenses, color theory, electrostatics, electricity, magnetism and magnetic induction. In the laboratory, we will cover topics in experimentation that include data taking, graphing, use of scientific instruments and simple error analysis. (Prerequisites: None). (3 C/2 lect, 2 lab). MNTC: CT, NS. Offered: Fall, Spring.

PHYS 1102 Physics for the Health Sciences
A one-semester course that provides a broad scope of physics with detailed applications directed toward the needs of students in allied health programs. Pertinent applications to biological and physiological problems will make these principles more useful as professional tools. In the laboratory, we will cover topics in experimentation that include data taking, graphing, use of scientific instruments and simple error analysis. (Prerequisites: MATH 0099 and enrollment in an Allied Health program at RCTC/Mayo Clinic or permission of the instructor). (3 C/2 lect, 2 lab). Offered: Fall.

PHYS 1107 Technical Physics I
This course is an algebra-based introduction to physics for students in the following programs: Electronics Engineering Technology, Civil Engineering Technology and Mechanical Engineering Technology. The course covers topics from mechanics that include linear and parabolic motion, Newton’s Laws of motion, energy, momentum, angular motion, torque, stress, strain and simple machines. This course also includes topics in fluids, periodic motion and waves and sound. Emphasis will be on both concepts and problem solving. The laboratory will emphasize topics in experimentation that include data, experimental graphing, curve fitting, accuracy, precision, significant figures, estimation, error analysis, equipment use, the scientific method and technical writing. (Prerequisites: MATH 1101 and 1102; and enrollment in MATH 1104). (4 C/3 lect, 2 lab). Offered: Spring.
PHYS 1107 Introductory Physics I
This course is the first semester of a two-semester algebra-based introduction to physics for students majoring in pre-architecture, pre-agriculture, forestry, pre-physical therapy, pre-home economics, pre-medical technology, liberal arts, pre-dentistry, pre-pharmacy and pre-veterinary medicine. The course covers topics from mechanics that include linear and parabolic motion, Newton’s Laws of motion, energy, momentum, angular motion and torque, fluid mechanics, periodic motion, waves and sound. Emphasis will be on both concepts and problem solving. The laboratory will emphasize topics in experimentation that include data analysis and elementary statistics, experimental graphing, curve fitting, accuracy, precision, significant figures, estimation, error analysis, equipment use, the scientific method and technical writing. (Prerequisites: MATH 1117). (5 C/4 lect, 2 lab). MNTC: CT, NS. Offered: Fall.

PHYS 1108 Technical Physics II
This course is an algebra-based introduction to physics for students in the following programs: Electronics Engineering Technology, Civil Engineering Technology and Mechanical Engineering Technology. This course covers topics in thermodynamics, electrostatics, DC and AC circuits, magnetism, optics and nuclear physics. The laboratory deals with topics in experimentation that include data analysis, experimental graphing, curve fitting, accuracy, precision, significant figures, estimation, the difference between random and systematic errors, equipment use, the scientific method and technical writing. (Prerequisites: PHYS 1107 or permission of instructor). (4 C/3 lect, 2 lab). Offered: Spring.

PHYS 1117 Introductory Physics I
This course is the first semester of a two-semester algebra-based introduction to physics for students majoring in pre-architecture, pre-agriculture, forestry, pre-physical therapy, pre-home economics, pre-medical technology, liberal arts, pre-dentistry, pre-pharmacy and pre-veterinary medicine. The course covers topics from mechanics that include linear and parabolic motion, Newton’s Laws of motion, energy, momentum, angular motion and torque, fluid mechanics, periodic motion, waves and sound. Emphasis will be on both concepts and problem solving. The laboratory will emphasize topics in experimentation that include data analysis and elementary statistics, experimental graphing, curve fitting, accuracy, precision, significant figures, estimation, error analysis, equipment use, the scientific method and technical writing. (Prerequisites: MATH 1117). (5 C/4 lect, 2 lab). MNTC: CT, NS. Offered: Fall.

PHYS 1118 Introductory Physics II
This course is an algebra-based introduction of physics for students majoring in pre-architecture, pre-agriculture, forestry, pre-physical therapy, pre-home economics, pre-medical technology, liberal arts, pre-dentistry, pre-pharmacy and pre-veterinary medicine. The course covers topics from mechanics that include linear and parabolic motion, Newton’s Laws of motion, energy, momentum, angular motion and torque, fluid mechanics, periodic motion, waves and sound. Emphasis will be on both concepts and problem solving. The laboratory will emphasize topics in experimentation that include data analysis and elementary statistics, experimental graphing, curve fitting, accuracy, precision, significant figures, estimation, error analysis, equipment use, the scientific method and technical writing. (Prerequisites: PHYS 1117). (5 C/4 lect, 2 lab). MNTC: CT, NS. Offered: Spring.

PHYS 1127 Classical Physics I (Mechanics, Fluids & Gases)
This course is the study of the general principles of classical physics using the technique of vector calculus. The course uses the principles of vectors extensively. The fundamental definitions of physics are derived and physical phenomenon that relate these principles to applications that are part of our human experience are studied. Fundamental units of measure are studied and the laws of physics are derived. The techniques of problem solving are studied and the student will learn the use of the free body diagram in problem solutions. The student is expected to gain an expertise in solving multi-conceptual problems using the techniques studied here with the application of vector calculus. The laboratory experience will provide the student with opportunities of discovery, measurement, report writing and data analysis. The course is intended to be a lower division course for those majoring in physics, engineering, medicine and computer science. The topics emphasized are vectors, motion in one and multi-dimensional frames, particle dynamics, work and energy, conservation of momentum, rotational motion, rigid bodies, extended bodies, simple harmonic motion, gravitation and relativity, waves, temperature, heat, the first law of thermo dynamics, entropy and the second law of thermo dynamics. (Prerequisites: MATH 1127 or concurrent enrollment in MATH 1127). (5 C/5 lect, 2 lab). MNTC: CT, NS. Offered: Fall.

PHYS 1128 Classical Physics II (Electricity, Magnetism & Optics)
This course is the study of the general principles of classical physics using the technique of vector calculus. The course uses the principles of vectors extensively. The fundamental definitions of physics are derived and physical phenomenon that relate these principles to applications that are part of our human experience are studied. Fundamental units of measure are studied and the laws of physics are derived. The techniques of problem solving are studied and the student will learn the use of the free body diagram in problem solutions. The student is expected to gain an expertise in solving multi-conceptual problems using the techniques studied here with the application of vector calculus. The laboratory experience will provide the student with opportunities of discovery, measurement, report writing and data analysis. The course is intended to be a lower division course for those majoring in physics, engineering and computer science. The topics emphasized are magnetic fields, electric charge, electric field, electric potential, Kirchhoff’s Laws, emf and simple electrical circuits and techniques for their analysis, Ampere’s Law, Faraday’s Law, inductance, AC circuits, magnetic properties of matter, electromagnetic waves, Maxwell’s equations, Poynting Vector, physical optics, interference, diffraction gratings, electromagnetic spectrum, waves and the wave equation. (Prerequisites: PHYS 1127 and MATH 1128 or concurrent enrollment in 1128). (5 C/5 lect, 2 lab). MNTC: CT, NS. Offered: Spring.

PHYS 2202 Radiation Physics
This course is the study of the physics of radiology. The course topics include a history of the discovery of x-radiation, systems of measurement, mechanics, heat, and energy. Atomic structure and essential elements in radiology are included. The student will recognize and apply the concepts of electrostatics and electromagnetism to the production of x-radiation. The structure and function of the x-ray tube and electric circuits will be studied in detail. (Prerequisites: PHYS 1102; admission to Radiography Program). Offered: Summer.
PHYS 2212 Principles of Radiographic Exposure
Principles of exposure begins with x-ray production. Emission Spectrum from tungsten and molybdenum targets are described. Interactions of radiation with matter, dose and the radiologic image are presented. The effect of scattered and secondary radiation on image quality and methods of control are included. Image receptors (film/screen) are discussed in terms of structure, function, types, and uses. The role of the primary variables (kVp, time mA, and SID) in radiography is presented. Their effects on density, contrast, and visibility of detail are defined. Methods of exposure calculation for changes in the primary variables are reviewed. Systems for building workable technique charts are presented. (Prerequisites: PHYS 2202; admission to the Radiography Program). (3 C). Offered: Fall.

PHYS 2227 Modern Physics
The topics of physics which are studied in Modern Physics are: relativity, kinetic theory of matter, statistical thermo dynamics - Boltzman’s distribution, introduction to wave mechanics, the Schrodinger Equation, the Schrodinger equation applied to the hydrogen atom and the development of the atomic structure, molecular structure, solid state and nuclear structure. (Prerequisites: PHYS 1128, MATH 1128 and concurrent enrollment in MATH 2237). (3 C/3 lect, 0 lab). Offered: Fall.

POLITICAL SCIENCE
POLS 1617 American Government Theory, Principles, Process
Survey course of American Government with an emphasis on political theory and history, the constitution, civil liberties, and political process and participation. (Prerequisites: None). (3 C). MNTC: CT, SS, EC. Offered: Fall, Spring.

POLS 1618 American Government Structure - Domestic/Foreign Policy
Survey course of the operation of the Executive, Legislative, and Judicial branches of government with emphasis on domestic and foreign policy development, and an overview of state and local government. (Prerequisites: NONE). (3 C). MNTC: CT, SS, GP. Offered: Fall, Spring.

PRACTICAL NURSING
PNM 1106 Community Health Concepts
This course will introduce the student to the healthcare community including the different roles of caregivers and their contribution to the health and well being of the community. Discussions will focus on individual, family, and community health promotion and prevention. Related topics will include: basic nutrition, diet management, common infections, the health needs of special and diverse populations and accessibility of community health resources. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring, Summer.

PNM 1200 Clinical I
This course provides the beginning level of clinical experience. The student will have the opportunity to integrate classroom/lab learning with supervised client care experience. The student will implement the basic steps of the nursing process and utilize basic communication skills in planning and implementing routine personal care to one client; make observations of obvious client needs and perform specified abilities with instructor/staff guidance and supervision. (Prerequisites: All nursing foundation courses). (5 C/0 lect, 5 lab, 0 OJT). Offered: Fall.

PNM 1202 Nursing Skills and Concepts
This course introduces the student to basic skills, concepts, principles and expectations of the practical nurse. Topics will include the nursing process, communication skills, ethical/legal responsibilities, medical and surgical asepsis, medical documentation and basic nursing procedures. Nursing procedures will be taught by clinical simulation in a supervised lab setting utilizing the nursing process. After successful completion of skills in the lab setting, a clinical orientation in acute care and long-term care setting is included. (Prerequisites: GSCL 1102). (4 C/2 lect, 2 lab, 0 OJT). Offered: Fall.

PNM 1204 Care of the Older Adult
This course will cover the changing demographics and diversity of the aging population. Special topics will include biological theories of aging, physical/psychological changes, social, psychosexual and cognitive needs. Community services which are available to facilitate maximum health promotion will be researched. Aspects of losses and ethical dilemmas of the elderly are included. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

PNM 1206 Introduction to Pharmacology
This course includes a brief review of math concepts and methods for solving drug dosage problems. This course will also cover preparation, medication action/effects, drug classification and preparing and administering medication by all routes. Specific drug therapy will be incorporated into the appropriate nursing courses that follow. The nursing process is utilized to identify client needs related to medication administration. (Prerequisites: PNM 1202). (2 C/1 lect, 1 lab, 0 OJT). Offered: Fall.

PNM 1208 Family Nursing
Course material includes pregnancy, postpartum care and common disorders that affect infants and children. The obstetrical portion of the course presents the fundamental principles of labor and delivery and the nursing care of the family. The pediatrics portion of the course presents the fundamental principles of labor and delivery and the nursing care of the family. The pediatrics portion of the course presents physiological response of children to illness. Special needs of children who are mentally and physically delayed will be discussed. Cultural diversity and families feelings and responses in obstetrical and pediatric nursing care will also be discussed. (Prerequisites: GSCL 1102 and 1104). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

PNM 1300 Clinical II
This clinical course will provide students with second level experiences in the care of clients with medical surgical disorders, older adult, obstetrical, and pediatric patients. Students will implement basic steps of the nursing process more independently and utilize communication and planning skills more effectively in the total care of clients. Course objectives include medication administration, sterile procedures, specified nursing procedures, observational experiences, and documentation. A daily care plan is developed and implemented with staff and instructor guidance. (Prerequisites: PNM 1200). (6 C/0 lect, 6 lab, 0 OJT). Offered: Spring.
PSYC 1611  Psychology of Adjustment
The course emphasizes personal growth and human adjustment, including topics such as learning, conflict, frustration, motivation, stress, emotion, personality, psychopathology, and psychology of gender. (Prerequisites: College level reading, writing skills). (3 C). MNTC: CT, SS, PN. Offered: Fall, Spring, Summer.

PSYC 2611  Social Psychology
Relationship of the individual to the social environment emphasizing group influences on individual behavior. (Prerequisites: PSYC 1611). (3 C). MNTC: CT, SS, HD). Offered: Fall, Spring.

PSYC 2618  General Psychology
Analysis of human behavior, covering topics of psychological methods, mind and body, sensation, perception and motivation, learning, individual behavior, personality, mental illness and group behavior. (Prerequisites: College level reading, writing skills or consent of instructor). (4 C). MNTC: CT, SS, EC. Offered: Fall, Spring.

PSYC 2626  Human Growth & Development
A general course in human development, physical, cognitive, psychosocial; from conception through developmental stages to maturity and old age, with special stress on the psychological aspects of development. (Prerequisites: PSYC 1611 or 2618). (3 C). MNTC: CT, SS, HD. Offered: Fall, Spring, Summer.

RADIOGRAPHY

RADT 1131  Medical Terminology I
This course is the first of two comprehensive terminology courses that will prepare the student with a working knowledge of medical vocabulary. Medical terminology history, key elements that make up the medical words; prefixes, suffixes, and combining forms will be taught. The course will focus on radiology terminology through the use of radiographic review and presentations. (Prerequisites: Admission to the Radiography Program). (1 C). Offered: Fall.

RADT 1132  Medical Terminology II
This course is the second of two comprehensive terminology courses that will prepare the student with a working knowledge of medical vocabulary. Topics include combining forms, medical abbreviations, radiography exam abbreviations, professional credentials, medical symbols, body planes and regions, and advanced terms. The students will be expected to demonstrate an understanding of general medical words with an emphasis on radiology terms, fractures, diseases, and pathology. (Prerequisites: RADT 1131, Medical Terminology I). (1 C). Offered: Spring.

RADT 1140  Patient Care for Radiologic Technologists
This course is designed to help the radiologic technologist acquire the knowledge and skills necessary to fulfill the technical responsibilities of the radiologic examination while ensuring a safe, non-traumatic and caring experience for the patient. This course will stress communication skills as well as specific patient care techniques for carrying out examinations for patients of all ages. (Prerequisites: Admission to the Radiography Program). (2 C). Offered: Spring.

RECREATION

REC 2223  Outdoor Education and Recreation
A course developed to acquire an acquaintance and understanding of the history and scope of Outdoor Education and Recreation; special emphasis will be placed on practical application of outdoor education and recreational activities in the natural setting. (Prerequisites: None). (3 C). Offered: Spring.
RC 2294 Recreation Internship
On the job supervised work experience in the field of Recreation.
(Prerequisites: Recreation majors/minors or consent of instructor).
(2-3 C). Offered: Fall, Spring.

RESPIRATORY CARE

RC 1101 Orientation to Respiratory Care
The purpose of this course is to review the profession of respiratory care with an emphasis on the clinical roles/responsibilities and professional career options. Students will have the opportunity to review the subspecialties within respiratory care as well as the differences in settings, i.e. medical center, community hospital, home care, etc. Participants will be able to interview practicing therapists, physicians and current second-year students. The laboratory will allow demonstration of equipment used in the hospital setting, and application to simulated patients or fellow students. (Prerequisites: Freshman year). (1 C). Offered: Summer.

RC 2201 Introduction to Respiratory Care Clinical Practice
This course is designed to prepare students to begin clinical practice in respiratory care within a hospital setting. Laboratory will be used to allow students hands-on practice with the procedures, operate monitoring and life support equipment. Discussion, simulation and role playing will allow development to patient approach. (Prerequisites: Sophomore year). (3 C). Offered: Summer.

RC 2202 Mathematics and Physics Applied to Respiratory Care
Students review literal equations and other forms of algebra as they solve problems that relate to physiological relationships or equipment function. The second component of the course involves further study of physical relationships that have a physiological or physical/technical basis. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (2 C). Offered: Summer.

RC 2203 Patient Care Techniques for Respiratory Care
This course introduces students to the fundamental practice attitudes and skills needed by all health care providers, including respiratory care practitioners. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (2 C). Offered: Summer.

RC 2205 Medical Terminology and Informatics
Students will be introduced to the language of medicine. There will be emphasis on the terms, abbreviations, acronyms and symbols used in respiratory care, cardiopulmonary physiology and pathophysiology. The second part of the course will involve students in the acquisition, storage and manipulation of medical information using the computer. Students will be introduced to both the “paper” and computerized version of a patient’s chart. The computer will be used to: search the medical literature, access patient laboratory records and monitoring information as well as analyze data trends. Students will use the Mayo Medical Center Intranet and the internet to access information in respiratory care. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (1 C). Offered: Summer.

RC 2206 Respiratory Care Modalities & Equipment I
Students will become proficient in performing non-invasive monitoring and therapeutic procedures. Those procedures will include: medical gas therapy, humidity and aerosol therapy, bronchial drainage, and volume expansion therapy. Commonly prescribed aerosol medications will also be reviewed. Procedures will be discussed in context with national practice guidelines as to the scientific basis of: rational, limitations, hazards and complications, issues of asepsis and modification to adapt to patient needs. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (5 C). Offered: Fall.

RC 2208 Respiratory Care Modalities & Equipment II
Students will become proficient in performing non-invasive monitoring and therapeutic procedures. Those procedures will include: medical gas therapy, humidity and aerosol therapy, bronchial drainage, and volume expansion therapy. Commonly prescribed aerosol medications will also be reviewed. Procedures will be discussed in context with national practice guidelines as to the scientific basis of: rational, limitations, hazards and complications, issues of asepsis and modification to adapt to patient needs. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (5 C). Offered: Fall.

RC 2231 Respiratory Care Modalities and Equipment II
The first half of the course will provide students with a detailed study of the physiology cardiovascular and pulmonary systems. Once the normal function has been mastered, a review of adult, pediatric and perinatal pulmonary and cardiac disorders will be undertaken. There will be emphasis on: presenting assessment, laboratory evaluation, major pathology, pathophysiologic manifestations and treatment options. Lab will allow observation and measurement of normal and simulated abnormal cardiopulmonary physiology. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (5 C). Offered: Spring.

RC 2237 Clinical Practice I
During a 5 week period, students observe a wide range of direct respiratory care performed in a variety of clinical settings at the Mayo Medical Center. Students gain skills as they perform general floor care and non-intensive care procedures with the supervision of a clinical instructor. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (1 C). Offered: Summer.
RC 2238 Clinical Practice II
Students begin in a series of rotations including 18 different clinical areas at the Mayo Medical Center. Each rotation requires completion of specific competencies. Those areas include 9 intensive care units, the operating room, emergency room, general floor care areas, pulmonary function labs, sleep disorders center, smoking cessation clinic, pulmonary rehabilitation program, home care, and an outpatient clinic. Students will perform respiratory care procedures and diagnostic testing with the supervision of a clinical instructor. (Prerequisites: Appointment to Respiratory Care Program; Appointment to Respiratory Care Program; Sophomore year). (5 C). Offered: Fall.

RC 2239 Clinical Practice III
Students conclude a series of rotations including 18 different clinical areas at the Mayo Medical Center. Those areas include 9 intensive care units, the operating room, emergency room, general floor care areas, pulmonary function labs, sleep disorders center, smoking cessation clinic, pulmonary rehabilitation program, home care, and an outpatient clinic. Students will perform respiratory care procedures and diagnostic testing with the supervision of a clinical instructor. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (6 C). Offered: Spring.

RC 2240 Seminar in Respiratory Care: Current Topics and Case Reports
Students will attend weekly conferences and seminar to discuss topics on current interest and clinical importance in respiratory care. The use of the professional medical literature database and scientific approach to advances in medicine will be reviewed. Students and faculty will present updates on selected topics and review patient cases to develop critical thinking and problem solving skills. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (2 C). Offered: Fall.

RC 2241 Respiratory Care Seminar: Case Reports and Fundamentals of Research
Students will attend weekly conferences and seminar to discuss cases of clinical importance in respiratory care. The professional medical literature will be critically reviewed both from the standpoint of scientific method and clear writing style. Students will review patient cases with attention to events that required problem solving and critical thinking. Students will collaborate on a class research project leading to abstract submission. (Prerequisites: Appointment to Respiratory Care Program; Sophomore year). (2 C). Offered: Spring.

RETAIL MERCHANDISING
RMDS 1110 Introduction to Retail Merchandising
An introduction to the business of retail merchandising with an emphasis on men’s, women’s, and children’s apparel and accessories, as well as merchandise related to the home and office. A focus on merchandising and marketing activities at both wholesale and retail to include international business and trade issues. The economical, sociological, and psychological factors that influence buying patterns of consumers will be studied. Related careers will be examined. (Prerequisites: None). (3 C). Offered: Fall.

RMDS 1120 Visual Merchandising
A study of total visual presentation of merchandise to the consumer. Elements and principles of design are incorporated when analyzing and developing exterior and interior store windows and store layouts. The use of themes, mannequins, props, lighting, fixtures, and signage in the retail environment will be explored. A store plan will be developed which will include store layout, promotions, and advertising procedures to achieve marketing objectives. (Prerequisites: None). (3 C). Offered: Fall, Spring.

RMDS 1130 Textiles
The study of natural and man-made fibers analyzing: individual fiber characteristics, the processes these fibers undergo to become a yarn, fabric construction, dyeing, and the finishes applied. Government legislation and regulation, and current consumer issues researched. Knowledge provided to aid in the selection and care of apparel and interior fabrics. (Prerequisites: None). (3 C). Offered: Spring.

RMDS 1140 Professional Image in Business
A study of the factors involved in clothing selection emphasizing the business wardrobe for both men and women relative to the elements and principles of design. The development of a professional image will be explored through such topics as business etiquette, leadership and time management skills, communication skills, resume writing, and interviewing. (Prerequisites: None). (2 C). Offered: Fall, Spring.

RMDS 2210 National/International Retail Merchandising Study Tour
A study of the retail industry on a national/international basis, including lectures and discussion by that country’s leading retail people and tours of related retail and business environments. Tour costs to be provided by the students. Study tour will be to such industry centers as New York, Chicago, London, Paris, Hong Kong, and China. (Prerequisites: None). (1 C). Offered: Spring.

RMDS 2220 Home Furnishings Merchandising
Home Furnishings Merchandising by primary types of retail stores providing home furnishing product information in terms of features and benefits relevant to function, style, maintenance, materials, and construction. Career opportunities within the home furnishings industry will be explored. (Prerequisites: None). (2 C). Offered: Fall.

RMDS 2221 Interior Design
Historic American architecture and period furnishings will be studied along with the elements and principles of interior design. Materials and components used in both residential and non-residential interiors will be studied as well as code requirements, and an overview of computer technology as relative to interior design. Career opportunities, business procedures and the development of a professional portfolio will be discussed. This information will be applied to a project in residential design and a non-residential interiors project. (Prerequisites: None). (3 C). Offered: Spring.
**RMDS 2230 Showmanship and Promotion**
Application of the procedures involved in the promotion of retail merchandising with regard to oral and written promotional communication and publicity. Students will participate in the production of a professional fashion show and develop a retail merchandising promotional plan. (Prerequisites: None). (3 C). Offered: Fall.

**RMDS 2240 History of Costume**
Survey of costume beginning with ancient civilizations that contributed to the development of Western civilization to the year 2000. Analysis of American costume as it evolved from colonial to contemporary times with emphasis on aesthetic costume characteristic and the social, political, religious, and economic influences. Fashion as it reflects cultures and influences contemporary costume will be explored. (Prerequisites: None). (3 C). Offered: Spring.

**RMDS 2250 Store Management**
Development of management skills for retail stores of varying sizes as well as development of management skills for a variety of management levels within a retail company. Techniques to increase sales, hiring and maintaining a motivated staff, retaining staff, determining individual sales goals, and managing a store effectively will also be developed. (Prerequisites: None). (3 C). Offered: Spring.

**RMDS 2290 Retail Merchandising Seminar**
An examination of special topics of current interest to retail merchandising students. Guest lecturers from the retail merchandising industry are invited to share their background and knowledge. Students will participate in field trips to observe current practices and trends in retail. (Prerequisites: None). (1 C). Offered: Spring.

**RMDS 2294 Retail Merchandising Internship**
Work experience program designed to help retail merchandising students apply classroom information on the job. Designed to make the work experience a learning experience to the student will be able to advance into a management position. Students may enroll in this class more than once if the second internship provides a different experience than the first. Examples might include: a position with Walt Disney World, Florida; a different position with another type of retail company. (Prerequisites: None). (2 C). Offered: Fall, Spring.

**SECRETARIAL**
See Administrative Assistant/Legal, Medical Secretary, or Office Clerk

**SOCIOLOGY**

**SOC 1612 Sex and Gender in Society**
An introduction to both the biological and cultural aspects of human sexuality and gender in society. Lectures, readings, discussions, and films on sexual behavior, sexual development, conception and contraception, sexual dysfunction, deviant sexual behavior, variation, socialization, cultural influences and attitudes. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HD, SS. Offered: Fall, Spring.

**SOC 1614 Introduction to Sociology**
An introduction to the process of applying a sociological perspective to understanding the social world including patterns of behavior and interaction, culture, socialization, social structure, groups and organizations, social stratification, institutions and social change. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HD, SS. Offered: Fall, Spring, Summer.

**SOC 1914 Introduction to Sociology: Honors**
This is a survey course which focuses on learning and applying the sociological perspective to understanding the social world, including a basic introduction to such topics as culture, socialization, interaction, groups and organizations, deviance, social institutions, social movements, and social change. In this course, students will read, analyze and apply information related to at least three of the primary sociological theories. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, SS, GP. Offered: Yearly, usually Fall. (Honors equivalent to SOC 1614).

**SOC 1616 Social Problems**
A sociological analysis of the nature, causes and possible responses to a variety of contemporary and future American and global social problems including problems associated with individual and group deviance, inequality and exploitation, social change, institutional dysfunction and international and global conflict. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, EC, SS. Offered: Fall, Spring.

**SOC 2612 Marriage and the Family Across the Life Span**
Sociological analysis of historical and contemporary patterns and trends in family life over the family span including investigations of dating, spouse selection, marriage, marital adjustment, parenting, aging, death and dying, divorce and remarriage, and family dysfunction. (Prerequisites: SOC 1614 or SOC 1914). (3 C/3 lect, 0 lab). MNTC: CT, HD, SS. Offered: Fall, Spring.

**SOC 2625 Minority Group Relations**
This course examines the social interaction of racial, ethnic and cultural groups in the United States. Topics include prejudice, discrimination, class and caste, stereotyping, ethnocentrism, segregation, assimilation, amalgamation, conflict and various proposals for responding to minority status. A special emphasis on the effects of social institutions on minority-majority relations. (Prerequisites: SOC 1614 or SOC 1914). (3 C/3 lect, 0 lab). MNTC: CT, HD, SS. Offered: Fall, Spring.

**SOC 2630 Field Experience**
This course provides a field experience with a community social service agency. The students will be assigned a client and, under supervision, will identify the problem, goals and implement a plan in reaching goals. (Prerequisites: SOC 1614 or SOC 1914; or concurrent enrollment and consent of coordinator/instructor). (1-2 C). Offered: On request.
SPANISH

SPAN 1001 Introduction to Hispanic Cultures
A comparative study of Hispanic cultures and societies exploring geographical, historical, socio-economic, political and religious issues, as well as the regional customs and interpersonal relations of the Hispanic world. Because these courses are taught in English, it is particularly suitable for students who have never studied a foreign language. This class is strongly recommended for students who are taking foreign language (Spanish). (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HD, GP. Offered: Fall and Spring (with sufficient enrollment).

SPAN 1101 Beginning Spanish I
The Beginning Spanish series (a two semester sequence) is designed to offer basic training in the Spanish language with emphasis on pronunciation, coherent speaking, grammar, listening comprehension, writing and reading skills. The study of the language includes the cultural, geographical, linguistic and historical components that are an integral part of the vocabulary and syntax of Spanish. (Prerequisites: None). (4 C/4 lect, 0 lab). MNTC: CT, GP. Offered: Fall, Spring.

SPAN 1102 Beginning Spanish II
The second course in the Beginning Spanish series. Continuation of pronunciation, coherent speaking, grammar, listening comprehension, writing and reading skills. (The study of the language includes the cultural, geographical, linguistic and historical components that are an integral part of the vocabulary and syntax of Spanish). (Prerequisites: 2 years of High School Spanish; SPAN 1101 or equivalent). (4 C/4 lect, 0 lab). MNTC: CT, GP. Offered: Fall and Spring (with sufficient enrollment).

SPAN 1130 Introductory Medical Spanish
The unique circumstances for health care workers in providing effective treatment can often be difficult due to communication barriers. This course provides a basic background in conversational Spanish to allow medical health care personnel to improve communication with their Spanish-speaking patients. Although students will be advised on how to work with an interpreter, this beginning course does not train the health care professional to assume the role of an interpreter. (Prerequisites: None). (2 C/2 lect, 0 lab). MNTC: CT. Offered: Fall and Spring (with sufficient enrollment).

SPAN 2101 Intermediate Spanish I
The Intermediate Spanish series reviews the fundamentals of the Spanish language, including additional and more advanced material in listening comprehension, speaking, idiomatic usage of vocabulary, grammar and writing exercises and awareness of cultural differences, appropriateness and sensitivity. It develops oral proficiency in real life contexts that will give the students a deeper understanding of Hispanic/Latino cultures. (Prerequisites: SPAN 1102 or three years of high school with a grade of A or B and/or instructor’s permission). (4 C/4 lect, 0 lab). MNTC: HA, GP, CT. Offered: Fall (with sufficient enrollment).

SPAN 2102 Intermediate Spanish II
This course provides a comprehensive review of grammatical forms through listening, speaking, reading and writing. These skills are attained through conversational practice and are enhanced with a concurrent study of the civilization, culture, literature, and art of the Hispanic people. The student will gain a deep understanding of the language and its people and will be able to establish the differences between the Spanish and English speaking countries which impact international relations. (Prerequisites: SPAN 2101 or four years of high school Spanish with a grade of A or B and/or instructor’s permission). (4 C/4 lect, 0 lab). MNTC: CT, HA, GP. Offered: Spring (with sufficient enrollment).

SPAN 2111 Spanish Conversation
This course is designed to increase vocabulary and develop oral skills through systematically guided conversation and dialogue concerning such possible topics as daily life, family, hobbies/recreation, education systems, food, travel and current events. (Prerequisites: SPAN 1102 or equivalent (2 years of high school Spanish). (2 C/2 lect, 0 lab). Offered: Fall and Spring (with sufficient enrollment).

SPEECH

SPCH 1114 Fundamentals of Speech
Speech 1114 focuses on the theory and practice of oral communication skills which affect critical thinking, in public speaking situations with an emphasis on research. Topics may include using visual aids, how to effectively organize a speech in compliance with the speaker’s objective, an understanding of various organizational patterns, and the execution of competent vocal and physical delivery skills. (Prerequisites: College level reading/writing skills). (3 C/3 lect, 0 lab). MNTC: CT, CM. Offered: Fall, Spring, Summer.

SPCH 1121 Beginning Acting
Beginning Acting is designed to give the student an overview as well as some experience in the art and craft of acting through an analysis of performances, object and scene study, improvisation, body movement, rhythms and vocalizations in creating a role. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.

SPCH 1125 Oral Interpretation
Theory and practice in oral presentations with an emphasis on selection, cultural significance and study in individual and group readings from the world’s literature. (Prerequisites: SPCH 1114). (3 C/3 lect, 0 lab). MNTC: CT, HA. Offered: Spring.

SPCH 1130 Interpersonal Communication
Focus is on the theory and practice of communication skills which affect critical thinking, intercultural consciousness, empowerment, and day-to-day interaction with other persons. Topics may include using verbal and nonverbal symbols, interactive listening, resolving interpersonal conflict, developing and maintaining personal and professional relationships. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, HD. Offered: Fall, Spring.
**Course Descriptions**

**SPCH 1134 Theatre Appreciation**
This course is designed to help increase the awareness and understanding of a theatre production and the steps involved in preparing a play for performance. Some areas that will be dealt with include training and responsibility of the playwright, director, actor and designer as well as the historical and cultural significance of theatre including but not limited to Greek, German, British, Scandinavian, Russian, and American productions. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Fall, Spring.

**SPCH 1135 Stagecraft I**
Stagecraft I is designed to introduce the student to beginning set design and scenic construction and painting techniques. Some areas covered include developing a product from the script, style research and formulating a concept into a color rendering or model. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA. Offered: Fall, Spring.

**SPCH 2210 Field Experience in Intercultural Communication**
This course focuses on the theory and practice of communication skills. The course material and field experience will increase the student’s knowledge of different cultures, and improve their day-to-day interactions with people from diverse backgrounds. Students will travel abroad visiting many historical sites and interacting with the people of these countries. The overall goal of the course is to enhance the student’s intercultural communication skills, cultural consciousness, and knowledge of other countries. (Prerequisites: None). (3 C/3 lect, 0 lab). MNTC: CT, HA, GP. Offered: Spring.

**SPCH 2292 Speech Activity**
Students may earn credit by involving themselves either in a theatre production or an individual forensics project. (Prerequisites: Permission of department/instructor). (1 C/1 lect, 0 lab). Offered: Fall, Spring, possibly Summer.

**SURGICAL TECHNOLOGY**

**ST 2110 Surgical Technology Medications and Microbiology**
This course is designed to provide comprehensive knowledge of many classifications of drugs, routes of administration, effects, and side effects of drugs used in surgery. This course also will provide an opportunity to learn about natural body defense mechanisms and of the methods by which infectious diseases are transmitted, recognized, prevented and treated. (Prerequisites: Completed first year of program). (3 C). Offered: Fall.

**ST 2120 Operating Room Techniques I**
This course covers the fundamental knowledge and skills necessary to work in the operating room and related areas. Emphasis is on aseptic technique, scrub and circulator roles, equipment, supplies, instrument manipulation, legalities and the preoperative process of the patient. (Prerequisites: BIOL 1217, 1218; CHEM 1117, ENGL 1117, AIS 1600, NA 1609). (5 C). Offered: Fall.

**ST 2121 Operating Room Techniques II**
This course covers knowledge on skin prep, positioning, instrument set-ups, and draping. Practice will continue on basic skills learned in ORTI. Emphasis will be on general surgery procedures, lasers, obstetrics, pediatrics, and ear surgery. (Prerequisites: ST 2120). (5 C). Offered: Fall.

**ST 2122 Introduction to the Operating Room**
This course covers surgical procedures performed in orthopedic and eye specialties. It includes introduction to clinical experience where the scrub and circulator roles are practiced. (Prerequisites: ST 2120, ST 2121). (3 C). Offered: Fall.

**ST 2123 Surgical Procedures I**
This course combines classroom and clinical experience with a focus on procedures in neurosurgery, cardiovascular, peripheral vascular, plastics, and transplantation. In clinical, scrubber and circulating duties are practiced. (Prerequisites: ST 2110, ST 2122). (9 C). Offered: Spring.

**ST 2124 Surgical Procedures II**
This course combines classroom and clinical experience with a focus on procedures in thoracic, nose, throat, dental, genitourinary, and gynecology surgery. In clinical, scrubber and circulating duties are practiced. (Prerequisites: ST 2110, ST 2122). (9 C). Offered: Spring.

**STSK 1670 College Study Skills**
This class will cover the concepts, methods, and strategies of effective and efficient learning in college. Topics to be explored and practiced will include: motivation/attitude, time management, note taking, test taking, and the use of the library. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall, Spring, Summer.

**STSK 1671 College Success Strategies**
This class will address the affective as well as cognitive skills necessary for success in college. Topics to be covered include: responsibility, precision, relationships, wellness, college resources, and learning styles. (Prerequisites: None). (1 C/1 lect, 0 lab, 0 OJT). Offered: Fall, Spring, Summer.

**TRANSPORTATION**

**TT 1720 Electrical Theory**
This course covers the theory of basic electricity, starting and charging systems, electrical accessories, and troubleshooting and repair of these systems. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.

**TT 1820 Alignment and Suspension Theory**
This course covers suspension design, alignment geometry and wheel and tire factors as well as recommended maintenance steps concerning suspension systems and related compounds. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Spring.

**TT 1900 Welding**
This course covers theory and practice of oxy-acetylene, stick arc, and wire-fed welding. Students will learn theory and safety and have an opportunity to learn and practice hands-on welding skills. (Prerequisites: None). (2 C/0 lect, 2 lab, 0 OJT). Offered: Spring.

**TT 2650 Automotive Science**
This course covers basics of hydraulics, gear ratios, and engine physics as related to automobiles and trucks, with emphasis on formulas and calculations of various related factors. (Prerequisites: None). (2 C/2 lect, 0 lab, 0 OJT). Offered: Fall.
Administration and Faculty

Dennis U. Anderson (1990) .................. Computer Science
B.A., St. Olaf College; M.S., Mankato State University; Ph.D., Iowa State University of Science and Technology.

Lillyam Arroyave-Bratager (1993) .................. Spanish
B.S., Universidad del Norte; M.A., additional graduate study, University of Iowa.

B.A., B.S., State University of New York at Plattsburg; M.S., Mankato State University.

L. Kay Aune (1970) .................. Nursing
R.N., B.S.N., Evansville College; graduate study, University of Iowa.

Donald F. Baldus (1994) .................. Electronics
B.S., Iowa State University; M.S., University of Iowa.

Barbara N. Beck (1991) .................. Biology
B.A., Carleton College; Ph.D., University of Washington.

Anne E. Benson (1984) .................. Mathematics
A.A., Rochester Community College; B.S., B.A., Winona State University; M.A., Mankato State University.

Pamela R. Benson (1997) .................. Mechanical Drafting
Diploma, Rochester Area Vocational Technical Institute; undergraduate study, Rochester Community and Technical College.

Albert J. Bina (1970) .................. Psychology
B.A., M.S., Winona State College; additional graduate study, Winona State University.

Judith A. Bird (1997) .................. Director, RCTC Foundation; Grants Management
B.A., University of Minnesota; M.A., St. Mary’s University of Minnesota.

Stanley Blankenship (1981) .......... Electronics Technician
Diploma, U.S. Navy Electronics.

A.A., Rochester Community College; B.S., University of Minnesota; M.M.E., Indiana University.

Roger W. Borowick (1964) .................. Physics, Computer
B.A., Northland College; M.S., University of South Dakota; additional graduate study, Nebraska Wesleyan University, University of Missouri, Winona State University, Bucknell University.

Arlouene L. Bothun (1974) .................. Academic Adviser, Upward Bound Program
B.A., St. Olaf College; M.A., University of Minnesota; additional graduate study, University of Northern Iowa, Iowa State University, University of Minnesota.

B.S., graduate, Ph.D., South Dakota State University.

Terry L. Brown (1991) .................. Biology
B.S., B.S., University of Minnesota.

William D. Brunner (1964) .................. Business
B.S., M.S., University of Minnesota; Ph.D., University of Minnesota; additional graduate study, Eastern Washington State College.

B.S., M.S., University of North Dakota.

Luverne A. Bushlack (1971) .......... Horticulture
B.S., M.Ed., University of Minnesota

A.A., Rochester Community and Technical College; B.S., Bemidji State University

Elizabeth A. Butterfield (1998) .................. Community Initiatives Specialist, CE/Workforce/Economic Development
B.A., University of Minnesota; M.A., St. Cloud State University.

David R. Carisch (1970) .................. Biology
B.S., University of Wisconsin-Madison; M.A.T., University of Wisconsin-River Falls; additional graduate study, Winona State College, Mayo Medical School, Mayo Graduate School of Health-Related Sciences.

Gene C. Comero (1975) .................. Mechanical Drafting, Mechanical Engineering Technology
B.S., M.S., Winona State University.

Jacquelyn R. Connelly (1975) .................. Nursing Assistant; Human Service Technician
R.N., Methodist Kahler School of Nursing.

Marcia E. Connelly (1988) .................. Child Development Careers
B.S., Virginia Commonwealth University.


Terry D. Dennis (1972) ....................... Art B.S., University of Wisconsin-Stevens Point; M.A., M.S.T., University of Wisconsin-Superior; additional graduate study, University of Iowa, University of Notre Dame.


Janet M. Dicke (1976) ....................... Practical Nursing R.N., Abbot School of Nursing.

Suzanne F. Dinusson (1980) ............... Retail Merchandising B.S., University of North Dakota; M.S., University of Wisconsin-Stout; additional graduate study, University of North Dakota, Mankato State University, University of Minnesota.

Kevin R. Dobbe (1988) ..................... Music B.M., University of Wisconsin-Oshkosh; M.M., Kent State University; Ph.D., University of Minnesota.

Larry L. Dohse (1984) ..................... Building Utilities Mechanic Vocational Credential, State Department of Vocational Education.

David A. Dorn (1966) ....................... English B.S., M.A., Mankato State College; additional graduate study, Mankato State University, University of Minnesota.

Patricia M. Dorn (1971) ..................... English/General Studies B.S., M.S., Mankato State University; additional graduate study, University of Minnesota, Winona State University.


Robert B. Ekstam (1995) ..................... Counseling B.S., B.S., Mankato State University; M.Ed., Colorado State University; additional graduate study, Winona State University; University of Minnesota.

Barbara A. Ewen (1991) ..................... Nursing A.A., Rochester Community College; B.S.N., Moorhead State University; M.S.N., University of Minnesota.


Richard F. Flores (1975) .................... Advisor, Student Support Services Program Undergraduate work, Winona State University.

Brenda C. Frame (1994) ..................... Math Specialist, Student Support Services Program A.A., Rochester Community College; B.A., St. Olaf College.

Eugene D. Frank (1982) ..................... Radiography; Assistant Professor of Radiology, Mayo Medical School B.A., University of St. Francis; M.A., St. Mary’s University of Minnesota; additional graduate study, University of Minnesota.

Karen L. Fredin (1978) ..................... English B.A., Hamline University; M.A., Ohio University; additional graduate study, West Virginia University, University of Minnesota.

Iris R. Fried (1985) ......................... Director, Student Support Services Program B.S.Ed., University of Minnesota; M.A., Hamline University.

Robin L. Fruth-Dugstad (1994) ............ Horticulture B.S., University of Wisconsin-River Falls; M.S., Iowa State University.

Max A. Gernand (1975) ..................... Auto Mechanics B.S., University of Minnesota.

<table>
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<tr>
<th>Name</th>
<th>Year</th>
<th>Position/Program</th>
<th>Education</th>
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<tbody>
<tr>
<td>Thomas C. Gjersvig</td>
<td>1989</td>
<td>Transfer Advisor, Student Support Services Program</td>
<td>B.A., Concordia College; M.S., Winona State University.</td>
</tr>
<tr>
<td>Julie A. Goodman</td>
<td>1970</td>
<td>Dean of Academic Affairs</td>
<td>R.N., B.S.N., College of St. Catherine; M.S., C.N.M., Ph.D., University of Minnesota.</td>
</tr>
<tr>
<td>Anne M. Green</td>
<td>1982</td>
<td>Health, Physical Education</td>
<td>B.S., University of Minnesota; M.S., University of Oregon.</td>
</tr>
<tr>
<td>Scott J. Gresbrink</td>
<td>1993</td>
<td>Sociology</td>
<td>B.S., University of Minnesota; M.A., Mankato State University.</td>
</tr>
<tr>
<td>Judith A. Gust</td>
<td>1986</td>
<td>Administrative Information Systems, Medical</td>
<td>B.A., Augsburg College; M.Ed., University of Minnesota; additional graduate study, University of Minnesota, Winona State University, Mankato State University.</td>
</tr>
<tr>
<td>Judy A. Harris</td>
<td>1981</td>
<td>Interim Vice President of Academic Affairs</td>
<td>B.S., University of Minnesota; M.A., St. Mary’s University; additional graduate study, Winona State University, Hamline University.</td>
</tr>
<tr>
<td>Maureen A. Hart</td>
<td>1990</td>
<td>Director, Displaced Homemaker Program</td>
<td>R.N., Presbyterian-St. Luke’s Hospital; B.S., University of Minnesota; graduate study, University of Minnesota.</td>
</tr>
<tr>
<td>Carol A. Haug</td>
<td>1975</td>
<td>Nursing</td>
<td>B.S.N., Montana State University; M.S.N., University of Wisconsin-Madison; additional graduate study, Winona State University, Saint Mary’s College, University of Minnesota.</td>
</tr>
<tr>
<td>John I. Helmers</td>
<td>1996</td>
<td>Civil Engineering, Surveying</td>
<td>A.S., Northern Iowa Area Community College; B.S., Iowa State University.</td>
</tr>
<tr>
<td>Rebecca R. Henderson</td>
<td>1993</td>
<td>Nursing</td>
<td>B.A., Concordia College; B.S.N., Jamestown College; M.S.N., Winona State University.</td>
</tr>
<tr>
<td>Mary L. Heyrman</td>
<td>1997</td>
<td>Nursing</td>
<td>B.S.N., M.S.N., Winona State University.</td>
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<tr>
<td>Theresa S. Hill</td>
<td>1997</td>
<td>Chemistry</td>
<td>B.S., Ph.D., University of North Dakota.</td>
</tr>
<tr>
<td>Janell E. Holter</td>
<td>1994</td>
<td>Director, Special Needs Services/Youth For Understanding</td>
<td>B.S., University of North Dakota; M.S.W., University of Minnesota.</td>
</tr>
<tr>
<td>Ivan E. Imm</td>
<td>1998</td>
<td>Grants Specialist/Project Coordinator CE/Workforce/Economic Development</td>
<td>B.S., University of Minnesota; M.A., University of Wisconsin - Madison; M.S., College of St. Francis.</td>
</tr>
<tr>
<td>Chad A. Israelson</td>
<td>1997</td>
<td>History</td>
<td>B.A., University of Wisconsin - LaCrosse; M.A., University of Nebraska.</td>
</tr>
<tr>
<td>Katherine A. Jacobson</td>
<td>1981</td>
<td>Surgical Technology</td>
<td>R.N., St. Maryís School of Nursing; B.S.N., Bethel College.</td>
</tr>
<tr>
<td>Doreen S. Johnson</td>
<td></td>
<td>English</td>
<td>B.S., St. Cloud State University; B.S., Bemidji State University; M.B.A., University of Minnesota.</td>
</tr>
</tbody>
</table>
Carol J. Kamper (1985) .......................... Political Science
B.A., Hope College; M.A., Rutgers University.

James C. Kehoe (1970) ............................ Counseling
B.A., Arizona State University; M.S., Winona State University; M.S., University of Illinois; additional graduate study, University of Minnesota.

Warren E. Kemplin (1999) .................... Director, Corporate Partnership Development, CE/Workforce and Economic Development
Undergraduate study, Iowa Western Community College, Cleveland Institute of Electronics, University of Iowa, IBM Corporate Education.

A. Steve Kereakos (1966) ............ Director of Student Life
B.S., University of Minnesota; M.S., Winona State University.

Roland E. Keyeski (1991) ............ Student Life Coordinator
B.S., Winona State University; M.S., Mankato State University.

Patricia A. Kraemer (1976) .............................. Art
B.A., Hamline University; M.A., St. Mary’s College; additional graduate study, University of California-Santa Cruz.

Barry N. Kramer (1995) ............ Program Coordinator, Small Business Development Center, CE/Workforce/Economic Development
B.A., Minot State College; M.A., St. Mary’s College.

Travis J. Kromminga (1995) Director, Disability Services
B.S., Mankato State University.

Jane A. Kruger, CNOR (1982) ............ Surgical Technology
A.A. Nursing, University of South Dakota; B.S.N., Bethel College.

Paul F. Labinski (1969) ............................. Economics
B.S., St. John’s University; M.S., St. Cloud State College; Ed.S., Mankato State College; additional graduate study, Bradley University, Purdue University, University of Wisconsin.

Michael P. LaValle (1984) .......................... Mathematics
B.S., Carroll College; M.A.T., University of Montana; additional graduate study, University of Utah.

Maureen A. Lawson (1991) ..................... Dental Hygiene
B.S., Thomas Jefferson University; M.S., University of Missouri-Kansas City.

Jay A. Lee (1990) .......................... Associate Dean of Academic Affairs
B.A., Moorhead State University; J.D., University of North Dakota.

Audrey J. Lidke (1980) ............................ Counseling
B.S., Winona State College; M.S., Troy State University; additional graduate study, Winona State University, University of Minnesota.

Judy A. Lindman (1991) ............ Child Development Careers
B.S., M.Ed., University of Minnesota; additional graduate study, St. Cloud State University, Winona State University, University of Minnesota.

Karen L. Machlica (1992) .......................... Counseling
B.S., College of St. Teresa; M.Ed., University of Maryland; additional graduate study, University of Northern Iowa.

Patrick W. Maloy (1969) .......................... Accounting
B.S., M.S., Ed. Spec., Winona State University.

Jean A. Marconett (1976) .......................... Health, Physical Education
B.S., M.Ed., University of Minnesota-Duluth; additional graduate study, University of Minnesota.

Theodore G. Marchand (1997) .......................... Information Technology Specialist; Administrator, CE/Workforce/Economic Development
B.S., University of Rhode Island.

Bonnie J. Mercer (1982) ........................ Interim Vice President for Student Affairs/Institutional Advancement
A.A., College of Marin-California; B.A., San Francisco State University; M.Ed., Whitworth College; Ed.D., Nova Southeastern University.

Michelle Messenger (1988) ........................ Director of Enrollment Management/Marketing
A.A., Rochester Community College; B.S., Winona State University; M.A., M.A., St. Mary’s University.

Raymond F. Mikesh, Jr. (1970) .................. Speech, Theatre
B.A., University of Northern Iowa; M.A., St. Cloud State College; M.F.A., Brandeis University.

Barbara J. Mollberg (1989) .......................... Associate Dean of Academic Affairs
B.A., M.A., University of North Dakota; additional graduate study, University of Minnesota; doctoral study, University of St. Thomas.

Dena R. Mundy (1998) .......................... Senior and Community Outreach Coordinator, CE/Workforce/Economic Development
B.S., University of Wisconsin-Stout.

John J. Murray (1984) .......................... State Manager, Agri/State
B.S., M.A., University of Minnesota.

Dallas G. Nelson (1988) ....... Building Utilities Mechanic
A.A., University of Minnesota; B.G.S., University of Minnesota; graduate studies, University of Wisconsin-River Falls, University of Minnesota.

Ellen M. Nelson (1989) ............ Dean of CE/Workforce/Economic Development
A.A., Rochester Community College; B.S., University of Minnesota; M.B.A., Winona State University; additional graduate study, University of Minnesota; doctoral study, Hamline University.

Dennis L. Nervig (1972) .......... Electronics Technology
B.S., M.S., Iowa State University; additional graduate study, Iowa State University.

Dorene K. Ness (1975) Human Services; Practical Nursing; Nursing Assistant
R.N., Methodist Kahler School of Nursing.

Anne M. Niccolai (1990) ............ Dental Hygiene
B.S., University of Minnesota; M.S., North Dakota State University.

Diane V. Nichols (1991) .................. Nursing
B.S.N., Montana State University; M.S.N., Winona State University.

B.A., B.S., M.A., University of Kansas; additional graduate study, University of Northern Iowa, University of Minnesota, Middlebury College, St. Olaf College, Alliance Francaise-Paris.

Charles V. O’Brien (1969) ................. English
B.A., Loras College; M.A., University of South Dakota; additional graduate study, University of San Francisco, St. Louis University, College of St. Thomas, Moorhead State College, Mankato State University.

Kathleen M. Olson (1982) ....... Administrative Information Systems, Medical
A.A., Rochester Community College; B.A., Concordia University.

Mary L. Olson (1988) ........ Administrative Information Systems, Medical
B.A., Augsburg College; M.A., University of Minnesota.

B.S., Moorhead State University; M.S., St. Cloud State University; doctoral study, Curtin University, Australia.

Esther J. Omodt (1973) ............ Administrative Information Systems, Legal
B.A., Winona State University; M.A., University of Minnesota; additional graduate study, University of Minnesota.

Thomas P. Ostrom (1967) ............ Anthropology, History, Geography
B.S., M.S., University of Wisconsin-Superior; additional graduate study, Ball State University, Winona State University, University of Minnesota, University of North Dakota.

Patricia A. Pacyna (1990) ............ Health Unit Coordinator
Diploma, Minnesota Riverland Technical College-Rochester; B.S., Concordia College.

Robert J. Patnaude (1973) .................... Carpentry
B.S., Bemidji State University.

Joan E. Paulson (1968) ................. Nursing
R.N., Methodist-Kahler School of Nursing; B.S.N., University of Colorado; M.S., University of Colorado; additional graduate study, University of Minnesota.

Robin B. Paynter (1992) ............ Dental Hygiene
A.A., B.S., University of South Dakota; M.A., Saint Mary’s College.

Kathleen A. Peak (1986) ............ Related Remedial Mathematics
B.S., St. Olaf College; M.Ed., University of Minnesota.

B.S., Winona State University; M.A., University of Minnesota; additional graduate study, St. Cloud State University, Mankato State University.

James D. Pehrs (1983) ............... Electronics Technician
Diploma, Dunwoody Industrial Institute.

Richard R. Peterson (1998) ............ EMS Training Specialist, CE/Workforce/Economic Development
Undergraduate work, Northeast Metro Technical College, Rochester Community and Technical College.

Dana D. Piens (1978) .................. Mathematics
B.S., University of Minnesota.

Abigail L. Pinsky (1986) ............. ESL
B.A., University of Minnesota-Duluth; M.A., Ohio University-Athens.

Education For Life and Work
<table>
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<tr>
<th>Name</th>
<th>Year</th>
<th>Title</th>
<th>Education</th>
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<tr>
<td>David Plevak</td>
<td>1987</td>
<td>Respiratory Therapy</td>
<td>B.S., Marquette University; M.D., Medical College of Wisconsin; Internship in Internal Medicine, Mayo Graduate School of Medicine; Residency in Internal Medicine, Mayo Graduate School of Medicine; Residency in Anesthesiology, Mayo Graduate School of Medicine.</td>
</tr>
<tr>
<td>Michelle Pyfferoen</td>
<td>1994</td>
<td>Director, Business and Economic Development</td>
<td>A.A., Rochester Community College; B.S., Winona State University.</td>
</tr>
<tr>
<td>Marjorie R. Reif</td>
<td>1985</td>
<td>Medical Assisting</td>
<td>B.S., University of Iowa; B.S., (Physicians’ Assistant Program), University of Iowa College of Medicine.</td>
</tr>
<tr>
<td>Norman S. Reopelle</td>
<td>1966</td>
<td>Biology</td>
<td>B.S., Bemidji State College; M.A., University of Colorado; additional graduate study, Long Beach State College, Pratt Institute, University of Wyoming, University of Arizona.</td>
</tr>
<tr>
<td>Kathy L. Richie</td>
<td>1995</td>
<td>Director, Continuing Education and, Community Outreach, CE/Workforce/Economic Development</td>
<td>B.S., College of Saint Teresa; graduate study, University of Minnesota.</td>
</tr>
<tr>
<td>Jayne A. Rock</td>
<td>1991</td>
<td>Reading</td>
<td>B.A., South Dakota State University; M.A., St. Cloud State University.</td>
</tr>
<tr>
<td>Julie A. Rodakowski</td>
<td>1980</td>
<td>English</td>
<td>B.S., Jamestown College; M.A., Ph.D., University of North Dakota; additional graduate study, Carleton College, University of Minnesota, University of Warwick, Coventry, England.</td>
</tr>
<tr>
<td>Debra P. Rogne</td>
<td>1991</td>
<td>Director, Carl Perkins Grant Services</td>
<td>B.A., Concordia College; M.A., St. Mary’s College.</td>
</tr>
<tr>
<td>Mary K. Rohe</td>
<td>1998</td>
<td>Director, Upward Bound Program</td>
<td>P.N., Faribault School of Nursing; B.S., B.A., Winona State University; graduate study, Hamline University.</td>
</tr>
<tr>
<td>Priscilla E. Ruemping</td>
<td>1998</td>
<td>Academic Adviser, Student Support Services Program</td>
<td>A.A., Rochester Community College; B.A., graduate work, Winona State University.</td>
</tr>
<tr>
<td>Scott L. Sahs</td>
<td>1996</td>
<td>Director, Workforce Technology Training</td>
<td>A.A., Rochester Community College; B.A., Iowa State University.</td>
</tr>
<tr>
<td>Richard A. Sargent</td>
<td>1977</td>
<td>Building Utilities Mechanic Diploma</td>
<td>Diploma, Minnesota Riverland Technical College-Austin.; Diploma, National Instructor Training Institute, Department of Technical and Adult Education, University of Tennessee.</td>
</tr>
<tr>
<td>Lorna C. Schmidt</td>
<td>1987</td>
<td>Practical Nursing</td>
<td>B.S.N., Central Philippine University; M.S., Winona State University.</td>
</tr>
<tr>
<td>Evelyn R. Schmitt</td>
<td>1974</td>
<td>Nursing</td>
<td>R.N., B.S.N., San Diego State College; additional graduate study, Winona State University.</td>
</tr>
<tr>
<td>Karen D. Schneiter</td>
<td>1998</td>
<td>SBDC Consultant/HR Training Specialist/Incumbent Workforce Initiative</td>
<td>Specialist, CE/Workforce/Economic Development</td>
</tr>
<tr>
<td>Edward Shafer</td>
<td>1969</td>
<td>English, Business</td>
<td>B.A., Oakland University; M.A., University of Michigan; J.D., University of Minnesota; additional graduate study, University of Florida, University of Minnesota.</td>
</tr>
<tr>
<td>Susanne M. Sheehan</td>
<td>1976</td>
<td>Director of Human Resources</td>
<td>Undergraduate study, Mankato State University.</td>
</tr>
<tr>
<td>Name</td>
<td>Degree/Program</td>
<td>Institution(s)</td>
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<tr>
<td>Fan A. Shen</td>
<td>English</td>
<td>B.A., Lanzhou University; M.A., University of Nebraska; Ph.D., Marquette University.</td>
<td></td>
</tr>
<tr>
<td>Renee M. Solberg</td>
<td></td>
<td>B.S., Iowa State University; M.A., University of South Dakota.</td>
<td></td>
</tr>
<tr>
<td>Sara J. Soukup</td>
<td></td>
<td>B.S., University of Minnesota; M.S., Mankato State University.</td>
<td></td>
</tr>
<tr>
<td>Teresa G. Spencer</td>
<td>Academic Advisor, Upward Bound Program</td>
<td>B.A., Concordia College; M.F.A., University of Minnesota.</td>
<td></td>
</tr>
<tr>
<td>Betty L. Spitzmiller</td>
<td>English</td>
<td>A.B., M.A., University of Missouri-Columbia; Ph.D., University of Minnesota.</td>
<td></td>
</tr>
<tr>
<td>David L. Stephenson</td>
<td>Computer Software Training Specialist</td>
<td>CE/Workforce/Economic Development Undergraduate study, Rochester Junior College.</td>
<td></td>
</tr>
<tr>
<td>Donald E. Strelow</td>
<td>Auto Mechanics</td>
<td>B.A.A., University of Minnesota; Certification, Master Auto Mechanic (ASE).</td>
<td></td>
</tr>
<tr>
<td>Donald D. Supalla</td>
<td>Interim President</td>
<td>B.S., M.S., Winona State University.</td>
<td></td>
</tr>
<tr>
<td>Gary A. Swenson</td>
<td>Director, Institutional Services</td>
<td>B.A., St. Cloud State College; graduate study, Winona State University, Mankato State University.</td>
<td></td>
</tr>
<tr>
<td>Joel A. Swisher</td>
<td>Health</td>
<td>B.S., Northern State University; M.S., South Dakota State University; Ph.D., University of Utah.</td>
<td></td>
</tr>
<tr>
<td>Laura M. Tacheney</td>
<td>Physics</td>
<td>B.S., Gonzaga University; M.S., University of Oregon.</td>
<td></td>
</tr>
<tr>
<td>John C. Tacinelli</td>
<td>Geology</td>
<td>A.S., Dutchess Community College; B.S., State University of New York at Stony Brook; M.A., Binghamton University; doctoral studies, University of Minnesota.</td>
<td></td>
</tr>
<tr>
<td>Jeffrey L. Taylor</td>
<td>Library</td>
<td>B.A., Northwestern College; M.A., University of Iowa; M.A., Ph.D., University of Missouri.</td>
<td></td>
</tr>
<tr>
<td>Antoinette L. Teigen</td>
<td>English</td>
<td>B.E.S., B.S., M.A., St. Cloud State University.</td>
<td></td>
</tr>
<tr>
<td>Paula L. Theisen</td>
<td>Accounting</td>
<td>B.S., Concordia College.</td>
<td></td>
</tr>
<tr>
<td>Cicilia Ivonne Tjoe Fat</td>
<td>Psychology</td>
<td>B.S., M.S., additional graduate study, State University of Leiden.</td>
<td></td>
</tr>
<tr>
<td>Jane A. Toft</td>
<td>Biology</td>
<td>B.S., St. John’s University, NY; M.S., University of Illinois; M.S., Mayo Graduate School; additional graduate study, University of Wisconsin-Madison, Mayo Medical School.</td>
<td></td>
</tr>
<tr>
<td>Marilyn A. Treder</td>
<td>Mathematics</td>
<td>B.A., College of Saint Teresa; M.S., Winona State University.</td>
<td></td>
</tr>
<tr>
<td>Darlene L. Voeltz</td>
<td>Admin. Information Systems</td>
<td>B.A., Wartburg College; M.Ed., University of Minnesota; additional graduate study, Winona State University.</td>
<td></td>
</tr>
<tr>
<td>Margaret M. Vogel</td>
<td>Practical Nursing</td>
<td>B.S., St. Francis College.</td>
<td></td>
</tr>
<tr>
<td>Diana E. Wakefield</td>
<td>Administrative Information Systems</td>
<td>B.S., University of Nebraska; M.S., University of Minnesota.</td>
<td></td>
</tr>
<tr>
<td>Jeffrey J. Ward</td>
<td>Respiratory Care</td>
<td>B.S., University of Denver; B.S.R.T. and M.Ed., University of Missouri-Columbia.</td>
<td></td>
</tr>
<tr>
<td>Brain E. Watters</td>
<td>Law Enforcement</td>
<td>A.A.S., A.A., Cowley County Community College; B.A., Southwestern College; M.A., Wichita State University.</td>
<td></td>
</tr>
<tr>
<td>David N. Weber</td>
<td>Director of Communications and Marketing</td>
<td>B.S., University of Minnesota.</td>
<td></td>
</tr>
<tr>
<td>Ann M. Whelan</td>
<td>English</td>
<td>B.C.S., Dickinson State University; M.S., North Dakota State University; Ph.D., University of North Dakota.</td>
<td></td>
</tr>
<tr>
<td>Wayne M. Whynaught</td>
<td>Building Utilities Mechanic</td>
<td>Diploma, Dunwoody Industrial Institute.</td>
<td></td>
</tr>
<tr>
<td>Sharon M. Wieners</td>
<td>Librarian</td>
<td>B.A., College of Great Falls; M.A., University of Minnesota.</td>
<td></td>
</tr>
</tbody>
</table>
Adjunct/Part-Time Faculty

Dale A. Amy (1995) .................... Assistant Football Coach
Marvin E. Anderson (1994) ............. English, Reading
Susan C. Anderson (1992) ............. Health Unit Coordinator
Carol Bailey (1998) ..................... Psychology, Sociology
Mary Baker (1998) ...................... Nursing Assistant
William P. Bakken (1996) ............. History
Maureen Bhaskaran (1999) ............. Mathematics
Andrea Billings (1998) ................. Pharmacy Technician
Steven Bingner (1998) .................. Psychology
Susan E. Bisco (1996) .................. English
Margaret A. Bowman (1989) .......... Music, Applied Music
Virginia S. Boyum (1998) ............... Psychology
Janet Buss .................................. Clinical Neurophysiology
Jane L. Burgstaler (1984) .............. English
Jane A. Callahan (1995) ............... Journalism
Linda Carlson (1999) .................... Retail Merchandising
Christine S. Connelly (1998) ........ Biology
Doug Cournay (1999) ................... Horticulture
Vickie Coursey (1999) .................. Mathematics
Jennie T. Cropp (1997) ................. Health Unit Coordinator
Julie L. Cunningham (1997) .......... Pharmacy Technician
Denise Dillworth (1999) ............... English
Elizabeth Dorn (1998) ................. English
Janelle Douglas (1998) ................. Chiropractic Assistant
Gary W. Dreier (1990) .................. Philosophy, Speech
Cynthia S. Dull (1989) ................. Library
Patrick Farrell (1998) .................. Law Enforcement
Troy Faulkner (1999) .................... Mathematics
Donna R. Fenton (1995) ............... Medical Assisting
Phil Fishbaugh (1996) .................. Athletic Trainer
Brenda C. Frame (1996) ............... Mathematics
Margaret M. Gall (1997) .............. Chemistry
Aradye L. Gibbs (1992) ............... Nursing, Health
Suzanne Greenleaf (1990) ............. Sociology
Marjorie A. Gresbrink (1997) ........ Speech
Teresa A. Gresser (1995) .............. Applied Music
James M. Hall (1994) .................. Dental Hygiene
Guy Hamernik (1999) .................. Digital Arts, DIGI
Wanda Hanlon (1998) ................. Earth Science
Deborah Hare (1998) ................. Physical Education, Soccer Coach
Carol A. Harwick (1992) .............. Human Services Technician
Wylene E. Heidorn (1992) .......... Business, Journalism
Beth Heim De Bora (1998) ............ English
Martha J. Heise-Kelly (1997) ......... Physical Education
Nancy J. Hengeveld (1997) ............ Psychology
Alice L. Hidalgo (1988) .............. Spanish
Highet Robert (1998) ................. Mechanical Engineering
Derrick J. Hintz (1996) .............. Assistant Football Coach
Marguerite P. Hoffman (1997) ....... Applied Music
Laura Jaap (1998) .................... Psychology

Karim M. Wilking (1994) ............. Speech
.................................. B.A., University of Hawaii; M.A., Miami University;
.................................. doctoral studies, University of Minnesota.

.................................. B.S., Eastern Illinois University; M.A., University of
.................................. Iowa; additional graduate study, University of Minne-
.................................. sota, Winona State University.

Shirley M. Wilson (1989) ............ Chiropractic Technician
.................................. Diploma, Northwest Chiropractic College; Diploma,
.................................. Provo Institute of Homeopathy.

.................................. B.S., Purdue University; M.B.A., Northwestern
.................................. University.

.................................. Coordinator
.................................. B.S., Harpur College; M.S., Mankato State University;
.................................. additional graduate study, University of Minnesota,
.................................. Syracuse University, Winona State University.

Delores M. Wright (1973) .... Administrative Information Systems
.................................. B.S., University of Minnesota; M.S., Winona State
.................................. University; additional graduate study, University of
.................................. Minnesota, Winona State University.

Gregory C. Wright (1972) .......... Counseling
.................................. B.A., B.S., Mankato State University; M.S., Winona
.................................. State University.

Joan C. Young (1970) Administrative Information Systems
.................................. B.S., Mankato State University.

Hien Zilz (1998) ...................... Director, Minority Services
.................................. B.S., University of Minnesota.

Brian E. Zmolek (1998) . Workforce Development Project Coordinator, CE/Workforce/Economic Development
.................................. B.A., University of Minnesota.

Robert R. Zwart (1968) ................ English
.................................. A.A., Rochester Community College; B.S., M.S.,
.................................. Winona State College; additional graduate study,
.................................. University of Minnesota.

Rochester Community and Technical College
Charles Jacobson (1998) ........................................ Computer Science
Susan E. Jansen (1995) ........................................ Nursing
May P. Jesseph (1997) ........................................ Library
Brenda B. Johnson (1990) ........................................ Business
James L. Johnson (1989) ........................................ Retail Merchandising
Kurt O. Johnson (1995) ......................................... Applied Music
Maureen Johnson (1998) ........................................ Dental Hygiene
Valerie K. Kafka (1985) ......................................... Mathematics
Warren Kemplin (1999) ......................................... AS/400
Betsy Kennedy (1998) ........................................ Nursing
Roland E. Keyeski (1996) .......................................... Physical Education, Health
David S. Kohs (1993) ........................................ Emergency Medical Care
Chris P. Kolbert (1989) .......................................... Biology
Brian M. LaPlante (1996) ...................................... Physical Education, Head Baseball and Men’s Basketball Coach
Amy Larson (1998) ........................................... Library
Kenneth L. Larson (1987) ...................................... English, Speech
LeRoy Larson (1999) ........................................... German
Shirley A. Larson (1990) .......................................... Psychology
Tammy J. Lee (1990) ........................................... Business
Leticia T. Magno Maralit (1997) ................................ Nursing
Linda K. Malec (1995) ..................................... Art, Journalism, Music, Digital Arts
Heidi Mallooy (1999) ........................................ Child Development
Jeffrey A. Maness (1997) ....................................... Chiropractic Assistant
Diane Mann (1999) ........................................ Nursing
Theodore G. Marchand (1998) ................................... Electronics Technician
Susanna Marjanovich (1998) ................................ Nursing
David Massaglia (1998) ....................................... Retail Merchandising
Randall C. McAlexander (1997) ................................ Physical Education
Peter Mesner (1998) ............................................ Biology
Richard M. Miller (1994) ...................................... History
Steven M. Miller (1994) ........................................ Biology
Aderonke Mordi (1998) .......................................... Chemistry
Michal A. Mussell (1997) ........................................... Art
Dan Nash (1999) ........................................... Computer Science
David Nelson (1998) ........................................ Pharmacy Technician
Sara Olson (1999) ........................................ Dental Hygiene
Debra Pesch (1999) ........................................ Dental Assisting
Stephen Peterson (1998) ........................................... English
Travis J. Pizel (1998) ........................................ AS400 System Operations
David M. Rein (1997) ........................................ English, Study Skills
Jerome J. Reising (1998) ........................................ Journalism
Gretchen Reither (1998) ........................................ Nursing
Priscilla Ruemping (1998) .................................... Mathematics
Mary Schmitter (1999) ....................................... AIS-Mayo Class
Sheryl K. Scholer (1988) ........................................ English
William Sears (1999) .......................................... Mathematics
Nancy C. Shih-Knodel (1996) ................................ English
Charles Siefert (1995) .................................. Health, Physical Education, Head Wrestling and Assistant Football Coach
Beth C. Sokolowski (1998) ........................................ English
Angela Sower (1999) ........................................ Chemistry
Teresa Spencer (1994) ........................................ Speech
David Stephenson (1999) ....................................... Electronics
Joel Stoehr (1998) ........................................... Art
Sandra S. Sullivan (1993) ........................................ Biology
Craig E. Swalboski (1998) ..................................... Journalism, AIS
Mary L. Swart (1996) ....................................... Speech
Jolyn K. Thompson (1998) ...................................... Librarian
Teresa M. Tolmie (1997) ...................................... Music
Daniel O. Trainer (1997) ................................ American Sign Language
Nicki E. Ugalde (1991) ........................................ Spanish
Teresa VanDuine (1998) ..................................... Mathematics
Mary Jane Wagenson (1998) .............. Health, Physical Education
Virginia A. Wentzel (1994) .............. Nursing Assistant
Andrew Westreich (1998) ........................................ English
Leah Whelan (1999) .......................................... Sociology
Michelle Willihnganz (1998) ................................. Nursing
Diane K. Witzig (1995) .......................................... Nursing
Robert C. Wright (1992) .................................... Dental Hygiene
Diane Wrobleski (1999) ...................................... Nursing
David A. Zill (1994) ....................................... Mathematics, Computer Science
Victoria Zook (1999) ........................................ Dental Hygiene