



GENERAL CATALOG

2006–2007

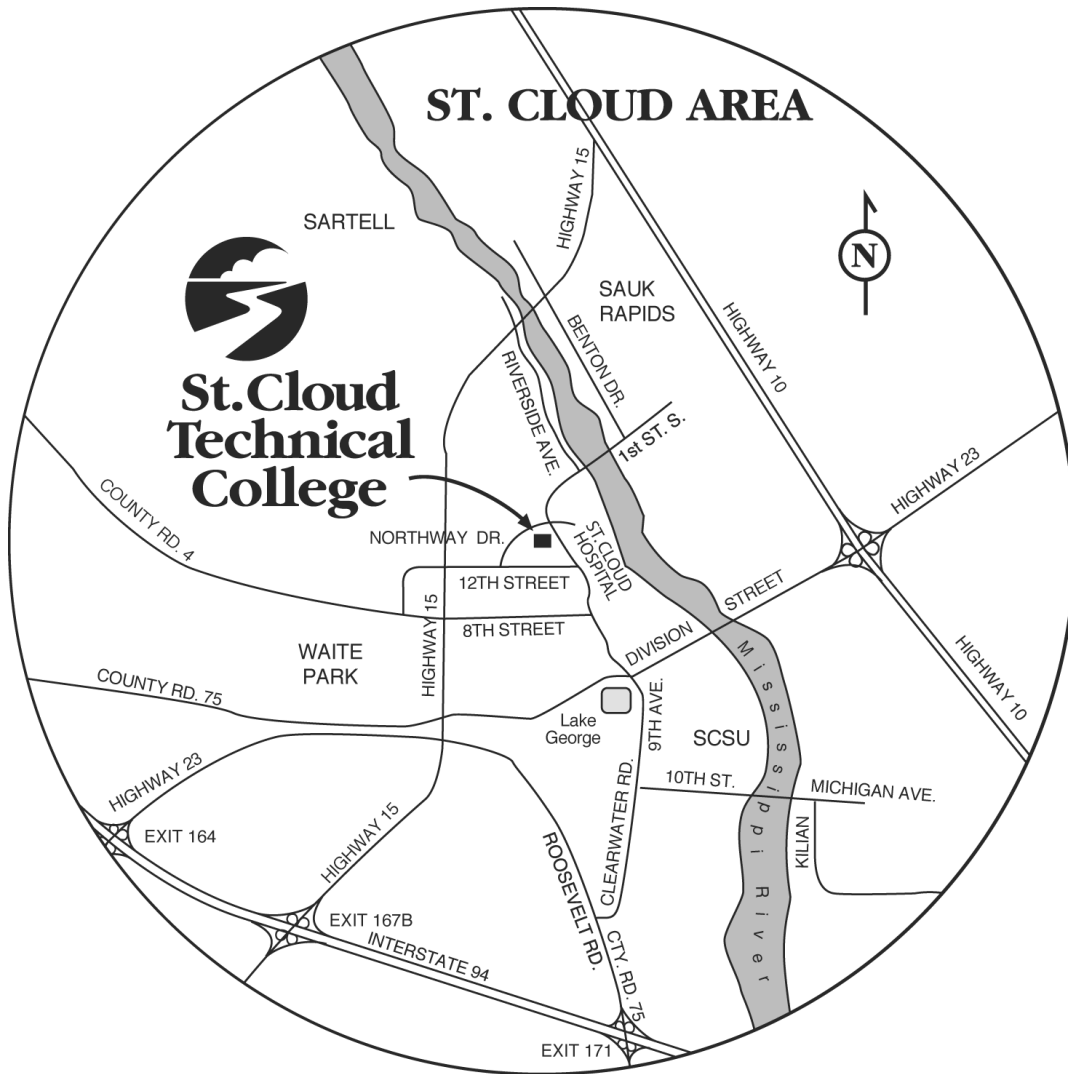
St. Cloud Technical College
1540 Northway Drive
St. Cloud, MN 56303-1240

Telephone: (320) 308-5000 (V)
TTY (320) 308-5988
Toll Free: 800-222-1009
www.sctc.edu

St. Cloud Technical College is committed to providing equal education and employment opportunities to all persons regardless of race, color, creed, sex, age, religion, marital status, sexual orientation/affectional preference, national origin, mental or physical disability, status with regard to public assistance or physical disability or any other group or class against which discrimination is prohibited by State or Federal law. Further, the College will not tolerate acts of sexual harassment/assault within its area of jurisdiction.

St. Cloud Technical College will continue to remain in full compliance with: Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 and the 1992 Crime Bill. Inquiries, complaints or grievances concerning the application of affirmative action, equal opportunity or Title IX at SCTC should be referred to the affirmative action officer, Deb Holstad, located at 1-100, or telephone 320-308-3227. Inquiries about services offered under Section 504 of the Rehabilitation Act of 1973 or the Americans with Disabilities Act of 1990 should be referred to the counselor for students with disabilities, Judy Jacobson-Berg who is located in 1-128, or telephone 320-308-5096, 320-308-5988 (TTY).

This document is available in alternative formats to individuals with disabilities by calling 1-800-222-1009 or by calling the Minnesota Relay Service at 1-800-627-3529.



Location of St. Cloud Technical College: 1540 Northway Drive, St. Cloud, MN 56303
(320) 308-5000 or 1-800-222-1009

The Admissions and Counseling Office is located in the north section of the building. Parking is available in Lot B adjacent to Northway Drive.

Driving Directions:

- From the southeast on I-94, take the St. Augusta exit #171, travel County Road 75 north approximately 1 mile to Clearwater Road. Turn right and follow Clearwater Road until it becomes Ninth Avenue, which will take you through the city to our campus.
- From the west on I-94, take the Highway 15 exit, then follow Highway 15 north to 12th Street. Turn right and follow 12th Street east until you reach Northway Drive. Follow Northway Drive to our campus.
- From the north on Highway 10, take the Highway 15 exit. Take the Benton Drive exit, turn left on Benton Drive through Sauk Rapids. Turn right at First Street South, go across the Mississippi River bridge, continue straight ahead on Ninth Avenue to our campus.
- From the south on Highway 10 or the east on Highway 23, at the cloverleaf follow Highway 23 West/Division Street to the Ninth Avenue North exit. Turn right and follow Ninth Avenue north to our campus.
- From the south on Highway 15 or southwest on Highway 23, follow Highway 15 north to 12th Street. Turn right and follow 12th Street east until you reach Northway Drive. Follow Northway Drive to our campus.

TABLE OF CONTENTS

GENERAL INFORMATION

| | | | |
|---|----|---|-----|
| Accreditations | 6 | Financial Aid | 17 |
| Admissions | 7 | Steps to Receive Financial Aid | 17 |
| Admissions Policy | 7 | Financial Aid Definitions | 17 |
| Admissions Procedures | 7 | Types of Financial Aid | 17 |
| Special Student Admission | 8 | Loans | 18 |
| Transfer Student Admission | 8 | Veterans Assistance | 18 |
| High School Options | 8 | Other Sources of Financial Assistance | 18 |
| Tech Prep Student Admission | 8 | Enrollment Status | 18 |
| Discovery Academy | 8 | Satisfactory Academic Progress | 18 |
| Post Secondary Enrollment Option (PSEO) .. | 9 | Registration | 21 |
| Immunization Policy | 9 | Orientation and Registration | 21 |
| Minnesota State Residency | 9 | Registration & Student Records | 21 |
| Data Practices Policy | 10 | Registering for St. Cloud State University | |
| Security and Crime Reporting | 10 | Courses | 21 |
| Academic Policies | 11 | Academic Forgiveness | 21 |
| Ability to Benefit Policy | 11 | Business Services | 22 |
| College Readiness Assessment | 11 | Health Service Fee | 22 |
| Academic Honesty | 11 | MSCSA Fee | 22 |
| Program Completion Options | 12 | Parking Regulations | 22 |
| Academic Advising | 12 | Parking Violations | 22 |
| Program Open Enrollment | 12 | Senior Citizen | 22 |
| Course by Arrangement | 12 | Student Activity Fee | 23 |
| Credit by Exam (Test Out) | 12 | Technology Fee | 23 |
| Credit for Prior Experiential Learning Based | | Transcript Fee | 23 |
| on Life/Work Experience | 13 | Tuition and Fee Policy | 23 |
| Graduation Requirements | 13 | Tuition Deferment | 23 |
| Credit Load | 13 | Tuition Payment | 23 |
| Auditing Classes | 13 | Refunds, Drops, Withdrawals & Waivers, | |
| Declaration of a Major | 13 | MnSCU Policy 5.12 | 24 |
| Internships, Practicums and Clinicals | 13 | Waivers | 24 |
| Service Learning | 13 | door15 of St. Cloud Technical College | 25 |
| Grading System | 13 | Program Majors | 26 |
| Repetition of Courses | 14 | MnTransfer Curriculum | 118 |
| Incomplete | 14 | General Education/General Studies Courses | 119 |
| Grade Point Average | 14 | Developmental Courses | 119 |
| Student Services | 15 | Course Descriptions | 120 |
| Child Care | 15 | Administration, Faculty, and Staff | 183 |
| Counseling | 15 | SCTC Foundation Board of Directors | 193 |
| Student Rights, Responsibilities and Conduct | 15 | Glossary | 194 |
| Housing | 15 | | |
| Student Life/Sports/Recreation | 15 | | |
| Lockers | 15 | | |
| Civil Rights Compliance & Students | | | |
| with Disabilities | 15 | | |
| Success Center | 16 | | |

ACCREDITATIONS

St. Cloud Technical College is accredited by
The Higher Learning Commission
30 North LaSalle Street, Suite 2400
Chicago, IL 60602

In addition to institutional accreditation, all programs offered at St. Cloud Technical College are approved by the Minnesota State Colleges and Universities System. The following programs are accredited, licensed or approved by national, state or program specific agencies:

- **Automotives, Auto Body Repair and Medium/Heavy Truck** by the National Automotive Technician Education Foundation (NATEF), 101 Blue Seal Drive, Suite 101, Leesburg, VA 20175. Telephone: (703) 669-6650.
- **Dental Assisting** by the Minnesota Board of Dentistry and is accredited by the Commission on Dental Accreditation of the American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611, a specialized accrediting body recognized by the Council on Post Secondary Accreditation and by the United States Department of Education. Telephone: (312) 440-4653, (800) 621-8099. www.ada.org.
- **Dental Hygiene** is accredited by the Commission on Dental Accreditation of the American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611, allowing students to sit for national board examinations. Telephone: (800) 621-8099.
- **Electrical Construction Technology** by the Minnesota Board of Electricity, 1821 University Avenue, Suite S-128, St. Paul, MN 55101, Telephone: (651) 642-0800.
- **Emergency and Safety Education** by the Minnesota Emergency Medical Services Regulatory Board (EMSRB) to reach First Responder and Emergency Medical Technician-Basic and an approved program for the American Heart Association and National Safety Council courses.
- **Nursing Assistant** approved by the Minnesota Department of Health, 85 East Seventh Place, Suite 300, P.O. Box 64501, St. Paul, MN 55164-0501, Telephone: (651) 215-8705.
- **Paramedicine** is licensed by the Minnesota Emergency Medical Services Regulatory Board (EMSRB) and nationally accredited by the "Committee on Accreditation of Educational Programs for the EMS Professions" (CoAEMSP), 1248 Hardwood Road, Beadford, TX 76021-4244, Telephone: (817) 283-9403.
- **Practical Nursing** approved by the Minnesota State Board of Nursing. State of Minnesota Board of Nursing, 2829 University Avenue SE, 2nd floor, Minneapolis, MN 55414-3253. Telephone: (612) 617-2270, (888) 234-2690.
- **Sonography** by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 35 East Wacker Drive, Suite 1970, Chicago, Illinois 60601-2208. Telephone: (312) 553-9355; Email: megivegiver@caahep.org, <http://www.caahep.org>.
- **Surgical Technology** is accredited by Commission on Accreditation of Allied Health Education Programs (CAAHEP), 36 E. Wacker Drive, Suite 1970, Chicago, IL 60601. Telephone: (312) 553-9355.
- **Water Environmental Technology** by the Minnesota Department of Health and the Minnesota Pollution Control Agency, 520 Lafayette Road, St. Paul, MN 55155-4194. Telephone: (651) 296-6300.

ADMISSIONS

ADMISSIONS POLICY

St. Cloud Technical College grants admission to all persons 16 years of age or older regardless of race, creed, color, veterans status, religion, gender, physical ability, age, national origin, marital status, sexual orientation or public assistance status or membership or activity in a local commission. The lack of English skills is not a barrier to admission or participation.

The College has a rolling admissions policy, meaning that applications are acted upon and students are notified of admission typically within 30 days of receipt of the following application materials:

1. Diploma or the Test of General Education Development (GED) certificate, or
2. A person who has neither a high school diploma nor a GED certificate may be admitted if that person demonstrates potential for being a successful college student. These students must meet with a counselor, and additional testing will be required.

Admission to the College does not guarantee admission to college-level courses, or a desired major. Consult program descriptions for prerequisites and additional admissions requirements.

Lack of English skills will not be a barrier to admission or participation. In order to eliminate barriers we take appropriate measures to assess each student's ability to participate and benefit through assessment testing and counseling. Based on the assessment and counseling, students are then provided with campus services or a referral to community services to be prepared for successful participation.

ADMISSIONS PROCEDURES

Priority will be given to completed applications received at least four weeks before the first day of classes. A complete application contains:

1. A completed college application form available from our Admissions Office, all Minnesota colleges, and high school guidance offices.
2. An official high school transcript and/or GED scores.
3. A \$20 non-refundable application fee (check or money order) attached to the completed application. Students who have previously graduated from the College are exempt from the \$20 application fee. Students who have left the College and plan to re-enroll in a future academic year will be required to pay a \$20 application fee each time they re-apply.
4. Interviews, aptitude tests, and interest inventories may be scheduled if additional information is needed.

5. Applications are taken beginning on the third Tuesday in September, one year prior to the start of the program. Class sizes are limited in many areas and waiting lists occur frequently in high demand programs, such as Construction Electrician, Land Surveying/Civil Engineering, Plumbing, Surgical Technology, and Dental Assisting. Individuals applying for these high demand programs will need to contact the Admissions Office at 320-308-5089 or log on to the Web site at www.sctc.edu to view specific directions for applying to these programs.
6. Applicants denied acceptance have the right to appeal the decision to the Dean of Student Services located in the Admissions Office.

Background Check for Health Programs

State law requires that any person who intends to provide services that involve direct contact with patients and residents at a health care facility have a background check provided by the state. A student who is disqualified as a result of a background check will not be allowed to enter the program major.

An individual who is disqualified has the right to request reconsideration of the disqualification. It is the responsibility of the student to request reconsideration by the Commissioner of Health. An applicant is considered to be disqualified during the reconsideration process. A student who has any restriction will not be sent to a clinical site.

All health majors require that students earn a "C" or better in all required courses. Students earning any grade less than "C" will be required to repeat the course. Please see individual program handbooks for special procedures.

International Student Admission Procedures

International student applicants must submit the following materials and information:

1. A completed international student application form available from the Admissions Office.
2. A \$20 non-refundable application fee.
3. An English translation of all official transcripts indicating the completion of high school.
4. A completed Confidential Financial Information Form and Affidavit of Financial Support including bank statements.
5. Proof of English Proficiency, if English is a second language (TOEFL, Michigan or transcripts demonstrating a satisfactory level of English proficiency.)
6. Health insurance must be purchased through the College upon enrollment.

SPECIAL STUDENT ADMISSION

Persons who are interested in registering for selected courses, but are not interested in pursuing a diploma or degree, are designated by the College as non-degree seeking students. These students are not required to complete the usual application or to submit high school transcripts. Students must declare a major once they have completed 16 credits. Contact Records and Registration for additional information at 320-308-5075.

TRANSFER STUDENT ADMISSIONS

To apply as a transfer student, 12 quarter or semester credits must have been completed with a "C" average or better at a regionally accredited college-level institution. Students who have earned less than 12 quarter or semester credits should apply as a first year student.

Students who have earned college credits only through post secondary enrollment option (PSEO) should apply using a first year student application. Applicants must submit:

1. A completed college application form. Questions concerning availability of program openings should be directed to the Admissions Office.
2. A \$20 non-refundable application fee attached to the application form.
3. An official academic transcript from each previously attended college or university must be sent directly to Records and Registration.

Transcripts are official only when recorded on the transcript form and sent directly from the sending institution to Records and Registration. Transcripts mailed or brought by the student cannot be used for transfer.

HIGH SCHOOL OPTIONS

TECH PREP STUDENT ADMISSION PROCEDURES

St. Cloud Technical College is working with area high schools to provide educational pathways in technical programs for students. Students participate in college-level course work to earn a certificate that transfers to the College. Success in certain high school courses may qualify students for advanced standing at St. Cloud Technical College.

Acceptance of Tech Prep Certificates

Tech Prep certificates will be accepted according to the terms of the agreement between the high school and SCTC. An incoming student should present the earned certificate to the College during registration. After the student has enrolled and satisfactorily completed one semester of study, the indicated course will be listed on the student transcript as (TP) credit by "Tech Prep." Grades will not be listed.

Acceptance of Articulation Agreements Non-Member Districts

St. Cloud Technical College will consider accepting Tech Prep college credits from other Minnesota Tech Prep consortia. The high school or student must submit a copy of the articulation agreement. The Registrar will review the agreement to determine if the content is applicable to an SCTC course and will then forward to the appropriate faculty member for approval. Records and Registration will contact the student in writing with the results of the review.

DISCOVERY ACADEMY

Discovery Academy is an opportunity for high school students to take advanced technical college courses. The courses are taught in various cooperating high schools around the area and interested students may be required to travel to another high school for a particular course. Courses are taught by technical college instructors or specially trained and mentored high school teachers. Students earn college credit and the course is recorded on a college transcript.

NOTE to counselors, students, and parents: each of the academic programs aligned with these course credits has a university pathway. Ask for the SCTC/University alignment table if interested. Courses available in 2006-07 include:

Health:

Emergency Medical Services I and II

Automotive:

Engine Performance

Steering and Suspension

Brakes

Electrical/Electronic Systems

Information Technology:

Cisco I/Computer Concepts

Cisco II/Windows Operating Systems

Pre-engineering:

Principles of Engineering

Digital Electronics

Introduction to Engineering Design

Welding:

Oxy Fuel

Math for Welding

Blue Print Reading

Arc Welding

Construction:

Construction Tools

Blueprint Reading & Estimating

Construction Principles

Exterior/Interior Finishing

If you would like more information about these courses, where they are offered, and how to apply, please contact: Sandy Fabian at St. Cloud Technical College (320)308-5908 or sfabian@sctc.edu.

POST SECONDARY ENROLLMENT OPTION (PSEO)

POLICY

Students wishing to attend SCTC utilizing the PSEO program must submit a completed technical college application form and a school transcript by the application deadline for Fall Semester, June 1, 2006, and for Spring Semester, November 30, 2006.

Students must also schedule an appointment for ACCUPLACER testing and a meeting with the PSEO counselor at SCTC to discuss procedures and social aspects of using the program.

PSEO applicants must achieve the following scores, or better, on the ACCUPLACER test to be considered for acceptance to St. Cloud Technical College.

| | CPT Score | Percentile |
|-----------------------|-----------|------------|
| Reading Comprehension | 55 | 18 |
| Sentence Skills | 60 | 21 |
| Arithmetic | 34 | 25 |

Students must pass all three areas and may retest only once. There is a \$5 charge to retest. If testing accommodations are needed, documentation of disability is required in advance. Testing with accommodations is often scheduled individually. Following retesting, a student who does not meet the entrance requirements may file an appeal for review by the PSEO counselor. The appeal must consist of a written statement by the student indicating college readiness and at least two letters of recommendation from professionals in the education field stating college readiness in the identified areas.

In addition to acceptance to the College, some college courses may have specific placement score requirements or other prerequisites that students must meet. If the prerequisite scores are not achieved, college readiness courses may be required to prepare for the identified classes. The Post Secondary Enrollment Options program does not cover tuition or book costs for college readiness courses. Students are required to pay tuition and book costs of college readiness courses.

To complete an application to the College, PSEO students must submit a completed SCTC Graduation Plan and PSEO Notice of Student Registration form. (These forms are obtained at the meeting with the PSEO counselor.) PSEO students are accepted to courses and majors on a space available basis. Students enrolling in high school and the College will be classified as an Undeclared Major and are limited to a maximum of 11 credits per semester. Some courses and majors may be blocked from PSEO student enrollment due to associated technology costs.

Students will need to meet each semester with their college advisor to select courses and with the PSEO counselor to provide a PSEO notice of student registration. The College will set course registration deadlines each semester. PSEO students will need to bring their college fee statement to the PSEO counselor, by the due date of tuition payment. The student will then receive a voucher to use as payment for books in the College bookstore. All books must be acquired by the 15th day of a course. Books must be returned to the campus bookstore if a student withdraws from a course(s)

within the first 10 days of the semester.

PSEO students must maintain a cumulative GPA of 2.0 or better (C average). If a PSEO student's GPA falls below 2.0 the student will be suspended from the College for one semester immediately following the occurrence. In addition, the student will be placed on Academic Probation with the College and will be required to meet with a counselor to form an Academic Probation Plan prior to registration for another semester. A copy of PSEO students' class schedules and grades for those classes are sent to the students' high school each semester.

Students requesting supplemental support services may access 2.5 hours a week of supportive instruction. If additional accommodations are required the school district and the College will negotiate for the provision of services. Contact the PSEO counselor for specific information.

PSEO students wishing to enroll in only one of the following credit based courses at St. Cloud Technical College; i.e. ASL, CPR, EMT, CNA; may be exempt from application and testing policies. Contact the PSEO counselor for more information.

For PSEO state statute, refer to MN Statute 124D.09.

IMMUNIZATION POLICY

Minnesota Law (MS 135A.14) requires that all students born after 1956 and enrolled in a public or private postsecondary school in Minnesota must provide evidence of immunization for measles, rubella, mumps, diphtheria, and tetanus. Students graduating from a Minnesota high school after 1997 are not required to provide documentation.

Forms for this purpose and additional information are available from the Admissions Office. Students may also submit immunization records maintained by their high school or health care provider. Proof of immunization must be received no later than the 45th day of the term, or the student may be removed from the College.

MINNESOTA STATE RESIDENCY

(MnSCU Policy 2.2 and M.S. 135A.031, sbd2.)

Students may establish eligibility for in-state tuition by demonstrating domicile in Minnesota before the beginning of any term. Students must have resided in Minnesota for at least one calendar year immediately prior to applying for in-state tuition. Residence in Minnesota must not be for educational purposes. Students must provide sufficient evidence of domicile. Resident Tuition Classification Request forms are available in the Admissions Office. Requests submitted without documentation will be returned to the student unprocessed. Students will receive a written response by mail within 30 days of their request.

DATA PRACTICES POLICY

The College Data Practices policy governs the release of student information and is based on the Family Educational Rights and Privacy Act of 1974 and Minnesota Statutes sections 13.01 to 13.87. It accords all rights under the law to all of its students, including those dependent students under the age of 18.

Education records covered by this policy are those official student files maintained by Records and Registration, Admissions, and Financial Aid. In addition to files, records are maintained in a computer database, optical imaging, or microfilm.

Education records do not include records maintained by college personnel which are in their sole possession and are not accessible or revealed to anyone other than a temporary substitute who performs the same duties. Education records do not include student employment records relating to them exclusively as employees and not used for any other purpose. In addition, students will not be allowed to review confidential letters/recommendations associated with admission or records of their parents' financial status.

Students may review their education records by making an appointment for this purpose with a counselor. Students have the right to challenge the content of records and to request that corrections or explanations be placed within those records.

Private student data is accessible only to the student and to college personnel and other agents as authorized by law. A list of authorized personnel is available in any Student Affairs office.

Public information is considered to be the student's name, telephone number, dates of attendance, enrollment status, major field of study, participation in officially recognized activities and sports, heights and weights of members of athletic teams, degrees, awards and college honors received, photographs or photographic likenesses. Students have the right to inform the College that any or all of the above information should not be released without prior consent.

Students wishing to restrict release of this information must complete a Request to Prevent Disclosure of Directory Information form in Records and Registration.

One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the College in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; representatives of the Minnesota State Colleges and Universities (MnSCU), including the Board of Trustees, Chancellor, Chancellor's staff; or a student serving on an official committee, such as disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

NOTICE: If you are currently enrolled in or receiving services from one college or university within the Minnesota State College and University System, your academic records from that institution are available to officials of other schools within the System while you are in attendance. If you seek or intend to enroll at another institution within the System, your academic records from other institutions are also accessible to officials at the school where you are seeking or intend to enroll. Disclosures of your records to other schools under other circumstances may require your prior written consent.

You have the right to request a copy of records that have been disclosed. You also have the right to request a hearing to correct any inaccurate, incomplete, or misleading information in those disclosed records. For further information about your rights, please contact the Registrar at the college or university that supplied the records.

SECURITY AND CRIME REPORTING

Campus security and safety is a high priority at SCTC.

Providing students with a safe environment in which to learn and keeping students, parents and employees well informed about campus security is important to the College. SCTC complies with the collection and reporting of all campus crime as per the requirements of the *Crime Awareness and Campus Security Act of 1990 (Clery Act)*. Copies of this report are available through the Admissions Office or via the college's Web site at <http://www.sctc.edu/security/>

ACADEMIC POLICIES

ABILITY TO BENEFIT POLICY

Students who do not possess a high school diploma or GED certificate will not be eligible to receive financial aid unless they receive a passing score on a test which measures their ability to benefit from the instruction. The test is a standardized, federally approved test. Persons who do not have a high school diploma or GED may take the Accuplacer test at St. Cloud Technical College to determine their ability to benefit. This policy does not restrict a student from enrolling in programs at St. Cloud Technical College, but does apply to receiving financial aid. For more information, please contact the Admissions Office at 320 308-5089.

COLLEGE READINESS ASSESSMENT

See MnSCU Policy 3.3

St. Cloud Technical College requires all applicants, unless exempted, to complete a MnSCU approved academic assessment test before registering for classes. This assessment must be completed within 45 days of acceptance. Failure to take the assessment within this time frame may result in cancellation from the program. A letter and brochure about the test will be mailed at the time the student is accepted into a program. College Readiness courses will be required of students earning scores below the minimum standards in Reading Comprehension, Sentence Skills, and Math. Students may retest one or all parts of the test. A fee will be assessed for each retest.

Accuplacer

Generally, students must achieve the following minimum scores on the Accuplacer test sections to take General Education or General Studies classes.

| | Gen. Education | Gen. Studies |
|-----------------------|----------------------------|--------------|
| Reading Comprehension | 71 | 62 |
| Sentence Skills | 73 | 65 |
| Arithmetic | <i>scores set by major</i> | |

Students applying for programs with selective admissions criteria may be required to take additional tests. College Readiness courses and program prerequisites must be completed before acceptance into programs with selective criteria.

Test Exempting

Students wishing to be exempted from testing must meet the following conditions:

- Completed 12 or more college level quarter credits, or eight or more semester credits, with grades of "C" or above from an accredited college or university. Courses completed with grades of "C" or above must include English composition and mathematics. An official college or university transcript is required. If a student earned these credits more than five years ago they are encouraged to take the placement test.

- ACT scores of 24 or above in English, reading, or math will exempt students from one or all of the tests. An official ACT Assessment College Report is required.

Students meeting the conditions above should send a letter requesting to be exempted and include a copy of the student's college transcript(s), full name, social security number, current mailing address, phone number, and signature to:

St. Cloud Technical College
Assessment Center
1540 Northway Drive
St. Cloud, MN 56303-1240

Students will be notified in writing only if they are exempted. The College and programs may require tests in addition to basic academic skills testing. A \$5 fee will be assessed for each retest.

Assessment Tests from other Colleges. Send an official copy of the test results to the Assessment Center at the address listed above at least five weeks prior to registration.

English as a Second Language. Applicants not using English as the first or native language should call (320) 308-5089 or 1-800-222-1009, option 3 to schedule a test designed for non-native English speakers.

Testing Accommodations. Students who need accommodations (i.e. reader, interpreter, IEP) because of a disability or temporary disabling condition should call the above number to schedule testing. Documentation from a licensed medical practitioner will be required before accommodations can be arranged.

The College and programs may require tests in addition to basic academic skills testing. A \$5 fee will be charged for retesting.

Appeal Procedure. Students who feel their test scores do not accurately represent their readiness for college may appeal the requirement of a college readiness course. To appeal a college readiness course requirement, a student must fill out the appeal form, available in the Admissions Office, and provide any supporting documentation (i.e., transcripts, letters, test scores, etc.)

The form and the documentation must be returned to the Admissions Office. The college readiness appeals will be reviewed regularly by a committee made up of a counselor, a member of the college readiness assessment committee, and the appropriate faculty or academic dean. The student will be notified in writing of the committee's decision.

ACADEMIC HONESTY

Academic dishonesty is considered a disciplinary offense under St. Cloud Technical College's Student Code of Conduct. Academic dishonesty is defined as the submission of false academic records, cheating, plagiarism, altering, forging, or misusing a college academic record, acquiring or using test materials without faculty permission, acting alone or in

cooperation with another to falsify records or to obtain dishonest grades, honors, or awards. Any acts of academic dishonesty will be subject to disciplinary action and could result in sanctions as described in the College's Student Code of Conduct. Students are ensured due process in academic misconduct situations.

PROGRAM COMPLETION OPTIONS

It is the student's choice to earn a certificate, diploma, Associate of Applied Science (AAS) degree, or Associate of Science (AS) degree. Selecting the right option before registering will save time and money. The following options apply:

Certificate

The most basic program completion option; requires successful completion of the fewest credits; includes limited general studies courses.

Diploma

A more comprehensive program with extensive technical coursework to help develop job skills. The curriculum includes general studies courses. Before making a choice, students should be aware that general studies courses do not meet the Minnesota Transfer requirements. At the discretion of the receiving institution, these courses may be accepted as electives. Applicants are encouraged to check in advance if they intend to transfer to a four-year college or university.

Associate of Applied Science Degree (AAS)

Students register for general education courses from at least 3 of the 10 goal areas in the Minnesota Transfer Curriculum. Students must complete a minimum of at least one course from 3 of the 10 goal areas listed below:
(See program descriptions for details.)

1. Communication
2. Critical Thinking
3. Natural Sciences
4. Mathematical/Logical Reasoning
5. History and the Social and Behavioral Sciences
6. Humanities and Fine Arts
7. Human Diversity
8. Global Awareness
9. Ethical and Civic Responsibility
10. People and the Environment

Associate in Science (A.S.)

An Associate in Science (AS) degree may be awarded after the successful completion of a program in a designated field or area which transfers to a baccalaureate major in a related scientific, technical, or non-liberal arts professional field.

Associate in Arts (A.A.)

Collaboration between St. Cloud Technical College and Anoka-Ramsey Community College (ARCC) allows students to complete an Associate in Arts degree on the SCTC campus. ARCC and SCTC offer courses enabling students to obtain an AA degree awarded by Anoka-Ramsey Community College.

Bachelor of Applied Science Management (B.A.S.)

A special arrangement with Southwest Minnesota State University Marshall makes it possible for students to complete a Bachelor of Applied Science Degree in Management on the SCTC campus. The program is available to students who have successfully earned an A.A.S. degree from SCTC in Accounting, Finance and Credit, Sales and Management or Supervisory Management or an A.S. degree in Management. All classes are held two evenings per week and one weekend (Friday and Saturday) per month. Contact St. Cloud Technical College for more information.

General Education Course Transfer

The Minnesota Transfer Curriculum is the means by which students transfer their completed lower division general education work at one public college or university to meet lower division general/liberal education requirements at any public college or university in Minnesota. For more information about the Minnesota Transfer Curriculum, goal areas, and content, visit their website at www.mntransfer.org/.

ACADEMIC ADVISING

All students admitted to the College are assigned a program academic advisor. They must meet with their advisor prior to Orientation and Registration.

College counselors can also answer questions and are available by appointment for consultation. Call 320-308-5089 or 1-800-222-1009 to schedule a meeting with a program advisor or college counselor.

PROGRAM OPEN ENROLLMENT

Programs and courses that have seats available are open for enrollment before the start of each semester. Check programs that may require courses to be taken in sequence as they may not be offered every semester.

COURSE BY ARRANGEMENT

In extreme cases of schedule conflicts or unusual course demands, students with the approval of the Academic Deans, may take courses by arrangement. Students may not take previously failed courses by arrangement.

CREDIT BY EXAM (TEST OUT)

Test-outs may be written, oral, performance based, an interview or any combination of these. Academic advisors can supply additional information about course requirements and specific tests. The cost for test-out is determined annually and is published on the test-out form. The fees must be paid in the Business Office prior to the exam. The exam fees will not be refunded for students failing to demonstrate the necessary competency. Credit awarded shall be noted on the official student transcript. Test-outs are not allowed if the course has previously been taken for credit or if the student is currently enrolled in the course. Students must be enrolled at St. Cloud Technical College.

CREDIT FOR PRIOR EXPERIENTIAL LEARNING BASED ON LIFE/WORK EXPERIENCE

St. Cloud Technical College students may apply to obtain course credit based on previous relevant life/work experience. The experience must be documented through a portfolio process, usually won't exceed one third of the credits needed to complete a major, and will be noted as CR (credit by examination) on the college transcript. A non-refundable fee is charged for each course for which credit is being requested.

GRADUATION REQUIREMENTS

Students seeking to graduate from St. Cloud Technical College must:

- Satisfactorily complete the required curriculum.
- Diploma students must earn 1/3 of the technical/program credits at St. Cloud Technical College. AAS students must earn a minimum of 20 technical/program credits at St. Cloud Technical College. See MnSCU Policy 3.17.
- Maintain a minimum cumulative grade point average of 2.0. All health, computer career, and land surveying/civil engineering majors must earn a grade of "C" or better in all required courses.
- Satisfy all general and specific requirements of the college including fulfillment of all financial obligations.
- Students taking courses from SCSU must satisfy all requirements at that institution.
- Students may petition exceptions to technical program graduation requirements by officially requesting course substitutions using an academic policy appeal form. Forms are available in Records and Registration. The Academic Appeals Committee meets regularly to review appeals.
- Students who have received student loans must participate in exit counseling.

CREDIT LOAD

Students registered for at least 12 credits are considered full-time students. Students registered for 9-11 credits are considered three-quarter time students. Students registered for 6-8 credits are considered half-time students.

The recommended normal load is 16 credits per semester. The maximum allowable load without special permission is 20 credits. Students who wish to enroll for more than the established maximum must secure permission from their academic advisors. Students wishing to enroll for more than 25 credits must secure permission from the appropriate academic dean and academic advisor.

Students are classified according to course credits earned:
freshmen = 0 to 30, sophomore = 31 and more credits.

AUDITING CLASSES

Students who wish to attend the class sessions of a course, but do not wish to receive credit, must register for audit. Like credit courses, the same registration procedure is followed and the same fees are charged.

Students are expected to attend classes, but the taking of tests is optional. Audited courses do not affect the grade point average. Financial aid and veterans' benefits will not pay for audited courses.

"Course Audit Application Forms" must be obtained from Records and Registration and returned during the free enrollment period. Students are responsible for obtaining the required signatures. Incomplete forms will be returned to the student. In no case may students receive credit for a course which was audited unless the course is retaken for credit.

DECLARATION OF A MAJOR

To assist with educational planning, all students must declare a major upon completion of 16 semester credits of coursework as a resident student. Forms to declare a major may be obtained from the Admissions Office. Upon declaring a major, students will be assigned an academic advisor from their program.

INTERNSHIPS, PRACTICUMS AND CLINICALS

Many majors include the opportunity for students to participate in off-campus practical work experiences. In many cases these work experiences are required. The College may assist the student in finding an initial placement site. The College is not responsible for finding alternative off-campus work experience placement following a student's termination from the initial placement site.

Work experience includes the following:

- Internships
- Practicums
- Supervised occupational experience, clinical, training associations, and other off-site work experiences.

SERVICE LEARNING

Service Learning is a type of experiential learning that engages students in service within the community as an integrated part of a course. Effective service learning courses involve students in course-relevant activities in partnership with a community organization.

Information on Service Learning is available from the Office of Educational Partnerships 320-308-5908.

GRADING SYSTEM

The achievement of students is recorded using the following system:

“A” = Superior

“B” = Very good

“C” = Average

“D” = Passing (except specified majors)

“F” = Failing

“I” = Incomplete

“IP” = In progress

“N” = Non-Satisfactory

“N/C” = No credit

“P” = Passing

“W” = Withdraw

“CR” = Credit by examination. The “CR” is granted to students with advanced standing, test-out or credit by examination.

“AU” = Audit

“P” = indicates a “C” or better which means satisfactory progress.

Grade Changes

Grade changes on all courses must be completed by the end of the following term and approved by the Academic Dean.

REPETITION OF COURSES

A student who receives a grade of D, F or W in courses may repeat these courses in an effort to improve their grades. The highest grade earned will be used in calculating the student's grade point average (GPA). Repeating a course more than once will result in the removal of only one previous grade from the GPA calculation. If a student repeats a course in which a grade of C or better was originally earned, the last grade earned will be calculated in the grade point average. Regardless of the grade earned, students may only repeat a course two times.

All course attempts will remain on the student's permanent academic record.

NOTE: Some majors may have more restrictive policies for repetition of courses. Students may repeat courses at their own discretion. However, financial aid or veteran's assistance funding may not be available if the repeated course has already been completed satisfactorily.

INCOMPLETE

Students who are doing satisfactory work in a course, but cannot complete all requirements, may receive an incomplete “I”. An incomplete is given for reasons such as serious illness or family illness. Documentation may be required. Incomplete grades are assigned at the discretion of the course instructor only after the midpoint of the course. The course instructor and the student will develop a contract outlining the remaining work to be done. A signed copy of this contract will be kept on file in the academic division. Students must complete the course requirements within one semester. Incomplete spring semester coursework must be completed by the end of the following fall semester. Incomplete grades that are not changed by the end of the following semester will be changed to “F” for failure.

Grade changes on all courses must be approved by the appropriate Academic Dean.

GRADE POINT AVERAGE (GPA)

GPA is determined by adding all grade points earned and dividing by the sum of all credits attempted in courses where letter grades of A, B, C, D, or F were received. GPA is computed on a semester and cumulative basis. A semester example is shown below. Total

| Grade | Grade Points | Credits | Points |
|------------|--------------|---------|--------|
| A = | 4.00 x | 3 = | 12.00 |
| B = | 3.00 x | 4 = | 12.00 |
| C = | 2.00 x | 4 = | 8.00 |
| D = | 1.00 x | 3 = | 3.00 |
| F = | 0.00 x | 1 = | 0.00 |
| TOTAL | | 15 = | 35.00 |
| GPA EQUALS | | 35/15 = | 2.33 |

STUDENT SERVICES

CHILD CARE

On-campus child care is available for students. Parents must enroll their children before they are allowed to attend the day care. Enrollment and fee structure information may be obtained by calling the Campus Playhouse at (320) 534-0174. The Campus Childcare Center operates from 6:00 am to 6:00 pm. The center is accredited by the National Association for the Education of Young Children. Child care grants may be available through the Financial Aid Office.

COUNSELING: PERSONAL, ACADEMIC, CAREER

The mission of the Counseling Office is to facilitate students' academic, career, and personal success. It provides a variety of services including personal assessment to aid students or prospective students in choosing an appropriate program of study and counseling to assist in the completion of their programs.

Licensed counselors adhere to the "Ethical Standards for School Counselors" established by the American School Counselor Association. Students are encouraged to use the counseling service for any type of academic or personal concerns. When appropriate, referrals are made to outside agencies.

Appointments are preferred. The Counseling Office can be reached through the Admissions Office at (320) 308-5089.

Academic Achievement Center

The Academic Achievement Center offers full help for students who have academic needs. These services include tutoring, note taking, etc. For more details see the Student Handbook.

Career Center

The Career Center provides active support in helping graduates initiate their careers. For more information see the Student Handbook.

STUDENT RIGHTS, RESPONSIBILITIES AND CONDUCT

St. Cloud Technical College is committed to the creation and maintenance of an academic community which fosters the intellectual, personal, social and ethical development of its students. The College expects that each student will obey the laws enacted by federal, state and local governments. In addition, there are certain rules and regulations governing student conduct which have been established by St. Cloud Technical College and the Minnesota State Colleges and Universities Board of Trustees (MnSCU).

A number of offenses are defined by the St. Cloud Technical College Student Code of Conduct as disciplinary by the College. They include violations that range from academic violations to disruptive conduct. Violations include Alcohol and controlled substance possession to unauthorized use of college facilities,

theft, including, but are not limited to other security violations. The College reserves the right to review student behavior that occurs off campus if the behavior violates college policy and is of principle interest regarding the mission of the College.

The College is committed to due process in investigating complaints of conduct violations. Where students are found to be responsible for code violations, a variety of sanctions may be applied by the conduct officer. They can range from a warning, to restitution, to even suspension.

The entire Student Code of Conduct is included in the Student Handbook. It is important for students to familiarize themselves with it.

HOUSING

The Admissions Office provides a housing list to help students locate living quarters such as apartments, dorm rooms and single family dwellings.

STUDENT LIFE/SPORTS/RECREATION

The Student Senate and the Student Activities Coordinator are located in the Student Center. Information about recreational and extra-curricular activities is available in the Student Center. Sports available to students include: women's volleyball, women's basketball, men's basketball, men's baseball, and women's softball.

Students may receive a free membership to Whitney Recreation Center and the YMCA. Additional information on student life can be found in the Student Handbook.

LOCKERS

Students may rent a locker for a non-refundable fee per academic year.

CIVIL RIGHTS COMPLIANCE AND STUDENTS WITH DISABILITIES

See MnSCU Policy 1B.4

St. Cloud Technical College complies with the Americans with Disabilities Act, Section 504 of the Rehabilitation Act and Minnesota Human Rights Legislation, which cumulatively assure that "no otherwise qualified individual with a disability shall by reason of that disability, be excluded from participating in, or be denied the benefits of the services, programs or activities provided by the College, nor will the individual be subjected to discrimination." SCTC shall make reasonable accommodations to ensure access to programs, services and activities as required by law.

Equal access to communications originated from the College is also assured.

To support these assurances, the College will provide, upon student request and appropriate documentation of disability, reasonable accommodations, academic assistance, and advocacy services. Sufficient advance notice is required by qualified students when requesting accommodations and/or modifications. In accordance with the Americans with Disabilities Act, accommodations will not be provided 1) for personal “daily living” devices or services even though the individual may be a qualified individual with a disability, or 2) that result in a fundamental alteration in the nature of a service, program, or activity, or in undue financial or administrative burdens.

The process of requesting accommodations begins with completion of an SCTC Verification of Eligibility for Accommodations form. Forms and requests should be directed to Judy Jacobson-Berg at (320) 308-5096, (800) 222-1009, or (320) 308-5988 (TTY). A case-by-case determination will be made to establish eligibility for services and the nature and extent of such services. Students able to document a disability through a recent clinical assessment will be provided services and/or adaptive equipment determined to be necessary and most effective at no cost to the student. “Recent clinical assessments” include, but are not limited to, current officially signed and dated Assessment Summary Reports, psychological evaluations, doctors’ physical limits evaluations, audiograms, and letters from appropriately trained physicians, psychiatrists, psychometrists, or psychologists. High School Individual Education Plans (IEP’s) can be included as additional information. All documentation and resulting service plans are confidential and are kept in a “need-to-know-only” file separate from the student’s general college file, either hard copy or electronic.

Denial of services and devices necessary for assuring program access can be appealed by contacting the Office of the Vice President of Academic and Student Affairs.

Support Services/Accommodations Guidelines

- Be a self-advocate, know your needs and the menu of services, and ask for accommodations.
- Allow plenty of time for the College to supply the necessary services; two or more weeks is usually needed to provide signing interpreters, notetakers, textbooks on tape, etc.
- The College needs documentation concerning your disability. Examples of documentation are: audiograms, psychologist’s report, Individual Education Plans (IEPs), physical limits evaluations, etc. They are confidential and are held in the student’s confidential file in order to better meet the student’s support services needs.
- Students have the right to refuse recommended supplemental support services.

SUCCESS CENTER: STUDENT SUPPORT SERVICES (TRIO)

The Success Center is a federally funded student support program that offers a variety of free academic services for:

- low income students,
- students with disabilities,
- first generation college students whose parents do not have a bachelor degree.

The Center staff help students graduate successfully by:

- developing academic and career plans,
- providing academic advising,
- preparing new students for a successful college experience through the Summer Institute, and arranging peer and group tutoring/mentoring for students’ academic success.

See the Student Handbook for a complete listing of Success Center programs and supplemental support services for students with disabilities.

FINANCIAL AID

FINANCIAL AID

The student's family has the primary responsibility to pay for an education. Financial Aid is intended to supplement the difference between the cost of education and the expected family contribution. Several financial aid programs are available to help you meet your educational expenses. The Financial Aid Office can help you determine the financial aid programs for which you are eligible.

A student must be admitted to a program at St. Cloud Technical College (SCTC) that leads toward a degree or other recognized diploma. The Financial Aid Office determines your eligibility by applying federal guidelines.

For additional information, contact the Financial Aid Office at (320) 308-5961 or 1-800-222-1009, option 4.

STEPS TO RECEIVE FINANCIAL AID

Apply for admission to an eligible program at St. Cloud Technical College. Only students accepted into an eligible program are eligible for financial aid.

Step 1 You will need a PIN number to electronically sign your financial aid application. To apply for a PIN, go to www.pin.ed.gov. Parents may also apply for a PIN.

Step 2 Complete the financial aid application, which is also called the Free Application for Federal Student Aid (FAFSA). You can complete the FAFSA on-line at www.fafsa.ed.gov. A paper form is also available at St. Cloud Technical College (SCTC). The college code for SCTC is 005534. It takes approximately 2 weeks to process the on-line application and 4 weeks to process the paper version.

Step 3 Once your FAFSA has been completed, the Federal Processing Center will send you a Student Aid Report (SAR). Review your SAR to ensure that your information is correct.

Step 4 SCTC will also receive an electronic copy of your SAR and contact you if any additional documentation is needed.

Step 5 After all documentation is received, you will be sent an award notification. Your notification will include the grants and some of the student loan eligibility for which you qualify.

Step 6 Separate applications are required for student loans, work study, and the child care grant program. Your award notification will direct you when and where to apply for these funds.

Summer financial aid will be processed separately.

In order to qualify for a MN State Grant, the student's Free Application for Federal Student Aid (FAFSA) must be received by the Federal Processor no later than 30 days after the start of the term. Students whose FAFSA's are received by the Federal Processor after that date will be ineligible for MN State Grants.

FINANCIAL AID DEFINITIONS

Award Year

The award year for SCTC starts with the Fall Semester, followed by Spring Semester and Summer Terms. Summer is awarded separately from Fall and Spring Semesters.

Cost of Education

The cost of education includes tuition, fees, a room and board allowance, books, supplies, a transportation allowance, and a personal expense allowance.

Expected Family Contribution

The Expected Family Contribution (EFC) is an amount, determined by a formula called Federal Methodology, that you and your family are expected to contribute towards your educational expenses. The EFC is used in determining your eligibility for federal and state financial aid.

FAFSA

The FAFSA is the Free Application for Federal Student Aid. This is the form that starts the application process for all types of financial aid: grants, loans, or college work-study. This form needs to be completed every award year.

Financial Aid

Financial Aid is money that is available to help students finance the cost of an education. Financial aid comes in the form of grants (money that you do not have to pay back), loans (money that you must pay back), and college work-study (money you earn through employment).

Financial Need

Financial need is the difference between the cost of education and the expected family contribution calculated by the Federal Processing Center.

TYPES OF FINANCIAL AID

GRANTS

Grants are a gift aid which you do not have to pay back.

Federal Pell Grant

Undergraduate students may apply for the Federal Pell grant by completing the Free Application for Federal Student Aid (FAFSA).

Minnesota Grant

This is a grant for Minnesota residents who are attending an accredited post-secondary institution.

Federal Supplemental Educational Opportunity Grant (FSEOG)

This federal program is designed for students who have exceptional financial need.

Post-Secondary Child Care Grant

This is a grant for Minnesota resident's to help offset the cost of daycare to attend college.

Scholarships

A scholarship is money that does not need to be repaid. Scholarships are made possible through the generosity of private parties. A list of various scholarship resources can be found at <http://www.sctc.edu/financialAid/scholarships/>.

Work-Study

Work-study is employment for students both on and off campus. Pay is determined in accordance with the minimum wage laws. These programs provide for up to 20 hours of employment per week. Total work-study earnings are limited and based on need as determined by the FAFSA application.

LOANS

Loans are financial aid that must be paid back.

Federal Stafford Loan: Whether or not students qualify for a grant, most students can get help to meet their educational expenses by borrowing money under the Federal Subsidized Stafford Loan or the Unsubsidized Stafford Loan, as long as the student is in a program that leads toward a degree or diploma. Loan limits vary per academic year of education.

Federal PLUS Loan Program: The PLUS Loan Program for undergraduate students can be used by the parents of dependent students who are in need of additional funds for the education of their children. This program allows parents to borrow up to the cost of education minus other aid.

Student Educational Loan Fund (SELF): The SELF program is a long-term, low-interest educational loan provided by the State of Minnesota. SELF is for students who cannot obtain financial aid from the existing need based programs. The Minnesota Office of Higher Education (MOHE) is the only lender in the program. The program is unique to Minnesota. The amount that a student may borrow depends on other loans the student may already have borrowed and is limited by state regulations. The student must have a credit worthy cosigner in order to apply for the SELF loan.

VETERANS ASSISTANCE

Veterans applying for benefits under the GI Bill should contact the Veterans Assistance Representative (located in the Financial Aid Office). Early application for the GI Bill is recommended. Programs must be approved for Veterans benefits by the Minnesota State Approving Agency. Veterans must report any changes to the Veterans Assistance Representative, such as dropping or adding credits, address change, and especially withdrawing from the College. If you have further questions after seeing the Veterans Assistance Representative at the College, contact your local county Veterans Service Officer, or call the VA in St. Paul, MN at 1-800-827-1000 or the Regional Center in St. Louis, MO at 1-888-442-4551.

OTHER SOURCES OF FINANCIAL ASSISTANCE

Contact the Financial Aid Office for more information.

ENROLLMENT STATUS

| | |
|--------------------|--------------------|
| Full Time | 12 or more credits |
| 3/4 Time | 9-11 credits |
| 1/2 Time | 6-8 credits |
| less than 1/2 time | 1-5 credits |

The Minnesota State Grant Program requires 15 credits to be a full time student. Enrollment is determined at the end of the add/drop period, 12 credits is full-time for all other types of aid.

Disbursement of Financial Aid

Financial aid, including scholarships, grants, work study and loans, disburse 10 days after the start of each semester. At that point, financial aid first pays off all tuition and fees the student owes the college; then, if there are funds left over, an overage check is available for the student to pick up in the Business Office. Most financial aid awards are split evenly between fall and spring semester, except work study earnings, which are paid to the student worker **every two weeks**.

SATISFACTORY ACADEMIC PROGRESS (SAP)

Satisfactory Academic Progress (SAP) is defined as progression through an academic program within a prescribed time frame. Federal regulations require every school to develop a standard of satisfactory academic progress and monitor academic progress for all students. St. Cloud Technical College (SCTC) has a SAP policy that the Financial Aid Office monitors for all students on financial aid, and a policy that the Registrar's Office monitors for all students taking classes at SCTC. The following information is for financial aid eligible students only. Contact the Registrar's Office to obtain information on the SAP policy for all SCTC students.

SAP Standards

Students bear primary responsibility for their academic performance and for seeking assistance when experiencing academic difficulty. Three components of the student's record determine whether he/she meets SAP standards: minimum grade point average, credit completion ratio and maximum timeframe. (Credits forgiven under academic forgiveness will be included in the SAP standard calculations).

1. Minimum Grade Point Average

Students will be required to maintain a minimum 2.0 cumulative GPA. The following are included in the GPA calculation:

- A, B, C, D, F and NC
- Grades for credits taken under a consortium agreement
- English as Second Language (ESL) and remedial credits

2. Credit Completion Ratio

Students will be required to complete a minimum of 67% of all attempted credits. Credits attempted will be calculated at the end of the add/drop period (5th day of a term).

- Credits attempted include grades of: A, B, C, D, F, I, IP, P, NC and W
- Only the most recent grade received in a repeated course will be used in the calculation of your GPA
- Remedial and ESL credits are included in the calculation
- Credits taken at another institution, e.g., study abroad, are not considered earned until they are transferred to SCTC
- Audit credits are not considered attempted or earned

3. Maximum Timeframe

All students are expected to complete their program within an acceptable period of time. Financial Aid recipients may receive aid until they complete all of their required coursework or until they have attempted 150% of the required coursework in their program. Acceptable transfer credits will be treated the same as completed credits on campus. If students exceed the timeframe before they have finished their studies, they must pay for the remainder of their studies with their own funds.

To determine the total number of credits attempted for timeframe, the following courses are included:

- Credits attempted include grades of: A, B, C, D, F, I, IP, P, NC and W
- Transfer credits
- ESL and remedial credits

Additional SAP Standards

- If you change majors, the credits you earn under all majors will be included in the calculation of credit completion ratio and maximum timeframe credits, as well as your GPA calculation.
- If you are enrolled in multiple programs, all programs will be included in the calculation of credit completion ratio and maximum timeframe credits, as well as your GPA calculation.
- Transfer credits will be included when calculating your maximum timeframe, but not your GPA or credit completion. This includes credits earned from foreign institutions.
- If you are required to withdraw for military reasons, credit completion and maximum timeframe requirements will be waived for the semester of your official withdrawal.
- Credits earned as a Post Secondary Education Options (PSEO) student will not be included in the cumulative credit completion ratio, GPA, and the maximum timeframe calculation.
- Students earning a grade of an "F" in a required course must repeat that course satisfactorily prior to graduation. Students may repeat courses at the regular tuition rate.

- You can receive financial aid for repeated courses only if you earn credits each time you take the course and receive a grade of A,B,C or D.
- If a student drops a class after the add/drop period, but before the last official day to withdraw from a class, the student will receive a "W" grade. "W" grades affect the completion rate, but not the GPA.

Financial Aid Probation

If you fail to meet the above defined SAP standards, you will be placed on financial aid probation for one term. While on probation, you may still receive financial aid. To be removed from probation, you must meet the SAP standards at the end of your probation period. If you fail to meet the standards, you will be suspended at the end of your probation period. However, at the end of the probationary period a student who has been on probationary status has met the qualitative and quantitative standards listed above for all courses in which she or he was enrolled during the probationary period but has not met the institution's cumulative standards, the institution shall permit the student to retain her or his financial aid eligibility under a "continued probation" status, until such time as:

(a) the student has met the institution's cumulative qualitative and quantitative standards, at which time the student's financial aid eligibility shall be reinstated, or

(b) the student fails to meet the institution's qualitative or quantitative standards for the courses in which he or she was enrolled during the probationary period, at which time the institution shall suspend the student from financial aid eligibility immediately upon completion of the review, or

(c) the institution determines that it is not possible for a student to raise her or his GPA or course completion percentage to meet the institution's standards before the student would reach the end of the program for which he/she is receiving financial aid, at which time the institution shall suspend the student from financial aid eligibility immediately upon completion of the evaluation.

Financial Aid Suspension

You may be suspended if you fail to meet the SAP standards. While on suspension, you are not eligible for financial aid programs (excluding the alternative loan programs. Contact the Financial Aid Office for more details).

You may attend SCTC, at your own expense, until you attain the cumulative GPA and overall credit completion requirement. To return to financial aid eligible status, your record must reflect that you have met these requirements, or your SAP appeal must be approved.

The SAP Appeal Process

The appeal process is only for students who are suspended from financial aid eligibility. If you are suspended, you can file an appeal by completing a SAP Appeal form. To appeal, you must document a mitigating circumstance (such as a death in the family or extended illness) which temporarily prevented you from maintaining satisfactory academic progress. The appeal form is available at <http://www.sctc.edu/financialAid/forms/>. Complete the form and submit it to the Financial Aid Office. You will be notified in writing of a decision within 15 business days.

A student who has been suspended may receive financial aid after the appeal has been approved. At that point, the student will be granted another term of probation. Progress will then be re-evaluated at the end of the new probation term.

Academic Progress will be monitored as follows:

- All students with registered credits during a term will be evaluated at the end of the term.
- Any student who fails to meet the minimum SAP requirements for one term will be placed on financial aid probation for one term, commencing immediately.
- Any student on financial aid probation who fails to meet SAP requirements for a consecutive term will be subject to financial aid suspension, commencing immediately.
- You will be notified via your official SCTC mail if you are not meeting financial aid SAP standards.

SCTC will immediately suspend a student in certain circumstances, such as:

- A student who was previously suspended and whose academic performance falls below acceptable levels during a subsequent term of enrollment.
- A student who registers for, but does not earn any credits for two consecutive terms.
- A student who demonstrates an attendance pattern that abuses the receipt of financial aid.

The Financial Aid Office can be reached at (320) 308-5961 or (800) 222-1009, option 4.

REGISTRATION

ORIENTATION AND REGISTRATION

All accepted students are required to attend an Orientation and Registration session assigned for their major. At this session, students will be informed of college policies, procedures, and terminology. Failure to attend an assigned Orientation and Registration session may result in cancellation from the student's program of choice.

Any student who has "stopped out" (not attended classes) for one year or longer will be required to re-apply and attend an Orientation session prior to registration.

REGISTRATION & STUDENT RECORDS

The Office of Records and Registration is responsible for maintaining the student record system and for the publication of the course schedule. This office is additionally responsible for the release of transcripts, the awarding of degrees, diplomas, and certificates, and transfer of credit. Any questions regarding adding and dropping classes, transfer of credit and graduation, should be directed to Records and Registration. The web site, and hallway TV monitors provide important registration information.

Registration Process for Continuing Students

Students who are currently enrolled at the College will be eligible for priority registration for the following semester.

1. Review course information at www.sctc.edu.
2. Meet with faculty advisor. The advisor will review the individual program plan with the student to ensure registration for appropriate courses and to be sure that prerequisites and other education requirements have been met. The student must meet with an advisor in order to obtain a registration access code. The registration access code is necessary to access the online registration system.
3. Prepare a schedule worksheet to make certain that no time conflicts exist.
4. Follow registration instructions listed.
5. Submit immunization information.
6. Fulfill all financial obligations to the College, including parking tickets.
7. Return all overdue materials to the Library.
8. Students who are on academic probation must see a counselor in the Counseling Office prior to registration to complete an academic success plan.

Returning Students

Students who have "stopped out" (not attended classes) for one semester must meet with their academic advisor prior to registration.

REGISTERING FOR ST. CLOUD STATE UNIVERSITY COURSES

Students pursuing an Associate of Applied Science degree may also register for St. Cloud State University (SCSU) general education courses. St. Cloud Technical College students registering during the assigned priority period may register for up to eight credits per semester. Students registering for SCSU classes will register in person in Records and Registration. Information and publications are available in Records and Registration.

ACADEMIC FORGIVENESS

Students who have earned a cumulative grade point average of less than 2.0 may have the grades earned during that period of attendance forgiven. Academic Forgiveness may only be granted once and is limited to St. Cloud Technical College coursework. The student:

- May not be enrolled at St. Cloud Technical College for at least three years prior to re-enrollment.
- Must complete one term of full-time enrollment or equivalent with a grade point average of 2.0.
- Must petition for academic forgiveness from the Academic

The Appeals Committee uses the Academic Policy Appeal Form which is available in Records and Registration.

The Academic Appeals Committee will review student appeals. If academic forgiveness is granted, Records and Registration will make the following changes to the student's academic transcript:

1. All D or F grades earned in courses taken prior to the date of forgiveness will remain on the transcript, but will no longer calculate in the GPA.
2. Academic Forgiveness does not extend to financial aid.

All credits and all grades attempted will be included when determining satisfactory academic progress for financial aid purposes.

BUSINESS SERVICES

HEALTH SERVICE FEE

All students must pay a health service fee. The fee is determined annually and posted at www.sctc.edu/tuition. These funds purchase an accident insurance policy, \$5,000 limit, no deductible which covers students on campus and at all off campus college sponsored events including internships and supervised occupational experiences.

Since it is a secondary policy, if students are covered by another policy, this college policy will pay for the deductible on their primary policy. Claim forms and a reference copy of the policy are available in the Business Office.

MSCSA FEE

The Minnesota State College Student Association (MSCSA) is the recognized student association for Minnesota technical college students. A \$.30 per credit fee is charged to each student and credited to the association for state-wide representation. The fee is determined annually and posted at www.sctc.edu/fees.

PARKING REGULATIONS

Everyone using the parking lots between 7:00 a.m. and 10:00 p.m. is required to purchase a parking permit. Beginning Summer Session, 2006, students will be charged a parking/access fee at \$3 per credit. This fee will be charged automatically on the student's account. Students enrolled in purely online delivered courses will not be charged. Students on extended internships, or similar situations off-campus, may request a waiver of the fee. Daily parking permits are \$2. Students should also request a waiver if they have a current handicapped sticker. Permits will be available in the Business Office. Student parking will be limited to Lot A, Lot C, and Lot D. Vehicles without a permit will receive a ticket. A parking permit refund may be obtained from the Business Office on the same prorated basis used to refund tuition upon withdrawal from the College. In order to receive the refund, the permit must be returned at the time the refund is requested. Replacements for damaged permits may be purchased for \$2 upon presentation of the old permit. A \$10 fee will be charged for replacement of lost, stolen or damaged permits. Additional permits may be purchased for \$10. Motorcycle permits will be issued at no extra charge provided a regular permit has been purchased. Parking/access fees are reviewed annually and subject to change.

The purchase of a permit does not guarantee the availability of a parking space at all times. Any vehicle parked on the campus is parked at the risk of the owner. The College assumes no responsibility for care or protection of any vehicle or its contents. Unpaid parking tickets will be recorded and will prohibit a student from registering for classes and obtaining

transcripts.

PARKING VIOLATIONS

- Parking in prohibited area fine \$15.
- Parking in grass area fine \$15.
- Misuse of Handicapped Parking Only fine \$200. (handicapped placard or handicapped license plate must be displayed to be eligible to park in the college lot).
- Blocking of Fire Lane fine \$15.
- Altered/forged permit fine \$60.
- Motorcycles should be parked in areas designated as "Motorcycle Parking."
- Visitor parking is designated for guests only. Visitor permits are available at the Information Center.

Circumstances under which vehicles will be ticketed and/or towed shall include (but not limited to) the following:

1. Security and parking operations receives a complaint that a vehicle is illegally parked, obstructing traffic, impeding emergency responses and/or college operations, blocking pedestrian traffic, etc.
2. Vehicles parked in such a way to constitute a hazard, impede vehicular and pedestrian traffic, emergency responses and repair, or grounds operations.
3. Vehicles that have been autoclamped for 24 hours will be towed.

Circumstances under which vehicles will be ticketed and autoclamped are:

1. A vehicle displays a permit that has been reported as being lost or stolen, or one which has been altered or forged.
2. A vehicle has been issued three or more unpaid parking citations in the current academic year.

Appeals Procedure for a SCTC Parking Ticket

1. Tickets must be appealed within five (5) business days from date of issuance of ticket.
2. The parking appeals committee will meet every other Tuesday from 2:00 p.m. to 3:00 p.m. during the academic year to hear appeals.
3. Individuals may present their appeals in writing or be present for their appeal. Appeals will be considered by the committee on a first come, first served basis. Written appeals forms are available in the Business Office.

SENIOR CITIZEN

Residents 62 years or older may register tuition-free for any hour-based courses except for courses designed and offered specifically and exclusively for senior citizens (prerequisites

must be met). Exceptions may apply. State law says the senior citizen may take a course “when space is available after all tuition-paying students have been accommodated.” This means senior citizens must wait until the first class meeting to register at the class site. Senior citizens are responsible for all lab, book, and material fees. Senior citizens registering for credit-based courses are required to pay a \$9 per credit fee unless the class is audited. Audited classes are tuition free.

STUDENT ACTIVITY FEE

All students must pay a per credit student activity fee. The Student Senate uses these funds to sponsor special events for students. A complete budget may be requested from your Student Senate representative. The fee is determined annually and posted at www.sctc.edu/tuition.

TECHNOLOGY FEE

The purpose of the technology fee is to increase service, quality and/or access to high-end technology. The technology fee will be charged to all students. The fee is determined annually and posted at www.sctc.edu/tuition.

TRANSCRIPT FEE

Students may obtain an official transcript of their grades by completing a request for transcripts and paying \$7 for each transcript requested.

TUITION AND FEE POLICY

Tuition rates per credit and fees are subject to change according to Minnesota State College and Universities (MnSCU) and/or college policies. Please check with the Business Office for current credit tuition schedules.

TUITION DEFERMENT

SCTC offers a service for those students who must defer tuition and other college costs, and who do not qualify or are not eligible for agency funding, loans or grants. The College contracts with FACTS, a tuition management company that provides a low cost option for budgeting students' college costs. SCTC/FACTS has established several payment schedules requiring various down payment amounts and number of payment dates. Students register on-line with FACTS via the SCTC web site, www.sctc.edu, and authorize automatic bank payments or apply charges to a credit card.

No students will be allowed to register for a new term if deferred payments from a previous term are not current. Payments may be deferred for only the current semester and the entire balance must be paid in full by the end of that semester. A \$30 processing fee will be charged for each deferment agreement. Deferred payment plans cannot be established or extended for past debt or for students not currently enrolled. Additional information on FACTS payment options is available from the

Business Office at 320-308-5572.

TUITION PAYMENT

Per MnSCU Policy 5.12, effective Fall Semester, 2006, payment of tuition and fees will be due 14 calendar days prior to the start of the semester. Students whose tuition is unpaid, or do not have other approved financial arrangements in place by this deadline will have their registration cancelled and be denied entrance to class. To avoid registration cancellation, one of the following approved financial arrangements must be in place:

- Tuition/fees paid in full
- Down Payment of 15% of tuition/fees or \$300 through the FACTS tuition payment plan
- Financial Aid in place, meaning the FAFSA is complete and the College has an ISIR on file
- Scholarship or other agency/third party support in place of at least 15% of tuition/fees or \$300 through the FACTS tuition payment plan
- PSEO student enrollment agreement
- An international student with active I-20 or DS2019 in place

Students are financially obligated for every class in which they are registered, and it is the student's responsibility to check their balance due either on-line or in person in the business office. No invoices or tuition statements are mailed. Accounts may be reviewed and payments made online at: www.sctc.edu. Log into the registration module and click on “my account”. Follow the directions provided to pay with Visa, e-checks, Mastercard or Discover credit cards. International students not meeting the payment criteria outlined above will have their registration cancelled after the fifth day of the term.

Students are responsible to ensure that financial aid documents (ISIR with the Financial Aid Office) and agency awards (documents with the Business Office) are complete and on file prior to the deadline date. Students will be allowed to add courses to their schedules through the drop/add period only with full payment unless a FACTS account has been previously established.

If a student's account is not paid in full, a hold will be placed on the student's account and a \$30 late fee may be applied. The student will be unable to register for future classes or receive an official transcript until full payment is made. Students taking courses from St. Cloud State University will be financially obligated to pay for all registered courses at St. Cloud State University. The course will not be calculated on your SCTC bill. Individuals that submit Non Sufficient Fund (NSF) checks will be subject to a \$25 fine and be asked to make restitution by cash, credit card or cashier's check. A registration hold will be placed on the student's account. The policy on NSF checks and the fine are subject to change without notice.

REFUNDS, DROPS, WITHDRAWALS, AND WAIVERS, MNSCU POLICY 5.12

Refunds for Dropped Classes

Degree seeking students may add or drop courses using the WEB registration system through the fifth business day (6:00 p.m.) of the term. All other add/drop/withdraws must be completed in the registration office. The deadline for dropping full semester courses is the fifth class day of the semester at 6:00 p.m. Students are obligated for any classes dropped after the fifth day of the term (6:00 p.m.) or one business day (after the first class session) for shorter courses. Dropping a course by the deadline means the course is removed from your class schedule, you are not financially responsible, and the course does not appear on your transcript.

Withdrawing from a Course

Students withdrawing from a single course (after the add/drop period listed above) are not eligible for a refund and will receive a grade of W. Students may withdraw from full term courses through the 12th week of the semester or through 75% of the class for shorter courses. A course withdrawal form can be completed in Records and Registration.

Refunds for Total Withdrawal from College

Students who officially and totally withdraw from the College may be eligible for a refund as defined below. Withdrawal forms are available in the Admissions Office. A student who withdraws simply by non-attendance will not be eligible for a refund. When students do not officially withdraw, they will receive the earned grade in each course for which they are registered and will be liable for all tuition and fees for those courses.

Fall and Spring terms:

Total Withdrawal from College Refund Period

| | |
|---|------|
| 1st through 5th class day of the term | 100% |
| 6th through 10th class day of the term | 75% |
| 11th through 15th class day of the term | 50% |
| 16th through 20th class day of the term | 25% |
| after 20th class day of the term | 0 |

Summer term:

Total Withdrawal from College Refund Period

| | |
|--|------|
| 1st through 5th class day of the term | 100% |
| 6th through 10th class day of the term | 50% |
| after the 10th class day of the term | 0 |

Waivers

The College President may waive amounts due to St. Cloud Technical College for the following reasons:

- Employee Benefit Provided by a Bargaining Agreement
- Death of a Student
- Medical Reasons
- College Error or Unsatisfactory Service
- Employment Related Conditions
- Significant Personal Circumstances
- Student Leader Stipends
- Course Conditions

A course condition exists when the location or timing of the course results in the student not being able to use the services intended by a fee.

Each college or university shall define the terms under which any authorized waiver will be granted. The college or university must document the reason for all waivers.

door15

CUSTOMIZED TRAINING AND DEVELOPMENT

WELCOME TO door15 at St. Cloud Technical College where class offerings vary from continuing education, learning on-line, and customized training.

CONTINUING EDUCATION COURSES are classes that are open to the general public. These courses may apply toward professional and personal development, certification, and advancement requirements of a trade or profession. Course offerings include:

- Forklift Training
- Health Care Classes
- High-Low Pressure Steam Engineering
- MnDOT Truck Re-Certification
- Truck Driver's Training Program
- Real Estate
- Workplace Spanish

LEARNING-ON-LINE COURSES include over 4,000 options through our ed2go partnership. Browse courses by department such as The Internet, Web Page Design, Computer Applications, Law & Legal Careers, Grant Writing and more by visiting our web site at www.door15.com. Try Learning-on-Line FREE! Call us at 320-308-0015 or visit our web site. You are just three clicks away from two free lessons.

1. Visit www.door15.com
2. Click on "Do you want to take a class?"
3. Click on "Learning On-Line".

CUSTOMIZED TRAINING COURSES are specifically designed to meet the continuing education and training needs of our public and private sector employers. These courses are held at the business site or at the SCTC campus. Some popular course offerings include:

- Customer Service
- Leadership Training
- Manufacturing Skills
- Sales

For more information please call door15 at 320-308-0015.

LONG-TERM CARE CONNECTION is a customized Practical Nursing Program designed for nursing assistants working in long-term care facilities. Students are able to attain a degree part-time, while working and attending to family fulltime. Non-traditional scheduling and teaching methods are utilized for the adult learner. Contact door15 at 320-308-0015.

EMERGENCY MEDICAL, SAFETY EDUCATION AND FIRE FIGHTING is a division of door15 at St. Cloud Technical College.

The health and safety related programs and courses are offered as CEU, customized, or credit based and in collaboration with local hospitals, police, and ambulance personnel and fire fighters. Courses include:

- CPR
- Emergency Medical Technician
- Fire Fighting
- First Responder

MOTORCYCLE TRAINING IS LOCATED IN ST. CLOUD, MN

THE BASIC RIDER COURSE is for the beginning rider. The curriculum and materials are supplied by the Motorcycle Safety Foundation (MSF), and our instructors are MSF-certified. The course includes both classroom and on-cycle instruction, with high-quality, personalized coaching, and several hours of practice riding. door15 also provides the motorcycles free of charge for training purposes.

THE ADVANCED RIDER COURSE is designed for riders with one or many years' experience. Riders practice advanced motorcycle handling skills on their own bikes. Certified instructions draw from student knowledge and experience to coach riders to success.

MOPED TRAINING is designed to benefit anyone who wants to ride on two wheels. The course consists of four hours of classroom training.

DAYS AND HOURS

door15 at St. Cloud Technical College office hours:

| | |
|-----------------|-----------------------|
| Monday–Thursday | 7:30 a.m. – 6:00 p.m. |
| Friday | 7:30 a.m. – 4:00 p.m. |
| Summer Hours: | |
| Monday-Thursday | 7:30 a.m. – 5:00 p.m. |
| Friday | Closed |

For more information, please call:

320-308-0015 or 1-800-222-1009 option 6 or visit us online at www.door15.com

Accounting Careers

Accountant AAS Degree (72 Credits)



Program Description

The Accounting Careers program prepares students for long-term office positions, as well as to meet the exacting requirements of bookkeeping and accounting. Certain skills are common to all accounting career occupations and are included in all accounting career programs. All accounting careers emphasize analysis, decision-making, and using computers.

Students will gain experience working with calculators, microcomputers and microcomputer software.

Prospective students should have an average or above average academic record. Personal qualities which are important are a good aptitude for working with numbers, good vocabulary, strong oral communication skills, organizational ability and attention to detail.

An accountant examines, analyzes and interprets accounting data for the purpose of giving advice and preparing financial statements. Duties may include recording receipts, disbursements, and preparing state and federal reports. The accountant may prepare reports and statements manually or using a computer.

Students graduating with an AAS or Diploma qualify to sit for the Registered Accounting Practitioner exam in the State of Minnesota.

Students successfully completing the degree may choose to further advance their education by obtaining a Bachelor of Applied Science Degree in Management from Southwest Minnesota State University, Marshall. Students attend two evening classes per week and one weekend class per month at St. Cloud Technical College.

Career Opportunities

This program is designed to prepare students as accountants in both private and public accounting. Any business, company, or non-profit enterprise is a great job prospect for an accounting graduate.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| ACCT1215 | Accounting Principles I | 4 |
| BUSM1215 | Business Writing..... | 2 |
| BUSM1260 | Applied Business Mathematics/Calculators | 3 |
| BUSM1267 | Introduction to Business | 2 |
| BUSM1275 | Business Law | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------------|---|
| ACCT1216 | Accounting Principles II | 4 |
| ACCT1217 | Cost Accounting I | 4 |
| ACCT1218 | Computerized Accounting I..... | 3 |
| ACCT1219 | Spreadsheets-Microsoft Excel | 2 |
| ACCT1220 | Payroll Accounting | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| ACCT2226 | Intermediate Accounting I | 4 |
| ACCT2228 | Cost Accounting II/Managerial Accounting | 4 |
| ACCT2230 | Income Tax I | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|----------------------------------|---|
| ACCT2219 | Computerized Accounting II..... | 3 |
| ACCT2227 | Intermediate Accounting II | 4 |
| ACCT2231 | Income Tax II..... | 2 |
| ACCT2234 | Auditing..... | 3 |

General Education

| | | |
|----------|--|----|
| CMST1320 | Introduction to Speech Communication | 3 |
| CPTR1300 | Exploring Computers..... | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | General Education Electives..... | 10 |

Estimated cost of books, supplies and materials: \$1,560

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Accounting Careers

*Business Management Associate in Science Degree
Accounting Emphasis (64 Credits)*



Program Description

Students will gain theoretical and practical knowledge required to manage in a business environment. The Associate in Science Degree in Business Management allows students to move directly into a career in the business field or to transfer to another institution to earn a Bachelor of Applied Science Degree in Management.

Career Opportunities

The Business Management program is designed to prepare graduates for entry-level positions that may lead to management opportunities in a wide variety of business fields such as sales, accounting, and credit and finance.

Students successfully completing the AAS degree may choose to further advance their education by obtaining a Bachelor of Science Degree in Management through Southwest State University, Marshall, MN. Students attend two evening classes per week and one weekend class per month at St. Cloud Technical College.

Accounting Emphasis - 14 Technical credits (one class minimum from each of the three groups):

Group 1

| | | |
|----------|--------------------------|---|
| ACCT1220 | Payroll Accounting | 2 |
| ACCT2230 | Income Tax I | 4 |
| ACCT2231 | Income Tax II | 2 |

Group 2

| | | |
|----------|----------------------------------|---|
| ACCT1218 | Computerized Accounting I | 3 |
| ACCT1219 | Spreadsheets | 2 |
| ACCT2219 | Computerized Accounting II | 3 |

Group 3

| | | |
|----------|--|---|
| ACCT1217 | Cost Accounting I | 4 |
| ACCT2226 | Intermediate Accounting I | 4 |
| ACCT2228 | Cost Accounting II/Managerial Accounting | 4 |

Technical Studies

| | | |
|----------|---|---|
| ACCT1215 | Accounting Principles I | 4 |
| ACCT1216 | Accounting Principles II | 4 |
| SAMG1200 | Principles of Marketing | 3 |
| SAMG1210 | Customer Service/Sales Techniques | 3 |
| SAMG1215 | Principles of Management | 3 |
| SAMG1225 | Business Ethics and Law | 3 |

General Education

| | | |
|----------|---------------------------------------|---|
| CPTR1300 | Exploring Computers | 3 |
| CSSC1302 | Career Development/Job Search | 1 |
| ECON1320 | Introduction to Macroeconomics | 3 |
| ECON1330 | Introduction to Microeconomics | 3 |
| ENGL1302 | Analytical Writing | 4 |
| MATH1300 | College Algebra | 3 |
| MATH1445 | Introduction to Statistics | 3 |
| | Critical Thinking or Humanities | 3 |
| | Communications-Oral | 3 |
| | Social Science | 3 |
| | General Education Electives | 1 |

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Accounting Careers

Accountant Diploma (65 Credits)



Program Description

The Accounting Careers Program prepares students for long-term office positions, as well as to meet the exacting requirements of bookkeeping and accounting. Certain skills are common to all accounting career occupations and are included in all accounting career programs. All accounting careers emphasize analysis, decision-making, and using computers.

Students will gain experience working with calculators, microcomputers and microcomputer software.

Prospective students should have an average of above average academic record. Personal qualities which are important are a good aptitude for working with numbers, good vocabulary, strong oral communication skills, organizational ability and attention to detail.

An accountant examines, analyzes and interprets accounting data for the purpose of giving advice and preparing financial statements. Duties may include recording receipts, disbursements, and preparing state and federal reports. The accountant may prepare reports and statements manually or using a computer.

Students graduating with an AAS or Diploma qualify to sit for the Registered Accounting Practitioner exam in the State of Minnesota.

Students successfully completing the degree may choose to further advance their education by obtaining a Bachelor of Applied Science Degree in Management from Southwest Minnesota State University, Marshall. Students attend two evening classes per week and one weekend class per month at St. Cloud Technical College.

Career Opportunities

This program is designed to prepare students as accountants in both private and public accounting. Any business, company, or non-profit enterprise is a great job prospect for an accounting graduate.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| ACCT1215 | Accounting Principles I | 4 |
| BUSM1200 | Microsoft Software | 3 |
| BUSM1260 | Applied Business Mathematics/Calculators | 3 |
| BUSM1267 | Introduction to Business | 2 |
| BUSM1275 | Business Law | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------------|---|
| ACCT1216 | Accounting Principles II | 4 |
| ACCT1217 | Cost Accounting I | 4 |
| ACCT1218 | Computerized Accounting I | 3 |
| ACCT1219 | Spreadsheets-Microsoft Excel | 2 |
| ACCT1220 | Payroll Accounting | 2 |
| BUSM1215 | Business Writing | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| ACCT2226 | Intermediate Accounting I | 4 |
| ACCT2228 | Cost Accounting II/Managerial Accounting | 4 |
| ACCT2230 | Income Tax I | 4 |
| ACCT2233 | Fund/Not-for-Profit Accounting | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|----------------------------------|---|
| ACCT2219 | Computerized Accounting II | 3 |
| ACCT2227 | Intermediate Accounting II | 4 |
| ACCT2231 | Income Tax II | 2 |
| ACCT2234 | Auditing | 3 |
| BUSM1290 | Job Seeking/Keeping Skills | 1 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| | General Studies Electives | 3 |

Estimated cost of books, supplies and materials: \$1,360

Accounting Careers

Accounting Microcomputer Specialist Diploma (48 Credits)



Program Description

The Accounting Careers Program prepares students for long-term office positions, as well as to meet the exacting requirements of bookkeeping and accounting. There is emphasis on analysis, decision-making skills, and using computers.

Students will gain experience working with calculators and computer equipment. As a result of the increasing demand for the application of accounting theory to data processing, students will receive training on microcomputers and microcomputer software.

Prospective students should have an average or above average academic record. Personal qualities which are important are a good aptitude for working with numbers, good vocabulary, strong oral communication skills, organizational ability and attention to detail.

An accountant examines, analyzes and interprets accounting data for the purpose of giving advice and preparing financial statements. Duties may include recording receipts, disbursements, and preparing state and federal reports. The accountant may prepare reports and statements manually or using a computer.

Career Opportunities

Any business, company, or non-profit enterprise is a great job prospect for an Accounting Microcomputer Specialist.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| ACCT1215 | Accounting Principles I | 4 |
| BUSM1200 | Microsoft Software | 3 |
| BUSM1260 | Applied Business Mathematics/Calculators | 3 |
| BUSM1267 | Introduction to Business | 2 |
| BUSM1275 | Business Law | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------------|---|
| ACCT1216 | Accounting Principles II | 4 |
| ACCT1217 | Cost Accounting I | 4 |
| ACCT1218 | Computerized Accounting I | 3 |
| ACCT1219 | Spreadsheets-Microsoft Excel | 2 |
| ACCT1220 | Payroll Accounting | 2 |
| BUSM1215 | Business Writing | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|----------------------------------|---|
| ACCT2219 | Computerized Accounting II | 3 |
| ACCT2230 | Income Tax I | 4 |
| BUSM1290 | Job Seeking/Keeping Skills | 1 |
| CMSC1261 | Microcomputer Database | 3 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$1,104

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Accounting Careers

Accounting Clerk Diploma (34 Credits)



Program Description

The Accounting Careers Program prepares students for long-term office positions, as well as to meet the exacting requirements of bookkeeping and accounting. There is emphasis on analysis, decision-making skills, and using computers.

Students will gain experience working with calculators and computer equipment. As a result of the increasing demand for the application of accounting theory to data processing, students will receive training on microcomputers and microcomputer software.

Prospective students should have an average or above average academic record. Personal qualities which are important are a good aptitude for working with numbers, good vocabulary, strong oral communication skills, organizational ability and attention to detail.

An accountant examines, analyzes and interprets accounting data for the purpose of giving advice and preparing financial statements. Duties may include recording receipts, disbursements, and preparing state and federal reports. The accountant may prepare reports and statements manually or using a computer.

An Accounting Clerk performs any combination of routine calculating, posting, and verifying duties to obtain primary financial data. A clerk maintains accounting records; posts details of business transactions such as receipts, disbursements, checks, and claims; reconciles bank statements; and prepares vouchers, invoices, and other records.

Career Opportunities

Any business, company or non-profit enterprise is a great job prospect for an Accounting Clerk.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| ACCT1215 | Accounting Principles I | 4 |
| BUSM1200 | Microsoft Software | 3 |
| BUSM1215 | Business Writing | 2 |
| BUSM1260 | Applied Business Mathematics/Calculators | 3 |
| BUSM1267 | Introduction to Business | 2 |
| BUSM1275 | Business Law | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------------|---|
| ACCT1216 | Accounting Principles II | 4 |
| ACCT1218 | Computerized Accounting I | 3 |
| ACCT1219 | Spreadsheets-Microsoft Excel | 2 |
| ACCT1220 | Payroll Accounting | 2 |
| BUSM1290 | Job Seeking/Keeping Skills | 1 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$794

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Administrative Support Careers

Administrative Secretary AAS Degree (64 Credits)



Program Description

The Administrative Secretary AAS Degree prepares a student with a variety of clerical and administrative duties needed to run an office. Administrative Secretaries perform and coordinate an office's clerical tasks. They also make sure that correct information is given out to staff and clients. Administrative Secretaries work in all types of firms and organizations. They successfully complete courses in high-level technical and communication skills, priority setting and ethics.

Career Opportunities

Administrative Secretary AAS Degree graduates successfully complete internships in a variety of businesses, legal, medical, educational and governmental offices. Many of the internship sites transfer into full-time jobs.

All students are required to purchase a program-specific laptop. Vendors will be available on campus during orientation week.

Acceptance Requirements and Credits

Basic Keyboarding..... 1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 35 words per minute with five or fewer errors on a 2 minute timing. Students must show proof with a high school transcript, Tech Prep certificate or other documentation showing they have completed a keyboarding course that meets these requirements. Otherwise, this course is available fall and spring semester.

Suggested Technical Studies Semester I

ADMS1202 Keyboarding/Word Processing 3
ADMS1207 Office Procedures I 3
BUSM1215 Business Writing..... 2
BUSM1275 Business Law 2
CPTR1300 Exploring Computers..... 3

Suggested Technical Studies Semester II

ACCT1215 Accounting Principles I 4
ADMS1203 Advanced Keyboarding/Word Processing Appl. 3
ADMS1208 Office Procedures II 3

Suggested Technical Studies Semester III

ADMS1204 Advanced Microsoft Office 3
ADMS1206 Keyboard Speedbuilding 1
ADMS2240 Administrative Office Management and Supervision 3
BUSM1290 Job Seeking/Keeping Skills 1

Suggested Technical Studies Semester IV

ADMS1214 Administrative Desktop Publishing 3
ADMS2210 AAS Internship 4
BUSM1256 Web Site Management..... 2

Technical Studies Electives

Technical Studies Electives 4

General Education

CMST1320 Introduction to Speech Communication 3
Communications-Written..... 4
Humanities 3
Mathematics..... 3
Social Sciences 3
General Education Electives..... 4

Estimated cost of books, supplies and materials: \$3,900

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Administrative Support Careers

Health Information Technology AAS Degree (71 Credits)



Program Description

Health Information Technology professionals are critical to the support of clinical staff in the health care industry. Physicians, nurses and other direct patient-contact personnel rely on well-trained medical office professionals to assist them in the creation and retention of quality medical documentation based on patient care. They successfully complete courses in transcription, insurance coding, computerized medical records, and supervisory management.

Career Opportunities

Health Information Technology graduates successfully complete internships in clinics, hospitals, insurance offices, medical testing facilities, long-term care facilities, and industrial medical facilities. Many of these internship sites transfer into full-time jobs.

All students are required to purchase a program-specific laptop. Vendors will be available on campus during orientation week.

Acceptance Requirements and Credits

Basic Keyboarding..... 1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 35 words per minute with five or fewer errors on a 2 minute timing. Students must show proof with a high school transcript, Tech Prep certificate or other documentation showing they have completed a keyboarding course that meets these requirements. Otherwise, this course is available fall and spring semester.

Suggested Technical Studies Semester I

ADMS1202 Keyboarding/Word Processing 3
ADMS1221 Medical Machine Transcription I..... 3
ADMS1223 Administrative Medical Terminology..... 2
ADMS1224 Administrative Pharmacology 2
ADMS1225 Introduction to Health Information Technology..... 3

Suggested Technical Studies Semester II

ADMS1222 Medical Machine Transcription II 3
ADMS1227 ICD-XCM Medical Insurance Coding..... 3
ADMS1240 Computerized Health Information..... 3
HLTH1444 Introductory Anatomy and Physiology..... 4

Suggested Technical Studies Semester III

ADMS1226 CPT Insurance Coding..... 3
ADMS2204 Administrative Pathophysiology I..... 3
ADMS2212 Quality Improvement and Healthcare Statistics 3
ADMS2240 Administrative Office Management and Supervision 3
BUSM1290 Job Seeking/Keeping Skills..... 1

Suggested Technical Studies Semester IV

ADMS2210 AAS Internship 4
ADMS2220 Legal Aspects of Health Information..... 3
ADMS2224 Advanced Medical Coding 3
ADMS2242 Healthcare Information Systems..... 2
ADMS2244 HIT Review for Certification..... 2

General Education

CMST1320 Introduction to Speech Communication..... 3
CPTR1300 Exploring Computers..... 3
Communications-Written..... 4
Humanities..... 3
Mathematics..... 3
Social Sciences 3

Estimated cost of books, supplies and materials: \$3,700

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Administrative Support Careers

Legal Administrative Secretary AAS Degree (66 Credits)



Program Description

Administrative Support Legal Office professionals are critical to the support of attorneys and other legal staff in law firms, government agencies, and corporate legal departments. Well-trained legal office professionals assist attorneys and other legal professionals in the creation and retention of quality legal documentation. The AAS legal students train on the latest computer technology. They successfully complete courses and have comprehensive knowledge in litigation, family, real estate, estate planning, probate, civil, corporate, criminal, and bankruptcy law appropriate to a legal administrative assistant. Their studies also include subjects such as accounting, supervisory management, the humanities, social sciences and more.

Career Opportunities

Administrative Support Legal Office graduates successfully complete internships in law firms, court administrator offices, and other legal service facilities. These internship sites may lead to full-time jobs. There is a strong demand in the legal workplace for Administrative Support Legal Office graduates.

All students are required to purchase a program-specific laptop. Vendors will be available on campus during orientation week.

Acceptance Requirements and Credits

Basic Keyboarding..... 1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 35 words per minute with five or fewer errors on a 2 minute timing. Students must show proof with a high school transcript, Tech Prep certificate or other documentation showing they have completed a keyboarding course that meets these requirements. Otherwise, this course is available fall and spring semester.

Suggested Technical Studies Semester I

ADMS1202 Keyboarding/Word Processing 3
ADMS1237 Administrative Legal Office Procedures 4
ADMS2231 Paralegal Basic Law I 4
BUSM1215 Business Writing..... 2
BUSM1275 Business Law 2
CPTR1300 Exploring Computers..... 3

Suggested Technical Studies Semester II

ACCT1215 Accounting Principles I 4
ADMS1203 Advanced Keyboarding/Word Processing Appl. 3
ADMS2232 Paralegal Basic Law II..... 4

Suggested Technical Studies Semester III

ADMS1206 Keyboard Speedbuilding 1
ADMS1223 Administrative Medical Terminology..... 2
ADMS2240 Administrative Office Management and
Supervision 3

Suggested Technical Studies Semester IV

ADMS1204 Advanced Microsoft Office 3
ADMS1236 Administrative Legal Transcription..... 3
ADMS2210 AAS Internship 4
BUSM1290 Job Seeking/Keeping Skills 1

General Education

CMST1320 Introduction to Speech Communication 3
Communications-Written..... 4
Humanities..... 3
Mathematics..... 3
Social Sciences 3
General Education Electives..... 4

Estimated cost of books, supplies and materials: \$3,700

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Administrative Support Careers

Office Technology Assistant Diploma (32 Credits)



Program Description

The Office Technology Assistant Program prepares students for performing a full range of office tasks. This major provides businesses with employees that have good skills in communications, telephone techniques, computer usage, and human relations.

Career Opportunities

Graduates of the Office Technology Assistants Program become employed in a variety of businesses processing incoming and outgoing mail, keyboarding documents and forms, transcribing business documents from machine dictation, filing and retrieving records, and handling telephone calls.

All students are required to purchase a program-specific laptop. Vendors will be available on campus during orientation week.

Acceptance Requirements and Credits

Basic Keyboarding..... 1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 35 words per minute with five or fewer errors on a 2 minute timing. Students must show proof with a high school transcript, Tech Prep certificate or other documentation showing they have completed a keyboarding course that meets these requirements. Otherwise, this course is available fall and spring semester.

Suggested Technical Studies Semester I

ACCT1204 Fundamentals of Accounting I..... 2
ADMS1202 Keyboarding/Word Processing 3
ADMS1207 Office Procedures I 3
BUSM1200 Microsoft Software 3
BUSM1222 Oral Business Presentations..... 2

Suggested Technical Studies Semester II

ADMS1203 Advanced Keyboarding/Word Processing Appl. 3
ADMS1204 Advanced Microsoft Office 3
ADMS1206 Keyboard Speedbuilding 1
ADMS1208 Office Procedures II..... 3
BUSM1215 Business Writing..... 2
BUSM1290 Job Seeking/Keeping Skills 1

General Studies

ENGL1100 Writing for the Workplace 3
GBEH1300 Human Relations 3

Estimated cost of books, supplies and materials: \$2,700

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Administrative Support Careers

Office Technology Assistant/Legal Diploma (40 Credits)



Program Description

Legal Office Technology Assistants work with lawyers and other legal support staff. The Legal Office Technology Assistants train on the latest computer technology. They successfully complete courses and have comprehensive knowledge in litigation, family, real estate, estate planning, probate, civil, corporate, criminal, and bankruptcy law appropriate to a legal administrative assistant.

Career Opportunities

Legal Office Technology Assistants become employed in law firms, court administrator offices, and other legal service facilities. There is a strong demand in the legal workplace for Legal Office Technology Assistant graduates.

All students are required to purchase a program-specific laptop. Vendors will be available on campus during orientation week.

Acceptance Requirements and Credits

Basic Keyboarding..... 1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 35 words per minute with five or fewer errors on a 2 minute timing. Students must show proof with a high school transcript, Tech Prep certificate or other documentation showing they have completed a keyboarding course that meets these requirements. Otherwise, this course is available fall and spring semester.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| ADMS1202 | Keyboarding/Word Processing | 3 |
| ADMS1237 | Administrative Legal Office Procedures | 4 |
| ADMS2231 | Paralegal Basic Law I..... | 4 |
| BUSM1200 | Microsoft Software | 3 |
| BUSM1222 | Oral Business Presentations..... | 2 |
| BUSM1275 | Business Law | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| ADMS1203 | Advanced Keyboarding/Word Processing Appl. | 3 |
| ADMS1206 | Keyboard Speedbuilding | 1 |
| ADMS1223 | Administrative Medical Terminology..... | 2 |
| ADMS1236 | Administrative Legal Transcription..... | 3 |
| ADMS2232 | Paralegal Basic Law II..... | 4 |
| BUSM1215 | Business Writing..... | 2 |
| BUSM1290 | Job Seeking/Keeping Skills | 1 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$3,700

Administrative Support Careers

Office Technology Assistant/Medical Diploma (45 Credits)



Program Description

Medical Office Technology Assistants work with physicians and other medical support staff. The Medical Office Technology students learn medical transcription, insurance coding and reimbursement, computerized medical records, and other medical office procedures.

Career Opportunities

Medical Office Technology Assistants become employed in clinics, hospitals, insurance offices, medical testing facilities, long-term care facilities, and industrial medical facilities. After a few years of employment, the assistants may decide to do remote transcription or medical coding.

All students are required to purchase a program-specific laptop. Vendors will be available on campus during orientation week.

Acceptance Requirements and Credits

Basic Keyboarding..... 1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 35 words per minute with five or fewer errors on a 2 minute timing. Students must show proof with a high school transcript, Tech Prep certificate or other documentation showing they have completed a keyboarding course that meets these requirements. Otherwise, this course is available fall and spring semester.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ADMS1202 | Keyboarding/Word Processing | 3 |
| ADMS1221 | Medical Machine Transcription I..... | 3 |
| ADMS1223 | Administrative Medical Terminology..... | 2 |
| ADMS1224 | Administrative Pharmacology | 2 |
| ADMS1226 | CPT Insurance Coding..... | 3 |
| BUSM1200 | Microsoft Software | 3 |
| BUSM1222 | Oral Business Presentations..... | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| ADMS1203 | Advanced Keyboarding/Word Processing Appl. | 3 |
| ADMS1206 | Keyboard Speedbuilding | 1 |
| ADMS1222 | Medical Machine Transcription II | 3 |
| ADMS1227 | ICD-XCM Medical Insurance Coding..... | 3 |
| ADMS1240 | Computerized Health Information..... | 3 |
| BUSM1215 | Business Writing..... | 2 |
| BUSM1290 | Job Seeking/Keeping Skills | 1 |
| HLTH1424 | Patient Communications..... | 1 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| HLTH1444 | Introductory Anatomy and Physiology | 4 |
|----------|---|---|

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$2,950

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Administrative Support Careers

Office Assistant Certificate (26 Credits)



Program Description

Office Assistants perform general office work, keying, receptionist, and recordkeeping in many businesses. Students learn to enter data, write letters, and keep records.

Career Opportunities

Graduates become employed at the entry-level position as an office assistant. After a few years of employment, the assistants often advance within the firm.

Acceptance Requirements and Credits

Basic Keyboarding..... 1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 35 words per minute with 5 or fewer errors on a 2 minute timing. Students must show proof with a high school transcript, Tech Prep certificate or other documentation showing they have completed a keyboarding course that meets these requirements. Otherwise, this course is available fall and spring semester.

Suggested Technical Studies Semester I

ADMS1202 Keyboarding/Word Processing 3

ADMS1207 Office Procedures I 3

BUSM1200 Microsoft Software 3

Suggested Technical Studies Semester II

ADMS1203 Advanced Keyboarding/Word Processing Appl. 3

ADMS1208 Office Procedures II 3

BUSM1215 Business Writing..... 2

BUSM1222 Oral Business Presentations..... 2

BUSM1290 Job Seeking/Keeping Skills 1

General Studies

ENGL1100 Writing for the Workplace 3

GBEH1300 Human Relations 3

Estimated cost of books, supplies and materials: \$2,500

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Administrative Support Careers

Receptionist Certificate (23 Credits)



Program Description

Receptionists are critical to the support of any business. Employers rely on receptionists to greet visitors and determine the visitors' needs and refer them to the proper people.

Career Opportunities

Receptionists become employed in a variety of businesses. After a few years of employment, the receptionists often advance within the firm.

Acceptance Requirements and Credits

Basic Keyboarding..... 1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 35 words per minute with 5 or fewer errors on a 2 minute timing. Students must show proof with a high school transcript, Tech Prep certificate or other documentation showing they have completed a keyboarding course that meets these requirements. Otherwise, this course is available fall and spring semester.

Suggested Technical Studies Semester I

ADMS1202 Keyboarding/Word Processing 3

ADMS1207 Office Procedures I 3

BUSM1200 Microsoft Software 3

Suggested Technical Studies Semester II

ADMS1208 Office Procedures II 3

BUSM1215 Business Writing..... 2

BUSM1222 Oral Business Presentations..... 2

BUSM1290 Job Seeking/Keeping Skills 1

General Studies

ENGL1100 Writing for the Workplace 3

GBEH1300 Human Relations 3

Estimated cost of books, supplies and materials: \$2,300

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Advertising

Advertising AAS Degree (72 Credits)



Program Description

Advertising is a communications tool. The advertising student studies all the various forms of advertising mediums such as newspaper print, billboards, television and the internet. Students then develop the design skills and creative talent necessary to the selling of ideas and/or products. They serve to bring the consumer and the producer of products, ideas, together creating a positive outcome for both the business and the economy. With approximately a 34% job growth rate each year, advertising is an exciting career choice with unlimited opportunity for creativity and job advancement. People in the advertising business are said to be the innovators of our times. They show us a vision of our world through print, radio, television, as well as the internet.

The student professional organizations are American Advertising Federation (ADFED) and Distributive Education Clubs of America (DEX). Students are encouraged to participate in the organizations to further develop and practice the advertising, sales, and leadership skills taught in the formal classroom.

Career Opportunities

Employment opportunities exist with advertising agencies, newspapers, in-house advertising departments, magazine publishers, radio and television stations, media companies, direct mail and outdoors advertising businesses.

Suggested Technical Studies Semester I

| | | |
|----------|----------------------------------|---|
| ADVR1200 | Introduction to Advertising..... | 4 |
| ADVR1211 | Computer Design and Layout..... | 3 |
| ADVR1230 | Copywriting..... | 4 |
| ADVR1255 | Fundamentals of Design I..... | 3 |
| ADVR1290 | Printing for Designers..... | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|-----------------------------------|---|
| ADVR1216 | Drawing with the Computer..... | 4 |
| ADVR1221 | Computer Imaging and Editing..... | 3 |
| ADVR1265 | Fundamentals of Design II..... | 3 |
| ADVR1270 | Media Research and Planning..... | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---------------------------------------|---|
| ADVR2210 | Introduction to Photography..... | 3 |
| ADVR2250 | Retail Advertising..... | 3 |
| ADVR2260 | Advertising Campaign Development..... | 4 |
| ADVR2281 | Broadcast..... | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| ADVR1241 | Website Creation and Editing..... | 3 |
| ADVR2206 | Ad-Ventures..... | 2 |
| ADVR2285 | Portfolio Construction and Presentation..... | 2 |
| ADVR2295 | Multimedia/Director..... | 4 |

General Education

| | | |
|----------|---|---|
| CMST1320 | Introduction to Speech Communication..... | 3 |
| ENGL1302 | Analytical Writing..... | 4 |
| | Fine Arts..... | 3 |
| | General Education Electives..... | 8 |

Estimated cost of books, supplies and materials: \$1,350

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Advertising

Advertising Web Page Designer AAS Degree (63 Credits)



Program Description

Students will study the process of creating and designing their own web sites. Projects will include development of resume home page, web site portfolios and numerous other industry-based web sites. The design and production process will be covered through lecture/lab format using the latest generation of Macintosh computers with web design software.

Students will gain the ideal combination of web design skills including web basics, design theory, image creation and usage, introduction of WYSIWYG editors, using HTML, site establishment, advanced issues, testing, evaluation and career issues for professionals.

Career Opportunities

Employment opportunities exist with web site development businesses, advertising agencies, in-house advertising departments, public relations firms, promotions and marketing agencies, computer-based training and educational facilities and other emerging Internet businesses and organizations.

Suggested Technical Studies Semester I

| | | |
|----------|----------------------------------|---|
| ADVR1200 | Introduction to Advertising..... | 4 |
| ADVR1230 | Copywriting | 4 |
| ADVR1255 | Fundamentals of Design I..... | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------------|---|
| ADVR1216 | Drawing with the Computer | 4 |
| ADVR1221 | Computer Imaging and Editing | 3 |
| ADVR1265 | Fundamentals of Design II..... | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|-----------------------------------|---|
| ADVR2210 | Introduction to Photography | 3 |
| ADVR2281 | Broadcast | 4 |
| GRPH1230 | Web Design Fundamentals | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|------------------------------------|---|
| ADVR1240 | Multimedia for Web Design..... | 3 |
| ADVR1241 | Website Creation and Editing | 3 |
| ADVR1271 | Web Design Project | 2 |
| ADVR2206 | Ad-Ventures | 2 |
| ADVR2295 | Multimedia/Director | 4 |

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | Fine Arts..... | 3 |
| | General Education Electives..... | 8 |

Estimated cost of books, supplies and materials: \$1,350

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Advertising

Advertising Diploma (64 Credits)



Program Description

Advertising is a communications tool. The advertising student studies all the various forms of advertising mediums such as newspaper print, billboards, television and the internet. Students then develop the design skills and creative talent necessary to the selling of ideas and/or products. They serve to bring the consumer and the producer of products, ideas, together creating a positive outcome for both the business and the economy. With approximately a 34% job growth rate each year, advertising is an exciting career choice with unlimited opportunity for creativity and job advancement. People in the advertising business are said to be the innovators of our times. They show us a vision of our world through print, radio, television, as well as the internet.

The student professional organizations are American Advertising Federation (ADFED) and Distributive Education Clubs of America (DEX). Students are encouraged to participate in the organizations to further develop and practice the advertising, sales, and leadership skills taught in the formal classroom.

Career Opportunities

Employment opportunities exist with advertising agencies, newspapers, in-house advertising departments, magazine publishers, radio and television stations, media companies, direct mail and outdoors advertising businesses.

Suggested Technical Studies Semester I

| | | |
|----------|----------------------------------|---|
| ADVR1200 | Introduction to Advertising..... | 4 |
| ADVR1211 | Computer Design and Layout..... | 3 |
| ADVR1230 | Copywriting..... | 4 |
| ADVR1255 | Fundamentals of Design I..... | 3 |
| ADVR1290 | Printing for Designers..... | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|-----------------------------------|---|
| ADVR1216 | Drawing with the Computer..... | 4 |
| ADVR1221 | Computer Imaging and Editing..... | 3 |
| ADVR1265 | Fundamentals of Design II..... | 3 |
| ADVR1270 | Media Research and Planning..... | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---------------------------------------|---|
| ADVR2210 | Introduction to Photography..... | 3 |
| ADVR2250 | Retail Advertising..... | 3 |
| ADVR2260 | Advertising Campaign Development..... | 4 |
| ADVR2281 | Broadcast..... | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| ADVR1240 | Multimedia for Web Design..... | 3 |
| ADVR1241 | Website Creation and Editing..... | 3 |
| ADVR2206 | Ad-Ventures..... | 2 |
| ADVR2285 | Portfolio Construction and Presentation..... | 2 |
| ADVR2295 | Multimedia/Director..... | 4 |

General Studies

| | | |
|----------|--------------------------------|---|
| ENGL1100 | Writing for the Workplace..... | 3 |
| | General Studies Electives..... | 4 |

Estimated cost of books, supplies and materials: \$1,350

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Advertising

Advertising Web Page Designer Diploma (51 Credits)



Program Description

Students will study the process of creating and designing their own web sites. Projects will include development of resume home page, web site portfolios and numerous other industry-based web sites. The design and production process will be covered through lecture/lab format using the latest generation of Macintosh computers with web design software.

Students will gain the ideal combination of web design skills including web basics, design theory, image creation and usage, introduction of WYSIWYG editors, using HTML, site establishment, advanced issues, testing, evaluation and career issues for professionals.

Career Opportunities

Employment opportunities exist with web site development businesses, advertising agencies, in-house advertising departments, public relations firms, promotion and marketing agencies, computer-based training and educational facilities and other emerging Internet businesses and organizations.

Suggested Technical Studies Semester I

| | | |
|----------|----------------------------------|---|
| ADVR1200 | Introduction to Advertising..... | 4 |
| ADVR1230 | Copywriting | 4 |
| ADVR1255 | Fundamentals of Design I..... | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------------|---|
| ADVR1216 | Drawing with the Computer | 4 |
| ADVR1221 | Computer Imaging and Editing | 3 |
| ADVR1265 | Fundamentals of Design II..... | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|-----------------------------------|---|
| ADVR2210 | Introduction to Photography | 3 |
| ADVR2281 | Broadcast | 4 |
| GRPH1230 | Web Design Fundamentals | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|------------------------------------|---|
| ADVR1240 | Multimedia for Web Design..... | 3 |
| ADVR1241 | Website Creation and Editing | 3 |
| ADVR1271 | Web Design Project | 2 |
| ADVR2206 | Ad-Ventures | 2 |
| ADVR2295 | Multimedia/Director | 4 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| | Fine Arts..... | 3 |

Estimated cost of books, supplies and materials: \$1,350

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Program Description

American Sign Language (ASL) is the primary visual/gesture language used in the United States and English-speaking parts of Canada. It is the native language of many deaf men and women as well as hearing children born into deaf families. These courses introduce the student to American Sign Language communications as the conversational level.

Career Opportunities

ASL students may find employment in the areas of residential schools for the Deaf, child care centers, real estate, teaching, and residential (group), working with the deaf who communicate sign language as their primary language.

Courses Offered

| | | |
|----------|----------------------------------|---|
| HASL1400 | American Sign Language I..... | 3 |
| HASL1404 | American Sign Language II..... | 3 |
| HASL1408 | American Sign Language III | 3 |
| HASL1412 | American Sign Language IV | 3 |

Architectural Construction Technology

Architectural Construction Technology AAS Degree (71 Credits)



Program Description

This program is designed to prepare students for employment in the construction industry. The objective of the program is to give students a well-rounded, basic light construction background, along with CAD (computer aided drafting) skills. The program includes designing and drawing 2 and 3 dimensional plans for residential and small commercial buildings, using AutoCAD-ADT version 2005 software. Construction technology, materials, design, blueprint reading and estimating are studied in addition to drafting techniques. The laptop computer format of the program allows students to work on drafting and design projects in a lab setting as well as off-site. Students may choose between a Diploma or an AAS Degree.

Career Opportunities

Employment areas for graduates include general contractors, architectural and engineering firms, building material centers, related material suppliers, and building material manufacturers. Graduates work as drafters, estimators, technical support staff, material salespeople, management trainees, and project managers. Articulation agreements with other schools also give students the opportunity to continue their education for advanced degrees in areas such as construction management.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ARCH1502 | Introduction to Architectural Drafting | 3 |
| ARCH1506 | Intro to Architectural CAD | 3 |
| ARCH1514 | Estimating and Construction Fundamentals I..... | 3 |
| ARCH1522 | Residential Design Principles | 2 |
| ARCH1526 | Residential Materials and Methods I | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| ARCH1510 | CAD and Design Studio | 6 |
| ARCH1518 | Estimating and Construction Fundamentals II | 3 |
| ARCH1530 | Residential Materials and Methods II..... | 2 |
| ARCH1534 | Residential Design and Presentation | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| ARCH2506 | Architectural Design Studio I | 3 |
| ARCH2510 | Architectural CAD II | 3 |
| ARCH2522 | Commercial Design Principles and Practice..... | 2 |
| ARCH2526 | Construction Estimating Analysis I | 3 |
| ARCH2530 | Building Systems | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| ARCH2518 | Architectural CAD III..... | 3 |
| ARCH2534 | Construction Management and Contracting | 2 |
| ARCH2538 | Construction Estimating Analysis II..... | 3 |
| ARCH2542 | Structural Building Systems | 3 |
| ARCH2550 | Professional Constructor Seminar | 2 |

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | Humanities..... | 3 |
| | Mathematics..... | 3 |
| | Social Sciences | 3 |
| | General Education Electives..... | 3 |

Estimated cost of books, supplies and materials: \$2,803

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Architectural Construction Technology

Architectural Construction Technology Diploma (64 Credits)



Program Description

This program is designed to prepare students for employment in the construction industry. The objective of the program is to give students a well-rounded, basic light construction background, along with CAD (computer aided drafting) skills. The program includes designing and drawing 2 and 3 dimensional plans for residential and small commercial buildings, using AutoCAD-ADT version 2005 software. Construction technology, materials, design, blueprint reading and estimating are studied in addition to drafting techniques. The laptop computer format of the program allows students to work on drafting and design projects in a lab setting as well as off-site. Students may choose between a diploma or an AAS Degree.

Career Opportunities

Employment areas for graduates include general contractors, architectural and engineering firms, building material centers, related material suppliers, and building material manufacturers. Graduates work as drafters, estimators, technical support staff, material salespeople, management trainees, and project managers. Articulation agreements with other schools also give students the opportunity to continue their education for advanced degrees in areas such as construction management.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ARCH1502 | Introduction to Architectural Drafting | 3 |
| ARCH1506 | Intro to Architectural CAD | 3 |
| ARCH1514 | Estimating and Construction Fundamentals I..... | 3 |
| ARCH1522 | Residential Design Principles | 2 |
| ARCH1526 | Residential Materials and Methods I | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| ARCH1510 | CAD and Design Studio | 6 |
| ARCH1518 | Estimating and Construction Fundamentals II | 3 |
| ARCH1530 | Residential Materials and Methods II..... | 2 |
| ARCH1534 | Residential Design and Presentation | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| ARCH2506 | Architectural Design Studio I | 3 |
| ARCH2510 | Architectural CAD II | 3 |
| ARCH2522 | Commercial Design Principles and Practice..... | 2 |
| ARCH2526 | Construction Estimating Analysis I | 3 |
| ARCH2530 | Building Systems | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| ARCH2514 | Architectural Design Studio II..... | 3 |
| ARCH2518 | Architectural CAD III..... | 3 |
| ARCH2534 | Construction Management and Contracting | 2 |
| ARCH2538 | Construction Estimating Analysis II..... | 3 |
| ARCH2542 | Structural Building Systems | 3 |
| ARCH2550 | Professional Constructor Seminar | 2 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| | General Studies Electives | 3 |

Estimated cost of books, supplies and materials: \$2,803

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Associate in Arts Degree

ST CLOUD TECHNICAL COLLEGE
in collaboration with
ANOKA-RAMSEY COMMUNITY COLLEGE



GENERAL INFORMATION:

This degree is intended to constitute the first two years of a baccalaureate degree program. Transferability of courses from St. Cloud Technical College (SCTC) to public higher education systems in Minnesota is enhanced by transfer agreements that are in place. Transfer standards and procedures adopted by all the public higher education systems in Minnesota ensure students' transfer rights. For more information on SCTC, visit our website at <http://www.sctc.edu>.

GENERAL REQUIREMENTS:

1. A minimum of **64 semester** credits in courses numbered 1000 or above.
2. A minimum grade point average (GPA) of 2.0 at SCTC in courses numbered 1000 or above. Students who have transferred to SCTC must have a minimum GPA of 2.0 in combined SCTC/ARCC courses and accepted transfer courses.
3. A minimum of **20 semester** credits applied toward the degree must be taken from SCTC/ARCC. This requirement may be reduced from **20** to **12 semester** credits for students transferring in at least **8 semester** credits from either another MnSCU college or the U of M.
4. Completion of specific degree requirements below.

CAMBRIDGE CAMPUS
300 Polk St. South
Cambridge, Minnesota 55008
Telephone: 763 689-7000

COON RAPIDS CAMPUS
11200 Mississippi Blvd. NW
Coon Rapids, Minnesota 55433
Telephone: 763 427-2600

| | |
|--------------------------------|----|
| General Education Requirements | 40 |
| Wellness Requirement | 3 |
| Elective Credits | 21 |
| Total Credits | 64 |

General Education Requirements/MnTC..... 40 credits

Distribution requirements are satisfied through completion of the Minnesota Transfer Curriculum (MnTC) listed below. These two criteria must be met to complete the MnTC:

- 1) All ten emphasis areas listed below must be completed.
- 2) A total of at least **40 semester** credits from courses listed in the MnTC must be satisfactorily completed. One course may satisfy more than one emphasis area, but the course credits may be counted only once.

1. Communications (at least two courses)

ENGL1302 Analytical Writing4 credits
CMST1320 Introduction to Speech Communication3 credits
CMST2300 Introduction to Public Speaking3 credits

2. Critical Thinking (at least three courses)

3. Natural Sciences (at least one laboratory course with at least one course from each category)

- a. Physical Science
- b. Biological Science

4. Mathematical/Logical Reasoning

(at least one course and demonstrated competency)
Competency is demonstrated by completion of the SCTC math sequence and either MATH 1300, MATH 1320, MATH 1330, MATH 1445 with a grade of C or better.

5. History and the Social and Behavioral Sciences

(at least two courses; one from each of two categories)

- a. Economics/Geography
- b. Anthropology/Psychology/Sociology
- c. History/Political Science

6. The Humanities and Fine Arts

(at least two courses; one from each of two categories)

- a. Literature
- b. Humanities/Philosophy
- c. Art/Music/Theatre

7. Human Diversity (at least one course)

8. Global Perspective (at least one course)

9. Ethical and Civic Responsibility (at least one course)

10. People and the Environment (at least one course)

Wellness Requirement(minimum) 3 credits

HPER 1102 Drugs, Alcohol, Tobacco and HPER 1115 Stress Management OR three 1 credit fitness classes OR a combination of one lecture and one fitness class

Elective Credit Requirement..... 21 credits

The balance of the 64 semester credits for the degree may be met by taking college-level coursework, including up to 16 technical credits, appropriate to the student's transfer program.

NOTE: The requirements of this program are subject to change without notice. Students should refer to the current Anoka Ramsey Community College catalog to determine the limits to earn a degree.

Associate in Arts Degree

ST CLOUD TECHNICAL COLLEGE

in collaboration with

ANOKA-RAMSEY COMMUNITY COLLEGE



To complete the Minnesota Transfer Curriculum, all ten emphasis areas listed below must be completed. A total of at least 40 semester credits must be earned. Courses designated with a superscript (e.g., **ENGL 1302²**) satisfy more than one emphasis area. **Courses in bold= SCTC courses**; Courses not in bold = ARCC courses offered at SCTC. **Note: Credits are counted only once toward the 40-credit minimum requirement.**

| | | |
|------------------|---|---|
| Emphasis Area 1 | Communications (One course required in area A and B) | A. Written: ENGL 1302² Analytical Writing |
| | | B. Oral: CMST 1320² Intro to Speech, CMST 2300² Intro to Public Speaking |
| | | C. Other (no courses required from this category): ENGL 1301 Technical Writing, CMST 2301² Persuasion |
| Emphasis Area 2 | Critical Thinking (at least three courses) | ENGL 1302¹ Analytical Writing, CMST 1320² Intro to Speech, CMST 2300² Intro to Public Speaking, CMST 2301² Persuasion, CRTK 1300⁶ Intro to Critical Thinking; WMST 1300⁷ Intro to Women's Studies SOC 1111 ⁵ General Sociology, HPER 1115 Stress Management |
| Emphasis Area 3 | Natural Sciences (One course required in both physical and biological sciences. One course must include a lab.) | A. Lab Science: Courses with labs are marked with an * |
| | | B. Physical Science: PHYS 1300* General Physics , NATS 1001 Astronomy, NATS 1005* Meteorology |
| | | C. Biological Science: BLGY 1300* Human A & P I, BLGY 1302* Human A & P II, BLGY 1305*¹⁰ Environmental Science (Lecture and lab must be taken concurrently) BIOL 1103* ¹⁰ Environmental Science (with or without BIOL 1103L) |
| Emphasis Area 4 | Mathematical/Logical Reasoning (at least one course) | Competency in mathematics achieved by completion of the SCTC sequence and MATH 1300 College Algebra, MATH 1320 College Trigonometry, MATH 1330 Cultural Mathematics, MATH 1445 Introduction to Statistics |
| Emphasis Area 5 | History and the Social and Behavioral Sciences (at least two courses; one from each of two categories) | A. Economics/Geography: GEOG 1300⁸ World Regional Geography, ECON 1320 Intro to Macroeconomics (previously ECON 1420), ECON 1330 Intro to Microeconomics (previously ECON 1430) |
| | | B. Anthropology/Psychology/Sociology: ANTH 1300⁸ Intro to Anthropology, ANTH 2300⁸ Anthropology of Science Fiction, DVRS 1304⁷ Diversity & Social Justice, PSYC 1300 Intro to Psychology, PSYC 1304 Life Span Development Psychology, PSYC 1310⁷ Psychology of Women SOC 1111 ² General Sociology |
| | | C. History/Political Science: CVIC 1304⁵ Intro to American Politics HIST 1103 ⁸ Contemporary World History, HIST 1110 ⁸ World War II, HIST 2211 ⁹ US History I, HIST 2219 ⁹ US History II, POLS 2202 ¹⁰ Public Issues |
| Emphasis Area 6 | The Humanities and Fine Arts (at least two courses; one from each of two categories) | A. Literature: ENGL 1340⁷ Introduction to Multicultural Literature, ENGL 1322 Intro to Literature, ENGL 1321 Intro to Modern Fiction, ENGL 1341 Intro to Women's Literature |
| | | B. Humanities/Philosophy: CRTK1300² Intro to Critical Thinking, HUM 1320⁸ Holocaust & Genocide Studies, HUM 1340⁸ Middle Eastern Cultures PHIL 1110 ⁹ Ethics, PHIL 1115 ⁸ Comparative World Religion |
| | | C. Art/Music/Theatre: ART 1100 Art Appreciation |
| Emphasis Area 7 | Human Diversity (at least one course) | DVRS 1304⁵ Diversity & Social Justice, ENGL 1340⁶ Introduction to Multicultural Literature, PSYC 1310⁵ Psychology of Women, WMST 1300² Intro to Women's Studies |
| Emphasis Area 8 | Global Perspective (at least one course) | ANTH 1300⁵ Intro to Anthropology, ECON 1420⁵ Intro to Macroeconomics, GEOG 1300⁵ World Regional Geography, HUM 1340⁶ Middle Eastern Cultures HIST 1103 ⁵ Contemporary World History, HIST 1110 ⁵ World War II, PHIL 1115 ⁶ Comparative World Religion |
| Emphasis Area 9 | Ethical & Civic Responsibility (at least one course) | CVIC 1304⁵ Intro to American Politics, HUM 1320⁶ Holocaust & Genocide Studies HIST 2211 ⁵ US History I, HIST 2221 ⁵ US History II, HPER 1102 Drugs, Alcohol & Tobacco; PHIL 1110 ² Ethics |
| Emphasis Area 10 | People & the Environment (at least one course) | BLGY 1305*³ Environmental Science (Lecture and lab must be taken concurrently) POLS 2202 ⁵ Public Issues, BIOL 1103 ³ Environmental Science (Lecture only) |

NOTE: The requirements of this program are subject to change without notice. Students should refer to the current Anoka Ramsey Community College catalog to determine the limits to earn a degree.

Auto Body Collision Technician

Auto Body Collision Technician AAS Degree (72 Credits)



Program Description

The Automobile Body Collision Technology Program is designed to prepare graduates for employment as auto body technicians. Emphasis is on developing skills in straightening and restoring metal and fiberglass automobile bodies to original condition. Students will use industry-standard equipment on current model unibody vehicles. Instruction includes how to realign body-frame units and sheet metal, remove dents, replace panels and glass, diagnose collision damage and apply the latest two-stage and three-stage refinishing systems. Students learn how to repair high-tech plastics, repair and replace trim and brightwork, and restore corrosion protection.

The St. Cloud Technical College's Auto Body Collision Technology Program is ASE Certified, and graduates are prepared for the Auto Body Repair Excellence examinations. The program is certified by the National Automotive Technicians Education Foundation, Inc. (NATEF) and our instructors are certified by the Inter-Industry Conference on Auto Collision Repair (I-CAR).

Students selecting this program will find that they must master a considerable amount of theory, as well as manual skills.

Career Opportunities

The Automobile Body Collision Technology program will give graduates sufficient skills to enter the trade as advanced apprentices. Employment opportunities exist with automotive dealers, independent body repair shops, leasing agencies, industries, airlines, truck repair shops, wholesale suppliers, and also paint salespersons. There are also opportunities for employment with an AAS Degree as insurance company and body shop estimators, shop managers, and factory dealer representatives.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ABCT1502 | Collision Welding and Cutting | 3 |
| ABCT1506 | Intro to Collision Repair | 4 |
| ABCT1510 | Collision Repair Lab I | 3 |
| ABCT1514 | Basic Collision Repair | 4 |
| TRAN1518 | Transportation Hazardous Materials..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------|---|
| ABCT1518 | Refinishing Lab I | 3 |
| ABCT1522 | Refinishing..... | 4 |
| ABCT1526 | Refinishing Lab II..... | 3 |
| ABCT1530 | Color Match and Blend..... | 3 |
| TRAN2514 | Basic Air Conditioning | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| ABCT2502 | Estimating | 2 |
| ABCT2506 | Electrical Systems..... | 3 |
| ABCT2510 | Damage Analysis and Measuring Systems | 3 |
| ABCT2514 | Plastic Repair..... | 2 |
| ABCT2530 | Mechanical Systems | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|-----|
| ABCT2518 | Collision Repair Lab II | 1-3 |
| ABCT2522 | Structural Damage Repair..... | 4 |
| ABCT2526 | Collision Repair Lab III..... | 2 |
| TRAN1520 | Workplace Perceptions and Expectations | 2 |

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| CPTR1300 | Exploring Computers..... | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | Social Science..... | 3 |
| | Humanities..... | 3 |
| | General Education Electives..... | 3 |

Estimated cost of books, supplies and materials: \$3,400

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Auto Body Collision Technician

Auto Body Collision Technician Diploma (68 Credits)



Program Description

The Automobile Body Collision Technology Program is designed to prepare graduates for employment as auto body technicians. Emphasis is on developing skills in straightening and restoring metal and fiberglass automobile bodies to original condition. Students will use industry-standard equipment on current model unibody vehicles. Instruction includes how to realign body-frame units and sheet metal, remove dents, replace panels and glass, diagnose collision damage and apply the latest two-stage and three-stage refinishing systems. Students learn how to repair high-tech plastics, repair and replace trim and brightwork, and restore corrosion protection.

The St. Cloud Technical College's Auto Body Collision Technology Program is ASE Certified, and graduates are prepared for the Auto Body Repair Excellence examinations. The program is certified by the National Automotive Technicians Education Foundation, Inc. (NATEF) and our instructors are certified by the Inter-Industry Conference on Auto Collision Repair (I-CAR).

Students selecting this program will find that they must master a considerable amount of theory, as well as manual skills.

Career Opportunities

The Automobile Body Collision Technology program will give graduates sufficient skills to enter the trade as advanced apprentices. Employment opportunities exist with automotive dealers, independent body repair shops, leasing agencies, industries, airlines, truck repair shops, wholesale suppliers, and also paint salespersons. There are also opportunities for employment with a Diploma as insurance company and body shop estimators, shop managers, and factory dealer representatives.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ABCT1502 | Collision Welding and Cutting | 3 |
| ABCT1506 | Intro to Collision Repair | 4 |
| ABCT1510 | Collision Repair Lab I | 3 |
| ABCT1514 | Basic Collision Repair | 4 |
| TRAN1518 | Transportation Hazardous Materials..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------|---|
| ABCT1518 | Refinishing Lab I | 3 |
| ABCT1522 | Refinishing..... | 4 |
| ABCT1526 | Refinishing Lab II..... | 3 |
| ABCT1530 | Color Match and Blend..... | 3 |
| TRAN2514 | Basic Air Conditioning | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|-----|
| ABCT2506 | Electrical Systems..... | 3 |
| ABCT2510 | Damage Analysis and Measuring Systems..... | 3 |
| ABCT2514 | Plastic Repair..... | 2 |
| ABCT2518 | Collision Repair Lab II | 1-3 |
| ABCT2530 | Mechanical Systems | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| ABCT2522 | Structural Damage Repair..... | 4 |
| ABCT2526 | Collision Repair Lab III..... | 2 |
| ABCT2534 | Collision Repair Lab IV..... | 4 |
| OR | | |
| ABCT2542 | Supervised Internship | 4 |
| TRAN1520 | Workplace Perceptions and Expectations | 2 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 2 |
|---------------------------|---|

General Studies

| | | |
|---------------------------------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| General Studies Electives | | 3 |

Estimated cost of books, supplies and materials: \$3,400

Automotive Service Technician

Automotive Service Technician AAS Degree (72 Credits)



Program Description

A nation on wheels demands skilled technicians to keep the wheels turning. St. Cloud Technical College provides the education and training needed to meet this demand. Students receive instruction in the most current techniques of repair, diagnosis, maintenance, and our laboratories are equipped with the latest service and testing equipment. Graduates have the necessary educational background to obtain entry-level positions and progress to higher-level technical or management positions. Students may choose between a diploma or an AAS Degree.

St. Cloud Technical College's Automotive Service Technician Program is ASE Certified and graduates are prepared for the Automotive Service Excellence examinations. The program is certified by the National Automotive Technicians Education Foundation, Inc. (NATEF). Students selecting this program will find they must master a considerable amount of theory as well as manual skills. The Transportation Studies Core also meets some of the requirements for graduation in the Medium/Heavy Truck Technician Program.

Career Opportunities

Trained technicians are offered a broad range of jobs from which to select their area of specialty. Examples include line technician, tune-up specialist, front-end specialist, transmission specialist, advisors, and service manager. Students with Associate of Applied Science Degrees have job opportunities such as service technicians, shop managers, factory and dealer representatives.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| AUTO1508 | Automotive Wheel Alignment..... | 4 |
| AUTO1509 | A6: Automotive Electrical/Electronic Systems | 4 |
| OR | | |
| AUTO1510 | Chassis Electrical..... | 4 |
| TRAN1502 | General Service..... | 2 |
| TRAN1504 | Electricity and Electronics Principles..... | 3 |
| TRAN1516 | Scan Tool Data Acquisition | 1 |
| TRAN1518 | Transportation Hazardous Materials..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| AUTO1512 | Engine Repair Theory..... | 2 |
| AUTO1516 | Brakes | 4 |
| AUTO2522 | Advanced Electronic Systems | 4 |
| TRAN1520 | Workplace Perceptions and Expectations..... | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|-------------------------------------|---|
| AUTO1522 | A8 Engine Performance..... | 4 |
| OR | | |
| AUTO2502 | Engine Performance I | 4 |
| AUTO2505 | Engine Performance II | 5 |
| AUTO2506 | Principles of Torque Transfer | 7 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| AUTO2511 | Automatic Transmission and Transaxle Overhaul.... | 3 |
| TRAN2514 | Basic Air Conditioning | 2 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 5 |
|---------------------------|---|

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| CPTR1300 | Exploring Computers..... | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | Humanities | 3 |
| | Social Sciences | 3 |
| | General Education Electives..... | 3 |

Estimated cost of books, supplies and materials: \$3,200

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Automotive Service Technician

Automotive Service Technician Diploma (67 Credits)



Program Description

A nation on wheels demands skilled technicians to keep the wheels turning. St. Cloud Technical College provides the education and training needed to meet this demand. Students receive instruction in the most current techniques of repair, diagnosis, maintenance, and our laboratories are equipped with the latest service and testing equipment. Graduates have the necessary educational background to obtain entry-level positions and progress to higher-level technical or management positions. Students may choose between a diploma or an AAS Degree.

St. Cloud Technical College's Automotive Service Technician Program is ASE Certified and graduates are prepared for the Automotive Service Excellence examinations. The program is certified by the National Automotive Technicians Education Foundation, Inc. (NATEF). Students selecting this program will find they must master a considerable amount of theory as well as manual skills. The Transportation Studies Core also meets some of the requirements for graduation in the Medium/Heavy Truck Technician Program.

Career Opportunities

Trained technicians are offered a broad range of jobs from which to select their area of specialty. Examples include line technician, tune-up specialist, front-end specialist, transmission specialist, service advisors, and service manager. Students with Associate of Applied Science Degrees have job opportunities such as service technicians, shop managers, factory and dealer representatives.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| AUTO1508 | Automotive Wheel Alignment | 4 |
| AUTO1509 | A6: Automotive Electrical/Electronic Systems | 4 |
| OR | | |
| AUTO1510 | Chassis Electrical | 4 |
| TRAN1502 | General Service | 2 |
| TRAN1504 | Electricity and Electronic Principles | 3 |
| TRAN1516 | Scan Tool Data Acquisition | 1 |
| TRAN1518 | Transportation Hazardous Materials | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|-----------------------------------|---|
| AUTO1512 | Engine Repair Theory | 2 |
| AUTO1514 | Engine Repair Lab | 4 |
| AUTO1516 | Brakes | 4 |
| AUTO2522 | Advanced Electronic Systems | 4 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| AUTO1522 | A8 Engine Performance | 4 |
| OR | | |
| AUTO2502 | Engine Performance I | 4 |
| AUTO2505 | Engine Performance II | 5 |
| AUTO2506 | Principles of Torque Transfer | 7 |
| TRAN1520 | Workplace Perceptions and Expectations | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| AUTO2511 | Automatic Transmission and Transaxle Overhaul | 3 |
| AUTO2512 | Driveline Repair II | 3 |
| AUTO2516 | Automotive Heating and Air Conditioning | 2 |
| AUTO2520 | Engine Driveability | 3 |
| TRAN2514 | Basic Air Conditioning | 2 |

General Studies and Credits

(Seven credits from 2 or more areas)..... 7

Communications:

ENGL1100 Writing for the Workplace..... 3

Science Technology:

EMSC1420 Basic Emergency Care..... 1

WELD1502 Welding for Work and Leisure..... 2

History & the Social & Behavioral Sciences:

GBUS1320 Professional Development I..... 1

GBUS1324 Professional Development II..... 1

GBUS1328 Professional Development III..... 1

GBUS1340 Principles of Quality/Teambuilding..... 3

GTEC1304 The Automobile in America..... 3

Human Diversity:

GBEH1300 Human Relations..... 3

Business:

BUSM1267 Intro to Business 3 |

BUSM1275 Business Law 2 |

BUSM1283 Economics..... 2

CRFN1200 Personal Money Management..... 3

SAMG1205 Fundamentals of Accounting 2 |

SAMG1230 Supervision Fundamentals 2 |

SAMG2285 Entrepreneurship/Small Business Management 3 |

Estimated cost of books, supplies and materials: \$2,800

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Cardiovascular Technology

Cardiovascular Technology AAS Degree (72 Credits)



Program Description

The demands of the Cardiovascular Technologist require a working knowledge of detailed anatomy, physiology and pathology of the heart, coronary arteries, and cardiac valvular function.

The program coordinates academic study with the clinical experience. The applied clinical experience will be performed in a hospital setting and affiliate the student with one of the various cardiac catheterization laboratory facilities within the five state region.

Cardiovascular technologists assist the cardiologist in performing diagnostic and interventional and angioplasty and stent placement procedures; measure cardiovascular parameters such as cardiac output, cardiac electrophysiology parameters; intra-cardiac shunt detection, intra-cardiac pressure measurements, oximetry determination, and valve flow/valve area determination; record, analyze and process cardiovascular hemodynamic pressure measurements for presentation to the interpreting physician. Graduates demonstrate appropriate communication skills with patients and colleagues; act in a professional and ethical manner; provide patient education related to cardiovascular diagnostic and interventional techniques and promote good health.

Career Opportunities

The Cardiovascular Technology Program prepares students for employment in cardiac catheterization laboratories, open heart surgical suites and cardiac research facilities.

Acceptance Requirements and Credits

| | |
|-----------------------------------|---|
| Human Anatomy/ Physiology I..... | 4 |
| Human Anatomy/Physiology II | 4 |
| College Algebra | 3 |
| General Physics..... | 4 |

* Applicants may apply only after successful completion of 2 of the 4 courses listed in this requirement and all 4 courses must be completed prior to starting the program.

* Applicants must be vaccinated against Hepatitis B or sign a release form. HBV series must be completed prior to students starting the Spring semester of the 2nd year.

* NOTE: MOST CLINICAL SITES ARE LOCATED IN THE 5 STATE AREA. ADDITIONAL SITES IN OTHER STATES MAY ALSO BE AVAILABLE.

Suggested Technical Studies Semester I

| | |
|--|---|
| BUSM1200 Microsoft Software | 3 |
| HLTH1440 Medical Terminology..... | 1 |
| ICVT1422 Cardiovascular Instrumentation..... | 3 |

Ethics

| | |
|--------------|---|
| Ethics | 3 |
|--------------|---|

Suggested Technical Studies Semester II

| | |
|---|---|
| EMSC1480 Emergency Cardiac Care | 1 |
| HLTH1448 Microbiology/Infection Control..... | 1 |
| ICVT1423 Catheterization Lab Fundamentals I..... | 2 |
| ICVT1443 Cardiovascular Clinic I..... | 5 |
| USCV1400 Cardiovascular Anatomy and Physiology..... | 2 |
| USCV1440 Introduction to Clinics | 1 |

Suggested Technical Studies Semester III

| | |
|---|---|
| ICVT2426 Catheterization Lab Fundamentals II..... | 4 |
| ICVT2446 Cardiovascular Clinical II..... | 5 |
| USCV2405 Cardiovascular Pathology | 3 |

Suggested Technical Studies Semester IV

| | |
|---|----|
| ICVT2450 Applied Clinical Internship..... | 13 |
|---|----|

General Education

| | |
|-----------------------------|---|
| Communications-Written..... | 4 |
| Psychology..... | 3 |
| Humanities..... | 3 |

Estimated cost of books, supplies and materials: \$2,548

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Carpentry

Carpentry AAS Degree (72 Credits)



Program Description

The building construction industry is one of the largest industries in America today. With the increasing population and need for more housing, urban redevelopment, commercial and industrial buildings and facilities to improve the environment, the skills of a well-trained carpenter are in demand. Department of Labor statistics indicate that the majority of supervisory people in building construction come from the carpentry trade.

A well-equipped shop is available for the development of student carpentry skills. Advanced students construct a home on a city lot. The building trades house project is a joint effort of the building trades classes. Local contractors, realtors, public officials, and financial managers serve as members of the Advisory Committee for this project.

Career Opportunities

The Carpentry Program is designed to equip students to enter the trade as the equivalent to advanced apprentices. Graduates may find employment in the areas of residential, light and heavy commercial, highway and heavy bridgework, cabinetry and millwork. Graduates may be employed as ceiling tile installers, drywall applicators, building inspectors, customer service representatives for building and hardware supply companies and lumber yard manager trainees, along with sales/service for any building materials supply. A number of graduates start their own contracting businesses.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| CARP1506 | Construction Tools, Equipment and Machines | 3 |
| CARP1514 | Blueprint Reading and Estimating | 3 |
| CARP1521 | Construction Principles..... | 4 |
| CARP1536 | Cabinet Building and Estimating..... | 5 |

Suggested Technical Studies Semester II

| | | |
|----------|-----------------------------------|---|
| CARP1524 | Rafters and Stairs | 4 |
| CARP1527 | Exterior/Interior Finish | 3 |
| CARP1529 | Building Layout and Concrete..... | 4 |

Suggested Technical Studies Semester III

| | | |
|----------|--------------------------------------|---|
| CARP2502 | Concrete II | 2 |
| CARP2506 | Residential Framing II | 4 |
| CARP2518 | Exterior Finish | 3 |
| CARP2524 | Residential Construction Lab I | 5 |

Suggested Technical Studies Semester IV

| | | |
|----------|------------------------------|---|
| CARP2510 | Stair Building..... | 2 |
| CARP2522 | Interior Finish | 3 |
| CARP2530 | Cabinet Building II | 4 |
| CARP2534 | Construction Management..... | 3 |

General Education

| | | |
|----------|--|----|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | Natural Science or Math..... | 3 |
| | General Education Electives..... | 10 |

Estimated cost of books, supplies and materials: \$1,600

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Carpentry

Carpentry Diploma (64 Credits)



Program Description

The building construction industry is one of the largest industries in America today. With the increasing population and need for more housing, urban redevelopment, commercial and industrial buildings and facilities to improve the environment, the skills of a well-trained carpenter are in demand. Department of Labor statistics indicate that the majority of supervisory people in building construction come from the carpentry trade.

A well-equipped shop is available for the development of student carpentry skills. Advanced students construct a home on a city lot. The building trades house project is a joint effort of the building trades classes. Local contractors, realtors, public officials, and financial managers serve as members of the Advisory Committee for this project.

Career Opportunities

The Carpentry Program is designed to equip students to enter the trade as the equivalent to advanced apprentices. Graduates may find employment in the areas of residential, light and heavy commercial, highway and heavy bridgework, cabinetry and millwork. Graduates may be employed as ceiling tile installers, drywall applicators, building inspectors, customer service representatives for building and hardware supply companies and lumber yard manager trainees, along with sales/service for any building materials supply. A number of graduates start their own contracting businesses.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| CARP1506 | Construction Tools, Equipment and Machines | 3 |
| CARP1514 | Blueprint Reading and Estimating | 3 |
| CARP1521 | Construction Principles | 4 |
| CARP1536 | Cabinet Building and Estimating | 5 |

Suggested Technical Studies Semester II

| | | |
|----------|---------------------------------------|---|
| CARP1524 | Rafters and Stairs | 4 |
| CARP1527 | Exterior/Interior Finish | 3 |
| CARP1529 | Building Layout and Concrete | 4 |
| CARP1530 | Residential Drafting and Design | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--------------------------------------|---|
| CARP2502 | Concrete II | 2 |
| CARP2506 | Residential Framing II | 4 |
| CARP2518 | Exterior Finish | 3 |
| CARP2524 | Residential Construction Lab I | 5 |

Suggested Technical Studies Semester IV

| | | |
|----------|-------------------------------|---|
| CARP2510 | Stair Building | 2 |
| CARP2522 | Interior Finish | 3 |
| CARP2530 | Cabinet Building II | 4 |
| CARP2534 | Construction Management | 3 |

Technical Electives: choose one

| | | |
|----------|---------------------------------------|---|
| CARP2546 | Residential Construction Lab II | 3 |
| CARP2562 | Carpentry Internship | 3 |

General Studies

| | | |
|----------|---------------------------------|---|
| EMSC1420 | Basic Emergency Care | 1 |
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$1,500

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Carpentry

Cabinet Maker's Apprentices Certificate (30 Credits)



Program Description

The building construction industry is one of the largest industries in America today. With the increasing population and need for more housing, urban redevelopment, commercial and industrial buildings and facilities to improve the environment, the skills of a well-trained carpenter are in demand. Department of Labor statistics indicate that the majority of supervisory people in building construction come from the carpentry trade.

A well-equipped shop is available for the development of student carpentry skills. Advanced students construct a home on a city lot. The building trades house project is a joint effort of the building trades classes. Local contractors, realtors, public officials, and financial managers serve as members of the Advisory Committee for this project.

Career Opportunities

The Carpentry Program is designed to equip students to enter the trade as the equivalent to advanced apprentices. Graduates may find employment in the areas of residential, light and heavy commercial, highway and heavy bridgework, cabinetry and millwork. Graduates may be employed as ceiling tile installers, drywall applicators, building inspectors, customer service representatives for building and hardware supply companies and lumber yard manager trainees, along with sales/service for any building materials supply. A number of graduates start their own contracting businesses

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| CARP1506 | Construction Tools, Equipment and Machines | 3 |
| CARP1514 | Blueprint Reading and Estimating | 3 |
| CARP1536 | Cabinet Building and Estimating | 5 |

Suggested Technical Studies Semester II

| | | |
|----------|--------------------------------|---|
| CARP2530 | Cabinet Building II | 4 |
| CARP2534 | Construction Management | 3 |
| CARP2566 | Cabinetmaking Internship | 6 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$1,400

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Carpentry

Carpentry Assistant Certificate (28 Credits)



Program Description

The building construction industry is one of the largest industries in America today. With the increasing population and need for more housing, urban redevelopment, commercial and industrial buildings and facilities to improve the environment, the skills of a well-trained carpenter are in demand. Department of Labor statistics indicate that the majority of supervisory people in building construction come from the carpentry trade.

A well-equipped shop is available for the development of student carpentry skills. Advanced students construct a home on a city lot. The building trades house project is a joint effort for the building trades classes. Local contractors, realtors, public officials, and financial managers serve as members of the Advisory Committee for this project.

Career Opportunities

The Carpentry Program is designed to equip students to enter the trade as the equivalent to advanced apprentices. Graduates may find employment in the areas of residential, light and heavy commercial, highway and heavy bridgework, cabinetry and millwork. Graduates may be employed as ceiling tile installers, drywall applicators, building inspectors, customer service representatives for building and hardware supply companies and lumber yard manager trainees, along with sales/service for any building materials supply.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| CARP1506 | Construction Tools, Equipment and Machines | 3 |
| CARP1514 | Blueprint Reading and Estimating | 3 |
| CARP1521 | Construction Principles | 4 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------------|---|
| CARP1524 | Rafters and Stairs | 4 |
| CARP1527 | Exterior/Interior Finish | 3 |
| CARP1529 | Building Layout and Concrete | 4 |
| CARP2562 | Carpentry Internship | 3 |

General Studies

| | | |
|----------|----------------------------|---|
| EMSC1420 | Basic Emergency Care | 1 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$1,140

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Child And Adult Care And Education

Child and Adult Care And Education AAS Degree (65 Credits)



Program Description

The CACE Program prepares students for employment in a variety of human service positions by providing courses in human development, managing behavior, inclusive learning environments, planning curriculum, implementing strategies for learning, and practical experience. Students who successfully complete the program will have the qualifications to apply for a center-based assistant teacher position. After one year of experience, graduates qualify for a head teacher position. In addition, the completion of credit courses offers several options for fulfilling training and in-service requirements for assistant teachers, teachers, directors, paraprofessionals, family child care providers, and other interested individuals. The program courses are in agreement with the Department of Human Services (DHS) licensing guidelines for child care providers. Membership in Skills USA, MnAEYC, NAEYC or other professional organizations is strongly recommended.

Applicants to the CACE Program must complete any college readiness courses with a Pass grade, if indicated by their Accuplacer scores prior to enrolling in the CACE Program courses.

Before being placed on an Internship, students will be required to complete EMSC 1404, and submit these completed forms: Department of Human Services (DHS) Background Study Form; Pre-Entrance Medical Exam; and an Immunization Record.

Career Opportunities

Career opportunities for Child and Adult Care and Education graduates may be found in early childhood centers, school settings, long-term care facilities, private homes, licensed family child care, facilities for people with disabilities, and for students interested in starting their own business as child care providers. Graduates will be capable of planning learning activities, managing programs and daily routines, preparing materials, and managing the health and safety of children and/or vulnerable adults. Personal qualities desirable for the field include emotional maturity, physical stamina and the ability to work with people in a variety of settings, and acceptance of people with diverse backgrounds.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| CACE1400 | Professional Relations in CACE Careers | 3 |
| CACE1404 | Safety, Health and Nutrition | 3 |
| CACE1420 | Foundations of Development..... | 3 |
| CACE1440 | Guidance: Managing the Physical and Social Environment | 3 |
| CACE1460 | Internship I..... | 3 |
| EMSC1404 | First Aid and CPR for Child Care Providers | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| CACE1422 | Profiles of the Exceptional Child..... | 3 |
| CACE1424 | School-Age Strategies for Learning | 3 |
| CACE1444 | Planning and Implementing Curriculum | 3 |
| CACE1464 | Internship II | 3 |
| CACE1470 | Professional and Leadership Development | 1 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| CACE1428 | Family and Community Relations..... | 3 |
| CACE1470 | Professional and Leadership Development | 1 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| CACE1426 | Children with Difficult Behaviors | 3 |
| CACE1470 | Professional and Leadership Development | 1 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 6 |
|---------------------------|---|

General Education

| | |
|-----------------------------------|---|
| Communications-Oral..... | 3 |
| Communications-Written..... | 4 |
| Humanities | 3 |
| Natural Science/Mathematics | 3 |
| Social Sciences | 3 |
| General Education Electives..... | 6 |

Estimated cost of books, supplies and materials: \$913

Child And Adult Care And Education

Child and Adult Care and Education AS Degree (63 Credits)



Program Description

Students completing the CACE AS Degree may choose to further their education by obtaining a Bachelor of Science (BS) Degree in Early Childhood Education from Southwest Minnesota State University, Marshall. Students will be able to attend classes at the St. Cloud Technical College while completing this degree leading to teaching licensure for ages Birth to Grade 3. There is also the opportunity to transfer to other universities.

The CACE AS Degree also prepares students for employment in a variety of human service positions by providing courses in human development, managing behavior, inclusive learning environments, planning curriculum, implementing strategies for learning, and practical experience. Students who successfully complete the program will have the qualifications to apply for a center-based assistant teacher position. After one year of experience, graduates qualify for a head teacher position. In addition, the completion of credit courses offers several options for fulfilling training and in-service requirements for individuals. The program courses are in agreement with the Department of Human Services (DHS) licensing guidelines for child care providers. Membership in Skills USA, MnAEYC, NAEYC or other professional organizations is strongly recommended.

Applicants to the CACE Program must complete any college readiness courses with a Pass grade, if indicated by their ACCUPLACER scores prior to enrolling in the CACE Program courses.

Before being placed on an Internship, students will be required to complete EMSC 1404, and submit these completed forms: Department of Human Services (DHS) Background Study Form; Pre-Entrance Medical Exam; and an Immunization Record.

Career Opportunities

Students may choose to continue their education by transferring to a teacher licensure program. Career opportunities for Child and Adult Care and Education AS Degree graduates may be found in early childhood centers, school settings, long-term care facilities, private homes, licensed family child care, facilities for people with disabilities, and for students interested in starting their own business as child care providers. Graduates will be capable of planning learning activities, managing programs and daily routines, preparing materials, and managing the health and safety of children and/or vulnerable adults. Personal qualities desirable for the field include emotional maturity, physical stamina and the ability to work with people in a variety of settings, and acceptance of people with diverse backgrounds.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| CACE1400 | Professional Relations in CACE Careers | 3 |
| CACE1404 | Safety, Health and Nutrition | 3 |
| CACE1420 | Foundations of Development..... | 3 |
| CACE1440 | Guidance: Managing the Physical and Social Environment | 3 |
| CACE1460 | Internship I..... | 3 |
| EMSC1404 | First Aid and CPR for Child Care Providers | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| CACE1422 | Profiles of the Exceptional Child..... | 3 |
| CACE1424 | School-Age Strategies for Learning | 3 |
| CACE1444 | Planning and Implementing Curriculum | 3 |
| CACE1464 | Internship II | 3 |
| CACE1470 | Professional and Leadership Development | 1 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| CACE1470 | Professional and Leadership Development | 1 |
|----------|---|---|

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| CACE1470 | Professional and Leadership Development | 1 |
|----------|---|---|

General Education

| | | |
|----------|---------------------------------------|---|
| CMST2300 | Introduction to Public Speaking | 3 |
| ENGL1302 | Analytical Writing | 4 |
| MATH1330 | Cultural Mathematics..... | 3 |
| | Composition 2..... | 3 |
| | Ethic and Civic Responsibility | 3 |
| | Humanities and Fine Arts | 3 |
| | Natural Science - Biology w/lab..... | 4 |
| | Natural Science - Physical..... | 3 |
| | Social Science..... | 3 |

Estimated cost of books, supplies and materials: \$913

Child And Adult Care And Education

Child and Adult Care And Education Diploma (35 Credits)



Program Description

The CACE Program prepares students for employment in a variety of human service positions by providing courses in human development, managing behavior, inclusive learning environments, planning curriculum, implementing strategies for learning, and practical experience. Students who successfully complete the program will have the qualifications to apply for a center-based assistant teacher position. After one year of experience, graduates qualify for a head teacher position. In addition, the completion of credit courses offers several options for fulfilling training and in-service requirements for assistant teachers, teachers, director, paraprofessionals, family child care providers, and other interested individuals. The program courses are in agreement with the Department of Human Services (DHS) licensing guidelines for child care providers. Membership in Skills USA, MnAEYC, NAEYC or other professional organizations is strongly recommended.

Applicants to the CACE Program must complete any college readiness courses with a Pass grade, if indicated by their Accuplacer scores prior to enrolling in the CACE Program courses.

Before being placed on an Internship, students will be required to complete EMSC 1404, and submit these completed forms: Department of Human Services (DHS) Background Study Form; Pre-Entrance Medical Exam; and an Immunization Record.

Career Opportunities

Career opportunities for Child and Adult Care and Education graduates may be found in early childhood centers, school settings, long-term care facilities, private homes, licensed family child care, facilities for people with disabilities, and for students interested in starting their own business as child care providers. Graduates will be capable of planning learning activities, managing programs and daily routines, preparing materials, and managing the health and safety of children and/or vulnerable adults. Personal qualities desirable for the field include emotional maturity, physical stamina, the ability to work with people in a variety of settings, and acceptance of people with diverse backgrounds.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| CACE1400 | Professional Relations in CACE Careers | 3 |
| CACE1404 | Safety, Health and Nutrition | 3 |
| CACE1420 | Foundations of Development..... | 3 |
| CACE1440 | Guidance: Managing the Physical and Social Environment | 3 |
| CACE1460 | Internship I..... | 3 |
| EMSC1404 | First Aid and CPR for Child Care Providers | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| CACE1422 | Profiles of the Exceptional Child..... | 3 |
| CACE1424 | School-Age Strategies for Learning | 3 |
| CACE1444 | Planning and Implementing Curriculum | 3 |
| CACE1464 | Internship II | 3 |
| CACE1470 | Professional and Leadership Development | 1 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$913

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Child And Adult Care And Education

Child Care and Education Certificate (19 Credits)



Program Description

The CACE Program prepares students for employment in a variety of human service positions by providing courses in human development, managing behavior, inclusive learning environments, planning curriculum, implementing strategies for learning, and practical experience. Students who successfully complete the program will have the qualifications to apply for a center-based assistant teacher position. After one year of experience, graduates qualify for a head teacher position. In addition, the completion of credit courses offers several options for fulfilling training and in-service requirements for assistant teachers, teachers, directors, paraprofessionals, family child care providers, and other interested individuals. The program courses are in agreement with the Department of Human Services (DHS) licensing guidelines for child care providers. Membership in Skills US, MnAWYC, NAEYC or other professional organizations is strongly recommended.

Applicants to the CACE Program must complete any college readiness courses with a Pass grade, if indicated by their Accuplacer scores prior to enrolling in the CACE program courses.

Before being placed on an Internship, students will be required to complete EMSC 1404, and submit these completed forms: Department of Human Services (DHS) Background Study Form; Pre-Entrance Medical Exam; and an Immunization Record.

Career Opportunities

Career opportunities for Child and Adult Care and Education graduates may be found in early childhood centers, school settings, long-term care facilities, private homes, licensed family child care, facilities for people with disabilities, and for students interested in starting their own business as child care providers. Graduates will be capable of planning learning activities, managing programs and daily routines, and managing the health and safety of children and/or vulnerable adults. Personal qualities desirable for the field include emotional maturity, physical stamina, the ability to work with people in a variety of settings, and acceptance of people with diverse backgrounds.

Technical Studies

| | | |
|----------|---|---|
| CACE1400 | Professional Relations in CACE Careers | 3 |
| CACE1404 | Safety, Health and Nutrition | 3 |
| CACE1420 | Foundations of Development..... | 3 |
| CACE1440 | Guidance: Managing the Physical and Social Environment | 3 |
| CACE1460 | Internship I..... | 3 |

General Studies

| | | |
|----------|--|---|
| EMSC1404 | First Aid and CPR for Child Care Providers | 1 |
| ENGL1100 | Writing for the Workplace | 3 |

Estimated cost of books, supplies and materials: \$250

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Computer Careers

Computer Programmer AAS Degree (72 Credits)



Program Description

The Computer Careers Program involves the meaningful processing of data by computers. Effective decision-making can take place only if accurate data is available when and where needed. Students will have a choice of curriculum options including a diploma or an AAS Degree. Success in the Computer Careers Program is dependent on such qualities as attentiveness, logical reasoning skills, attention to detail, and production orientation.

Computer programming majors will receive extensive training in the programming of computers for business data processing applications. Practical experience is primarily provided on the IBM AS/400 and IBM PC-compatibles. Computer programmers design and write computer programs for midrange and mainframe systems. Programmers must be able to follow the instructions provided by systems documentation, test the programs, review results, and make necessary corrections.

Students in Computer Careers majors must achieve a "C" or better in all Computer Science courses. All students in Computer Science majors are required to lease a laptop computer for their coursework.

Career Opportunities

The use of stand-alone and networked computers is rapidly increasing in all levels of government and in businesses such as accounting firms, software houses, manufacturing firms, computer service centers, banks and hospitals. Employment potential is outstanding for competent AS/400 computer programmer graduates.

Suggested Technical Studies Semester I

| | | |
|----------|--------------------------------------|---|
| CMSC1200 | Computer Concepts | 2 |
| CMSC1202 | Introduction to HTML | 3 |
| CMSC1203 | Structured Programming Logic | 3 |
| CMSC1221 | Windows Operating Systems..... | 3 |
| CMSC1250 | AS/400 Operations and Utilities..... | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|-------------------------------|---|
| ACCT1215 | Accounting Principles I | 4 |
| CMSC1229 | Organization Behavior | 1 |
| CMSC1241 | RPG Language I | 3 |
| CMSC1251 | AS/400 DB2 Database | 3 |
| CMSC1261 | Microcomputer Database..... | 3 |
| CMSC2264 | Java Language I | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|-------------------------------|---|
| CMSC1232 | Project/Team Management | 1 |
| CMSC2242 | RPG Language II | 3 |
| CMSC2258 | AS/400 CL Programming | 2 |
| CMSC2261 | Visual Basic I..... | 3 |
| CMSC2266 | Java Language II..... | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| CMSC1233 | Personal Development/Job Seeking | 1 |
| CMSC2243 | RPG Language III..... | 2 |
| CMSC2263 | Visual BASIC II..... | 3 |
| CMSC2267 | Java Language III | 2 |
| CMSC2279 | Systems Analysis and Design | 3 |

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| MATH1300 | College Algebra | 3 |
| | Humanities | 3 |
| | Social Sciences | 3 |
| | General Education Electives..... | 3 |

Estimated cost of books, supplies and materials: \$3,600

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Computer Careers

Microcomputer Support and Network Administration
AAS Degree (72 Credits)



Program Description

The Computer Careers program involves the meaningful processing of data by computers. Effective decision-making can take place only if accurate data is available when and where needed. Students will have a choice of curriculum options including a diploma or an AAS Degree. Success in the Computer Careers Program is dependent on such qualities as attentiveness, logical reasoning skills, attention to detail, and production orientation.

The Microcomputer Support and Network Administration major provides the “hands-on” support skills needed to assist microcomputer users in a business environment. Skill development covers microcomputer and data communication technology and their related software applications. Hardware skills include selection, configuration, and operation of microcomputers and data communication equipment. Software skills include software selection, installation, training, and user support.

Students in Computer Careers majors must achieve a “C” or better in all Computer Science courses. All students in Computer Science majors are required to lease a laptop computer for their coursework.

Career Opportunities

The use of stand-alone and networked computers is rapidly increasing in all levels of government and in businesses such as accounting firms, software houses, manufacturing firms, computer service centers, banks, and hospitals. Microcomputer Support and Network Administration graduates may obtain entry-level employment as local area network administrators, network user support specialists and microcomputer technicians.

Suggested Technical Studies Semester I

| | | |
|----------|--------------------------------------|---|
| CMSC1200 | Computer Concepts | 2 |
| CMSC1202 | Introduction to HTML | 3 |
| CMSC1203 | Structured Programming Logic | 3 |
| CMSC1221 | Windows Operating Systems..... | 3 |
| CMSC1250 | AS/400 Operations and Utilities..... | 2 |
| CMSC1275 | Cisco Routing I..... | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------|---|
| CMSC1213 | Network Administration | 4 |
| CMSC1218 | Disk Operating System..... | 3 |
| CMSC1229 | Organization Behavior..... | 1 |
| CMSC1251 | AS/400 DB2 Database..... | 3 |
| CMSC1276 | Cisco Routing II..... | 2 |
| CMSC1281 | HP IT Essentials I | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| CMSC1232 | Project/Team Management | 1 |
| CMSC1265 | Help Desk Operations..... | 3 |
| CMSC2223 | Windows Active Directory Services..... | 3 |
| CMSC2277 | Cisco Routing III | 3 |
| CMSC2283 | Hewlett Packard (HP) Information Technology (IT) Essentials II | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| CMSC1233 | Personal Development/Job Seeking | 1 |
| CMSC2217 | Network Security | 3 |
| CMSC2218 | Wireless Networking | 2 |
| CMSC2278 | Cisco Routing IV | 2 |

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| MATH1300 | College Algebra | 3 |
| | Humanities | 3 |
| | Social Sciences | 3 |
| | General Education Electives..... | 3 |

Estimated cost of books, supplies and materials: \$4,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Computer Careers

Computer Programmer Diploma (59 Credits)



Program Description

The Computer Careers Program involves the meaningful processing of data by computers. Effective decision-making can take place only if accurate data is available when and where needed. Students will have a choice of curriculum options including a diploma or an AAS Degree. Success in the Computer Careers Program is dependent on such qualities as attentiveness, logical reasoning skills, attention to detail, and production orientation.

Computer programming majors will receive extensive training in the programming of computers for business data processing applications. Practical experience is primarily provided on the IBM AS/400 and IBM PC-compatibles. Computer programmers design and write computer programs for midrange and mainframe systems. Programmers must be able to follow the instructions provided by systems documentation, test the programs, review results, and make necessary corrections.

Students in Computer Careers majors must achieve a “C” or better in all Computer Science courses. All students in Computer Science majors are required to lease a laptop computer for their coursework.

Career Opportunities

The use of stand-alone and networked computers is rapidly increasing in all levels of government and in businesses such as accounting firms, software houses, manufacturing firms, computer service centers, banks, and hospitals. Employment potential is outstanding for competent AS/400 computer programmer graduates.

Suggested Technical Studies Semester I

| | | |
|----------|--------------------------------------|---|
| CMSC1200 | Computer Concepts | 2 |
| CMSC1202 | Introduction to HTML | 3 |
| CMSC1203 | Structured Programming Logic | 3 |
| CMSC1221 | Windows Operating Systems..... | 3 |
| CMSC1250 | AS/400 Operations and Utilities..... | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|-------------------------------|---|
| ACCT1215 | Accounting Principles I | 4 |
| CMSC1229 | Organization Behavior | 1 |
| CMSC1241 | RPG Language I | 3 |
| CMSC1251 | AS/400 DB2 Database | 3 |
| CMSC1261 | Microcomputer Database..... | 3 |
| CMSC2264 | Java Language I | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|-------------------------------|---|
| CMSC1232 | Project/Team Management | 1 |
| CMSC2242 | RPG Language II | 3 |
| CMSC2258 | AS/400 CL Programming | 2 |
| CMSC2261 | Visual Basic I..... | 3 |
| CMSC2266 | Java Language II..... | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| CMSC1233 | Personal Development/Job Seeking | 1 |
| CMSC2243 | RPG Language III..... | 2 |
| CMSC2263 | Visual BASIC II..... | 3 |
| CMSC2267 | Java Language III | 2 |
| CMSC2279 | Systems Analysis and Design | 3 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$3,600

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Computer Careers

*Microcomputer Support and Network Administration
Diploma (59 Credits)*



Program Description

The Computer Careers Program involves the meaningful processing of data by computers. Effective decision-making can take place only if accurate data is available when and where needed. Students will have a choice of curriculum options including a diploma or an AAS Degree. Success in the Computer Careers Program is dependent on such qualities as attentiveness, logical reasoning skills, attention to detail, and production orientation.

The microcomputer support and network administration major provides the “hands-on” support skills needed to assist microcomputer users in a business environment. Skill development covers microcomputer and data communication technology and their related software applications. Hardware skills include selection, configuration, and operation of microcomputers and data communication equipment. Software skills include software selection, installation, training, and user support.

Students in Computer Careers majors must achieve a “C” or better in all Computer Science courses. All students in Computer Science majors are required to lease a laptop computer for their coursework.

Career Opportunities

The use of stand-alone and networked computers is rapidly increasing in all levels of government and in businesses such as accounting firms, software houses, manufacturing firms, computer service centers, banks, and hospitals. Microcomputer support and network administration graduates may obtain entry-level employment as local area network administrators, network user support specialists and microcomputer technicians.

Suggested Technical Studies Semester I

| | | |
|----------|--------------------------------------|---|
| CMSC1200 | Computer Concepts | 2 |
| CMSC1202 | Introduction to HTML | 3 |
| CMSC1203 | Structured Programming Logic | 3 |
| CMSC1221 | Windows Operating Systems..... | 3 |
| CMSC1250 | AS/400 Operations and Utilities..... | 2 |
| CMSC1275 | Cisco Routing I..... | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------|---|
| CMSC1213 | Network Administration | 4 |
| CMSC1218 | Disk Operating System..... | 3 |
| CMSC1229 | Organization Behavior..... | 1 |
| CMSC1251 | AS/400 DB2 Database..... | 3 |
| CMSC1276 | Cisco Routing II..... | 2 |
| CMSC1281 | HP IT Essentials I | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| CMSC1232 | Project/Team Management | 1 |
| CMSC1265 | Help Desk Operations..... | 3 |
| CMSC2223 | Windows Active Directory Services..... | 3 |
| CMSC2277 | Cisco Routing III | 3 |
| CMSC2283 | Hewlett Packard (HP) Information Technology (IT) Essentials II | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| CMSC1233 | Personal Development/Job Seeking | 1 |
| CMSC2217 | Network Security | 3 |
| CMSC2218 | Wireless Networking | 2 |
| CMSC2278 | Cisco Routing IV | 2 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$4,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Culinary Arts

Culinary Arts (38 Credits)



Program Description

The Culinary Arts Program is designed to prepare students for the food service industry. Students have the opportunity to apply food preparation and service techniques. Students must be physically fit, neat, clean and motivated toward this type of training. They must also be creative.

Career Opportunities

There is an increasing demand for skilled workers in this field as the food service industry continues to expand. Opportunities exist for both rapid advancement and self-employment. Graduates have been placed in large institutions as well as private clubs and restaurants.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| CULN1201 | Kitchen Operations | 3 |
| CULN1202 | Introduction to Culinary Arts..... | 3 |
| CULN1220 | Introduction to Pantry Food Preparation | 2 |
| CULN1225 | Servsafe Certification..... | 1 |
| CULN1230 | Vegetables, Potato, Rice and Farinaceous Products . | 2 |
| CULN1240 | Stocks, Soups, Sauces..... | 3 |
| CULN1260 | Introduction to Breakfast | 2 |

Estimated cost of books, supplies and materials: \$475

Suggested Technical Studies Semester II

| | | |
|----------|---------------------------------------|---|
| CULN1245 | Basic Baking..... | 3 |
| CULN1250 | Basic Cooking Principles..... | 4 |
| CULN1265 | Basic Food Production Principles..... | 3 |
| CULN1270 | Garde Manager | 4 |
| CULN1280 | Foodservice Internship..... | 2 |
| CULN1290 | Social Etiquette..... | 2 |

General Studies

| | | |
|----------|-----------------------|---|
| GBEH1300 | Human Relations | 3 |
|----------|-----------------------|---|

General Studies Electives: required to take one

| | | |
|----------|------------------------------|---|
| EMSC1400 | Principles of First Aid..... | 1 |
| OR | | |
| EMSC1420 | Basic Emergency Care..... | 1 |
| OR | | |
| HLTH1460 | Nutrition..... | 1 |

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Dental Assistant

Dental Assistant AAS Degree (68 Credits)



Program Description

The Dental Assistant Program is designed to provide an opportunity for students to acquire background knowledge and develop specialized skills for gaining employment in the dental profession. Specific training is provided in preparing the student for a variety of duties performed by the dental assistant include chairside assisting, infection control procedures, preparing instruments and materials, laboratory procedures, administrative duties and expanded functions such as mechanical polishing and application of sealants.

The Dental Assistant Program is based on the concept of hands-on learning where each student completes an internship at a dental office and/or clinic. This experience provides the opportunity to apply classroom instruction in work setting with other dental professionals and patients. The Dental Assistant Program is accredited by the American Dental Association Commission on Dental Accreditation. The student will earn state and national certification upon successful completion of the Minnesota State Board Registration Examination and the Dental Assistant National Board (DANB) examination.

Career Opportunities

The demand for Dental Assistants continues to grow due to the success of preventive dentistry, the aging population and the increased awareness of the importance of regular dental care. Work schedules are often flexible and include full-time and part-time opportunities in a variety of settings including general dental practices, public health clinics, insurance companies, dental education facilities, and specialty practices such as orthodontics, oral surgery and cosmetic dentistry. The AAS degree is designed to transfer some general education credits toward earning dental hygiene degree and/or a related baccalaureate major.

Acceptance Requirements and Credits

* Prior to entering the Dental Assistant program, students must complete the Accuplacer test with scores above the cutoff point in reading comprehension and sentence structure or successful completion of equivalent general education course work.

* In addition the following must be completed:

- A medical examination
- Vaccinations against Hepatitis B or sign a release form (HBV series must be completed prior to students starting the Spring semester of the first year of dental assisting)
- Mantoux test (yearly testing)
- An observation in a dental office setting

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| DENT1400 | Dental Sciences..... | 3 |
| DENT1409 | Preclinical Dental Assisting..... | 1 |
| DENT1411 | Infection Control in the Dental Environment..... | 2 |
| EMSC1480 | Emergency Cardiac Care..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|-----------------------------|---|
| DENT1420 | Chairside Assisting I..... | 4 |
| DENT1434 | Dental Materials I..... | 2 |
| DENT1440 | Dental Radiology I..... | 4 |
| DENT1444 | Expanded Functions I..... | 4 |
| HLTH1424 | Patient Communications..... | 1 |

Suggested Technical Studies Semester III

| | | |
|----------|-----------------------------|---|
| DENT1460 | Internship I..... | 1 |
| DENT2404 | Dental Health..... | 2 |
| DENT2424 | Chairside Assisting II..... | 4 |
| DENT2440 | Dental Materials II..... | 2 |
| DENT2446 | Dental Radiology II..... | 4 |
| DENT2454 | Expanded Functions II..... | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|---------------------------------|---|
| DENT2412 | Dental Practice Management..... | 3 |
| DENT2460 | Internship II..... | 6 |

General Education

| | | |
|----------|---|---|
| CMST1320 | Introduction to Speech Communication..... | 3 |
| CPTR1300 | Exploring Computers..... | 3 |
| ENGL1302 | Analytical Writing..... | 4 |
| | Nutrition..... | 2 |
| | Psychology..... | 3 |
| | Sociology..... | 3 |
| | General Education Electives..... | 2 |

Estimated cost of books, supplies and materials: \$3,200

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Dental Assistant

Dental Assistant Diploma (58 Credits)



Program Description

The Dental Assistant Program is designed to provide an opportunity for students to acquire background knowledge and develop specialized skills for gaining employment in the dental profession. Specific training is provided in preparing the student for a variety of duties performed by the dental assistant including chairside assisting, infection control procedures, preparing instruments and materials, laboratory procedures, administrative duties and expanded functions such as mechanical polishing and application of sealants. The dental assistant program is based on the concept of hands-on learning where each student completes an internship at a dental office and/or clinic. This experience provides the opportunity to apply classroom instruction in work setting with other dental professionals and patients. The dental assistant program is accredited by the American Dental Association Commission on Dental Accreditation. The student will earn state and national certification upon successful completion of the Minnesota State Board Registration Examination and the Dental Assistant National Board (DANB) examination.

Career Opportunities

The demand for Dental Assistants continues to grow due to the success of preventive dentistry, the aging population and the increased awareness of the importance of regular dental care. Work schedules are often flexible and include full-time and part-time opportunities in a variety of settings including general dental practices, public health clinics, insurance companies, dental education facilities, and specialty practices such as orthodontics, oral surgery and cosmetic dentistry.

Acceptance Requirements and Credits

* Prior to entering the Dental Assistant program, students must complete the Accuplacer test with scores above the cutoff point in reading comprehension and sentence structure or successful completion of equivalent general education course work.

* In addition the following must be completed:

- A medical examination
- Vaccinations against Hepatitis B or sign a release form (HBV series must be completed prior to students starting the Spring semester of the first year of dental assisting)
- Mantoux test (yearly testing)
- An observation in a dental office setting

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| DENT1400 | Dental Sciences..... | 3 |
| DENT1409 | Preclinical Dental Assisting..... | 1 |
| DENT1411 | Infection Control in the Dental Environment..... | 2 |
| EMSC1480 | Emergency Cardiac Care..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|-----------------------------|---|
| DENT1420 | Chairside Assisting I..... | 4 |
| DENT1434 | Dental Materials I..... | 2 |
| DENT1440 | Dental Radiology I..... | 4 |
| DENT1444 | Expanded Functions I..... | 4 |
| HLTH1424 | Patient Communications..... | 1 |
| HLTH1460 | Nutrition..... | 1 |

Suggested Technical Studies Semester III

| | | |
|----------|-----------------------------|---|
| DENT1460 | Internship I..... | 1 |
| DENT2404 | Dental Health..... | 2 |
| DENT2424 | Chairside Assisting II..... | 4 |
| DENT2440 | Dental Materials II..... | 2 |
| DENT2446 | Dental Radiology II..... | 4 |
| DENT2454 | Expanded Functions II..... | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|---------------------------------|---|
| DENT2412 | Dental Practice Management..... | 3 |
| DENT2460 | Internship II..... | 6 |

General Studies

| | | |
|----------|--------------------------------|---|
| BUSM1200 | Microsoft Software..... | 3 |
| ENGL1100 | Writing for the Workplace..... | 3 |
| GBEH1300 | Human Relations..... | 3 |

Estimated cost of books, supplies and materials: \$3,200

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Dental Hygienist

Dental Hygiene AAS Degree (83 Credits)



Program Description

The Dental Hygiene Program provides the students with academic and clinical opportunities to acquire the knowledge, skills and attitude necessary to become a dental hygiene professional. A dental hygienist is a member of the dental team who provides direct care to patients under the supervision of a licensed dentist. The duties of a dental hygienist include patient assessments, taking radiographs, teeth cleaning and polishing, applying preventive agents, nonsurgical periodontal therapies (scaling and root planing), administering local anesthesia and nitrous oxide, taking impressions, pouring up study models and making bleaching trays.

The education program is a combination of classroom lectures, hands-on lab and clinical activities, along with numerous service learning opportunities. The program is demanding and quite rigorous in the scope and depth of study. Individuals who are strong in the biological sciences and human anatomy, have good dexterity, attention to detail and possess critical thinking skills are excellent candidates for a career in Dental Hygiene. Upon graduation, students must successfully complete the National Dental Hygiene Board Exam, the Central Regional Board Exam and then obtain a license in the state they wish to practice. Dental Hygiene is a very competitive program. Fulfilling the prerequisites is not a guarantee to admission into the program. Students are ranked according to GPA in the prerequisite courses in consideration for admission to the program.

Career Opportunities

There is a strong demand for clinical dental hygienists throughout the USA. However, there are a limited number of full time employment opportunities in the St. Cloud area. Licensed dental hygienists can work in many different settings: clinical dental offices, nursing homes, public health agencies, dental and pharmaceutical companies, teaching in dental hygiene education programs and doing dental research.

Acceptance Requirements and Credits

| | |
|--|---|
| Human Anatomy/ Physiology I..... | 4 |
| Human Anatomy/Physiology II | 4 |
| Microbiology | 4 |
| Chemistry (for Health Science majors)..... | 4 |
| Nutrition | 2 |

* Applicant may apply only after successful completion of 3 of the 5 science/nutrition courses listed above. Priority will be given to those students who have completed all 5 of the science/nutrition courses listed above at an accredited college or university and to those students who have completed the largest portion of the general education component.

* Effective for Fall 2006 Dental Hygiene applicants: Students being considered for admission into the SCTC Dental Hygiene program will be limited to retaking classes: a maximum of 1 retake for a science/nutrition prerequisite course and a maximum of 1 retake for a required general education course.

Suggested Technical Studies Semester I

| | |
|--|---|
| DEHY1400 Dental Hygiene Seminar I..... | 2 |
| DEHY1418 Introduction to Dental Radiology..... | 2 |
| DEHY1424 Orofacial Structures | 3 |
| DEHY1426 Oral Histology/Embryology..... | 1 |
| DEHY1428 General and Oral Pathology | 3 |
| DEHY1480 DH- Pre-Clinical Lab I..... | 3 |

Suggested Technical Studies Semester II

| | |
|---|---|
| DEHY1402 Dental Hygiene Seminar II..... | 2 |
| DEHY1410 Introduction to Dental Materials and Methods | 2 |

| | |
|--|---|
| DEHY1422 Dental Pharmacology | 2 |
| DEHY1448 Dental Hygiene Radiology | 2 |
| DEHY1460 Periodontics..... | 2 |
| DEHY1482 DH Pre Clinical/Clinical Lab II | 2 |
| DEHY1484 Clinical Dental Hygiene II | 2 |

Suggested Technical Studies Semester III

| | |
|--|---|
| DEHY1404 Clinical Seminar III..... | 2 |
| DEHY1420 Dental Hygiene Materials and Methods..... | 2 |
| DEHY1440 Community Dental Health I..... | 2 |
| DEHY1468 Pain Management..... | 2 |
| DEHY1486 Clinical Dental Hygiene III..... | 6 |

Suggested Technical Studies Semester IV

| | |
|--|---|
| DEHY1406 Clinical Seminar IV..... | 2 |
| DEHY1444 Community Dental Health II..... | 2 |
| DEHY1464 Advanced Periodontics..... | 1 |
| DEHY1488 Clinical Dental Hygiene IV..... | 6 |

Ethics

| | |
|--|---|
| HLTH1484 Ethics for Health Careers | 3 |
|--|---|

General Education

| | |
|------------------------------|---|
| Communications-Oral | 3 |
| Communications-Written | 3 |
| Psychology | 3 |
| Sociology..... | 3 |

Estimated cost of books, supplies and materials: \$6,400

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Echocardiography

Echocardiography AAS Degree (72 Credits)



Program Description

Echocardiography is a specialized concentration within the field of diagnostic medical ultrasound. The Echo technologist learns to become adept at obtaining and interpreting diagnostic quality images of the heart and surrounding structures, evaluating heart anatomy, chamber size, wall thickness, valve morphology and overall heart function.

The program coordinates academic study with clinical laboratory experience and a hospital or clinic based Applied Clinical Internship. Students may choose to complete some of their additional Education Requirements prior to programs entrance or during a summer session.

In general, the technologist's job requires good eye/hand coordination, the ability to stand and/or sit for prolonged periods of time, lift approximately 40 pounds and if necessary, push an ultrasound machine. Good verbal and sometimes written communication skills enhance the technologist's work experience.

Preferential entrance into the program will be given to students who have completed all admission requirements.

Career Opportunities

Technologists usually work in a hospital or clinic setting. This is a growing and technically demanding profession and as a result, Echo technologists enjoy excellent salaries and nation-wide job opportunities.

Acceptance Requirements and Credits

| | |
|-----------------------------------|---|
| Human Anatomy/ Physiology I..... | 4 |
| Human Anatomy/Physiology II | 4 |
| College Algebra | 3 |
| General Physics..... | 4 |

* Applicants may apply only after successful completion of 2 of the 4 courses listed in this requirement and all 4 courses must be completed prior to starting the program.

* Applicants must be vaccinated against Hepatitis B or sign a release form. HBV series must be completed prior to students starting the Spring semester of the 2nd year.

* NOTE: CLINICAL SITES ARE LOCATED IN THE FIVE STATE AREA. ADDITIONAL SITES IN OTHER STATES MAY ALSO BE AVAILABLE.

Suggested Technical Studies Semester I

| | |
|-----------------------------------|---|
| BUSM1200 Microsoft Software | 3 |
| HLTH1440 Medical Terminology..... | 1 |
| USCV1422 Ultrasound Physics | 3 |

Ethics

| | |
|--------------|---|
| Ethics | 3 |
|--------------|---|

Suggested Technical Studies Semester II

| | |
|---|---|
| ECHO1423 Echocardiography I..... | 2 |
| ECHO1443 Echocardiography Clinic I..... | 5 |
| EMSC1480 Emergency Cardiac Care | 1 |
| HLTH1448 Microbiology/Infection Control..... | 1 |
| USCV1400 Cardiovascular Anatomy and Physiology..... | 2 |
| USCV1440 Introduction to Clinics | 1 |

Suggested Technical Studies Semester III

| | |
|--|---|
| ECHO2426 Echocardiography II | 4 |
| ECHO2446 Echocardiography Clinic II..... | 5 |
| USCV2405 Cardiovascular Pathology | 3 |

Suggested Technical Studies Semester IV

| | |
|---|----|
| ECHO2450 Applied Clinical Internship..... | 13 |
|---|----|

General Education

| | |
|-----------------------------|---|
| Communications-Written..... | 4 |
| Humanities | 3 |
| Psychology..... | 3 |

Estimated cost of books, supplies and materials: \$2,543

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Electrical Construction Technology

Electrical Construction Technology AAS Degree (84 Credits)



Program Description

The Electrical Construction Technology Program begins with basic principles and progresses to more technical information. The early part of the program includes D. C. theory, related math, National Electrical Code, shop skills and safety. Related subjects are scheduled throughout the program. A good mathematics background with one year of high school algebra or trigonometry is required.

Students will learn to apply knowledge to actual projects in the shop or mock-ups. Students will wire the house project, built as a student project by our building trades classes.

Students will receive training in A. C. and D. C. motor and generator theory, transformers, lighting, three phase systems, motor control, solid state, variable frequency drives (VFD) and programmable logic controls (PLC).

The Electrical Construction Technology Program is approved by Minnesota State Board of Electricity. Credit is given toward the state electrical license upon completion of this two year course.

Students are required to have completed ACCUPLACER with a minimum math score of 44 and a minimum reading score of 71. Minimum scores or better must be achieved prior to being accepted into the program.

Career Opportunities

After completing an apprenticeship, the graduate may be eligible to take the state examination for a journey person's license. A master electrician's license can be obtained after an electrician has worked for a number of years and gained further knowledge and skills. The Minnesota State Board of Electricity recognizes this program for credit towards the license.

The electrical trade today is an ever-expanding industry that offers a wide variety of interesting work. The properly trained electrician will be called upon to wire buildings ranging from private homes to industrial plants. An electrician may perform maintenance work in industrial plants, office buildings, hospitals, or public buildings. Some electricians may specialize in particular fields such as motor rewinding, machine tool manufacture, appliance repair, or industrial controls.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ELEC1502 | Basic Wiring and Materials I..... | 5 |
| ELEC1510 | National Electrical Code I | 2 |
| ELEC1518 | Applied Electrical Principles and Formulas | 5 |
| ELEC1522 | Drafting Blueprint Reading and Specification..... | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| ELEC1506 | Basic Wiring and Materials II..... | 5 |
| ELEC1514 | National Electrical Code II | 2 |
| ELEC1526 | Applied Electrical Principles and A. C. Fund..... | 5 |
| ELEC1530 | Electric Heat | 2 |
| ELEC1534 | Construction Trades Integration | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| ELEC1538 | Industry Skills Development | 1 |
| ELEC2502 | Residential Wiring I..... | 2 |
| ELEC2510 | National Electrical Code III..... | 2 |
| ELEC2518 | Commercial Wiring and Lighting | 5 |
| ELEC2522 | AC Motor Control I | 3 |
| ELEC2538 | Transformers, Three Phase systems, and Formulas.. | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|-----------------------------------|---|
| ELEC2506 | Residential Wiring II..... | 2 |
| ELEC2514 | National Electrical Code IV..... | 2 |
| ELEC2526 | A. C. Motor Control II..... | 4 |
| ELEC2532 | Solid State and PLC Controls..... | 3 |
| ELEC2534 | Industrial Systems..... | 3 |
| ELEC2540 | Low Voltage Systems..... | 1 |
| EMSC1420 | Basic Emergency Care..... | 1 |

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | Humanities..... | 3 |
| | Mathematics..... | 3 |
| | Social Sciences | 3 |
| | General Education Electives..... | 4 |

Estimated cost of books, supplies and materials: \$1,720

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Electrical Construction Technology

Electrical Construction Technology Diploma (70 Credits)



Program Description

The Electrical Construction Technology Program begins with basic principles and progresses to more technical information. The early part of the program includes D. C. theory, related math, National Electrical Code, shop skills and safety. Related subjects are scheduled throughout the program. A good mathematics background in algebra and geometry is beneficial.

Students will learn to apply knowledge to actual projects in tech shop or mock-ups. Students will wire the house project, built as a student project by our building trades classes.

Advanced students will receive training in A. C. and D. C. motor and generator theory, transformers, lighting, three phase systems, motor control, basic electronics, solid state, and programmable logic controls (PLC).

The Electrical Construction Technology Program is approved by Minnesota State Board of Electricity. Credit is given toward the state electrical license upon completion of this two year course.

Students are required to have completed ACCUPLACER with a minimum math score of 44 and a minimum reading score of 62. Minimum scores or better must be achieved prior to being accepted into the program.

Career Opportunities

After completing an apprenticeship, the graduate may be eligible to take the state examination for a journeyperson's license. A master electrician's license can be obtained after an electrician has worked for a number of years and gained further knowledge and skills. The Minnesota State Board of Electricity recognizes this program for credit towards the license.

The electrical trade today is an ever-expanding industry that offers a wide variety of interesting work. The properly trained electrician will be called upon to wire buildings ranging from private homes to industrial plants. An electrician may perform maintenance work in industrial plants, office buildings, hospitals, or public buildings. Some electricians may specialize in particular fields such as motor rewinding, machine tool manufacture, appliance repair, or industrial controls.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ELEC1502 | Basic Wiring and Materials I..... | 5 |
| ELEC1510 | National Electrical Code I | 2 |
| ELEC1518 | Applied Electrical Principles and Formulas | 5 |
| ELEC1522 | Drafting Blueprint Reading and Specification..... | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| ELEC1506 | Basic Wiring and Materials II..... | 5 |
| ELEC1514 | National Electrical Code II | 2 |
| ELEC1526 | Applied Electrical Principles and A. C. Fund..... | 5 |
| ELEC1530 | Electric Heat | 2 |
| ELEC1534 | Construction Trades Integration | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| ELEC1538 | Industry Skills Development | 1 |
| ELEC2502 | Residential Wiring I..... | 2 |
| ELEC2510 | National Electrical Code III..... | 2 |
| ELEC2518 | Commercial Wiring and Lighting | 5 |
| ELEC2522 | AC Motor Control I | 3 |
| ELEC2538 | Transformers, Three Phase systems, and Formulas.. | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|------------------------------------|---|
| ELEC2506 | Residential Wiring II..... | 2 |
| ELEC2514 | National Electrical Code IV..... | 2 |
| ELEC2526 | A. C. Motor Control II..... | 4 |
| ELEC2532 | Solid State and PLC Controls | 3 |
| ELEC2534 | Industrial Systems..... | 3 |
| ELEC2540 | Low Voltage Systems..... | 1 |

General Studies

| | | |
|----------|---------------------------------|---|
| EMSC1420 | Basic Emergency Care..... | 1 |
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$1,720

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Electronics

Industrial Electronics Technician AAS Degree (66 Credits)



Program Description

The Instrumentation and Process Control program prepares individuals to apply electronic engineering principles and technical skills in the fields of instrumentation measurement and industrial control systems, automated systems, process control, plant equipment maintenance, embedded microcontrollers, and data acquisition systems.

This program prepares individuals with knowledge and skills in the areas of AC/DC electronics, digital and analog circuits, use of electronic test equipment, use of computers for analysis and problem solving, reading electrical schematics and system diagrams, process and instrument diagrams, scientific methods, and problem solving skills.

Individuals gain a variety of technical skills in the areas of programmable logic controllers (PLC's), industrial automation, fluid power systems, process control systems, instrumentation techniques and calibration, microcomputer hardware, microcontroller programming, computer aided drafting, and statistical process control.

Career Opportunities

Graduates from this program find exciting opportunities as instrument and process control technicians in installing, maintaining, and repairing electronic equipment and automated systems used in a variety of industries. Examples include aerospace, paper manufacturing, food processing, petro-chemical production, power generation, mining, municipal water and waste water treatment, plant maintenance, medical device testing and calibration, and environmental monitoring and control systems.

Suggested Technical Studies Semester I

| | | |
|----------|-----------------------------|---|
| ETEC1510 | AC/DC Electricity | 8 |
| TECH1530 | Computer Applications | 2 |
| TECH1550 | Basic CADD | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| ETEC1506 | Digital Electronics | 4 |
| ETEC1520 | Semiconductor Devices | 8 |
| TECH1556 | Basic Manual - Automated Machining | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|-------------------|---|
| ETEC2511 | Fluid Power | 2 |
| ETEC2540 | Automation | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|------------------------------|---|
| ETEC2550 | Automation Project Lab | 4 |
|----------|------------------------------|---|

Technical Electives

| | |
|---------------------------|----|
| Technical Electives | 10 |
|---------------------------|----|

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| MATH1300 | College Algebra | 3 |
| PHYS1300 | General Physics | 4 |
| | Humanities | 3 |
| | Social Sciences | 3 |

Estimated cost of books, supplies and materials: \$2,650

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Electronics

Instrumentation and Process Control AAS Degree (68 Credits)



Program Description

The Electronics Program prepares individuals to apply electronic engineering principles and technical skills in the fields of instrumentation and industrial control systems, digital and analog circuits, automated manufacturing and robotics, manufacturing and facilities maintenance, embedded microcontrollers, and telecommunications systems.

This program prepares individuals with knowledge and skills in the areas of AC/DC electronics, digital and analog circuits, use of electronic test equipment, use of computers for analysis and problem solving, reading electrical schematics and system diagrams, scientific methods, and problem solving skills.

Individuals are also able to select elective credits from a variety of other knowledge and skill areas such as programmable logic controllers (PLCs), industrial automation, process control systems, instrumentation techniques and calibration, microcomputer hardware and network support, computer programming, telecommunications systems, computer aided drafting, and statistical process control.

Career Opportunities

Graduates from this program find exciting opportunities as electro-mechanical technicians in installing, maintaining, and repairing electronic equipment and systems used in a variety of industries such as, automated manufacturing, robotics, aerospace, paper manufacturing, food processing, petro-chemical production, power generation, mining, maintenance and telecommunications.

Suggested Technical Studies Semester I

| | | |
|----------|-----------------------------|---|
| ETEC1510 | AC/DC Electricity | 8 |
| TECH1530 | Computer Applications | 2 |
| TECH1550 | Basic CADD | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| ETEC1506 | Digital Electronics | 4 |
| ETEC1520 | Semiconductor Devices | 8 |
| TECH1556 | Basic Manual - Automated Machining | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|---------------------------------------|---|
| ETEC2511 | Fluid Power | 2 |
| ETEC2520 | Fundamentals of Instrumentation | 4 |
| ETEC2540 | Automation | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|-------------------------------|---|
| ETEC2530 | Process Control Systems | 4 |
| ETEC2550 | Automation Project Lab | 4 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 4 |
|---------------------------|---|

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| MATH1300 | College Algebra | 3 |
| PHYS1300 | General Physics | 4 |
| | Humanities | 3 |
| | Social Sciences | 3 |

Estimated cost of books, supplies and materials: \$2,650

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Electronics

Electronics Technician I - Diploma (31 Credits)



Program Description

The Electronics Technician I Program prepares individuals with a fundamental knowledge of AC/DC electronics, digital and analog circuits, use of electronic test equipment, use of computers for analysis and problem solving, and reading electronic schematics.

Career Opportunities

Graduates from this program coupled with prior experience or other education experiences find exciting opportunities in a variety of fields, such as, selling electronic equipment, alarm and security system installers, and electronic assembly. They may also use this diploma to transfer to other programs that require a one year diploma in electronics, such as biomedical technician, Instrumentation and Process Control technician, and electronics technician programs.

Suggested Technical Studies Semester I

| | | |
|----------|-----------------------------|---|
| ETEC1510 | AC/DC Electricity | 8 |
| TECH1530 | Computer Applications | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|-----------------------------|---|
| ETEC1506 | Digital Electronics | 4 |
| ETEC1520 | Semiconductor Devices | 8 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| TECH1500 | Applied Algebra..... | 3 |

Estimated cost of books, supplies and materials: \$1,200

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Electronics

Industrial Electronics Technician Diploma (66 Credits)



Program Description

The Electronics Program prepares individuals to apply electronic engineering principles and technical skills in the fields of instrumentation and industrial control systems, digital and analog circuits, and analog circuits, automated manufacturing and robotics, manufacturing and facilities maintenance, embedded microcontrollers, and telecommunications systems.

This program prepares individuals with knowledge and skills in the areas of AC/DC electronics, digital and analog circuits, use of electronic test equipment, use of computers for analysis and problem solving, reading electrical schematics and system diagrams, scientific methods, and problem solving skills.

Individuals are also able to select elective credits from a variety of other knowledge and skill areas such as programmable logic controllers (PLCs), industrial automation, process control systems, instrumentation techniques and calibration, microcomputer hardware and network support, computer programming, telecommunications systems, computer aided drafting, and statistical process control.

Career Opportunities

Graduates from this program find exciting opportunities as electro-mechanical technicians in installing, maintaining, and repairing electronic equipment and systems used in a variety of industries, such as, automated manufacturing, robotics, aerospace, paper manufacturing, food processing, petro-chemical production, power generation, mining, maintenance and telecommunications.

Suggested Technical Studies Semester I

| | | |
|----------|-----------------------------|---|
| ETEC1510 | AC/DC Electricity | 8 |
| TECH1530 | Computer Applications | 2 |
| TECH1550 | Basic CADD | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| ETEC1506 | Digital Electronics | 4 |
| ETEC1520 | Semiconductor Devices | 8 |
| TECH1556 | Basic Manual - Automated Machining | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|-------------------|---|
| ETEC2511 | Fluid Power | 2 |
| ETEC2540 | Automation | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| ETEC2550 | Automation Project Lab | 4 |
| TECH1552 | Basic Metal Joining and Fabrication | 2 |

Technical Electives

| | |
|---------------------------|----|
| Technical Electives | 15 |
|---------------------------|----|

General Education

| | | |
|----------|-----------------------|---|
| PHYS1300 | General Physics | 4 |
|----------|-----------------------|---|

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| TECH1500 | Applied Algebra | 3 |

Estimated cost of books, supplies and materials: \$2,650

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Electronics

Instrumentation and Process Control Diploma (66 Credits)



Program Description

The Electronics Program prepares individuals to apply electronic engineering principles and technical skills in the fields of instrumentation and industrial control systems, digital and analog circuits, automated manufacturing and robotics, manufacturing and facilities maintenance, embedded microcontrollers, and telecommunications systems.

This program prepares individuals with knowledge and skills in the areas of AC/DC electronics, digital and analog circuits, use of electronic test equipment, use of computers for analysis and problem solving, reading electrical schematics and system diagrams, scientific methods, and problem solving skills.

Individuals are also able to select elective credits from a variety of other knowledge and skill areas such as programmable logic controllers (PLCs), industrial automation, process control systems, instrumentation techniques and calibration, microcomputer hardware and network support, computer programming, telecommunications systems, computer aided drafting, and statistical process control.

Career Opportunities

Graduates from this program find exciting opportunities as electro-mechanical technicians in installing, maintaining, and repairing electronic equipment and systems used in a variety of industries such as; automated manufacturing robotics, aerospace, paper manufacturing, food processing, petro-chemical production, power generation, mining, maintenance and telecommunications.

Suggested Technical Studies Semester I

| | | |
|----------|-----------------------------|---|
| ETEC1510 | AC/DC Electricity | 8 |
| TECH1530 | Computer Applications | 2 |
| TECH1550 | Basic CADD | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| ETEC1506 | Digital Electronics | 4 |
| ETEC1520 | Semiconductor Devices | 8 |
| TECH1556 | Basic Manual - Automated Machining | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|---------------------------------------|---|
| ETEC2511 | Fluid Power | 2 |
| ETEC2520 | Fundamentals of Instrumentation | 4 |
| ETEC2540 | Automation | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| ETEC2530 | Process Control Systems | 4 |
| ETEC2540 | Automation | 4 |
| TECH1552 | Basic Metal Joining and Fabrication | 2 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 7 |
|---------------------------|---|

General Education

| | | |
|----------|-----------------------|---|
| PHYS1300 | General Physics | 4 |
|----------|-----------------------|---|

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| TECH1500 | Applied Algebra | 3 |

Estimated cost of books, supplies and materials: \$2,650

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Emergency Medical Services (EMS)



Description

The Emergency Medical Service program provides education to care for victims in life threatening emergencies. All levels of pre-hospital patient care education can be taken through St. Cloud Technical College.

Courses are held on the St. Cloud campus and by arrangement at other locations throughout Central Minnesota.

COURSES OFFERED

| | | |
|----------|---|---|
| EMSC1400 | Principles of First Aid..... | 1 |
| EMSC1404 | First Aid & CPR for Child Care Providers..... | 1 |
| EMSC1420 | Basic Emergency Care..... | 1 |
| EMSC1430 | Emergency Medical Services 1 (EMS 1)..... | 4 |
| EMSC1432 | Emergency Medical Services 2 (EMS 2)..... | 4 |
| EMSC1440 | Emergency Medical Technician (EMT)..... | 6 |
| EMSC1444 | Emergency Medical Technician - Refresher..... | 2 |
| EMSC1460 | First Responder..... | 2 |
| EMSC1464 | First Responder - Refresher..... | 1 |
| EMSC1480 | Emergency Cardiac Care | 1 |

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Farm Management

Farm Business Management (60 Credits)



Program Description

The Farm Business Management Program is concerned with the economic principles and agricultural practices used in making decisions about alternative ways of using land, labor, capital and management ability to make a profit in farming. Information about farm business relationships, legal aspects of estate planning, partnerships, trusts, and business transfers from older to younger farmers is available when needed.

Students are taught a system of a farm business recordkeeping necessary for computerized farm business analysis. This is the core of the instructional program. Instructional activities include the annual series of class meetings and individual conferences with farmers and others concerned with a farm operated by a family unit. Instruction is based on the economic, social, and cultural goals of the family and business unit.

A three-year post-diploma program is available to those who complete the six-year Farm Business Management Program.

Information may be obtained by visiting or writing to the Farm Business Management Program, St. Cloud Technical College, 1540 Northway Drive, St. Cloud, Minnesota 56303. The telephone numbers are (320) 308-5033 or 308-5925.

Estimated cost of books, supplies and materials: \$25

Year 1

| | | |
|----------|---|---|
| FBMT1112 | Foundations for Farm Business Management..... | 4 |
| FBMT1211 | Introduction to Farm Business Management | 4 |
| FBMT1213 | Managing a Farm System in a Global Economy..... | 2 |

Year 2

| | | |
|----------|---|---|
| FBMT1121 | Preparation for Farm Business Analysis | 4 |
| FBMT1122 | Implementing the System Management Plan..... | 4 |
| FBMT1223 | Using System Analysis in Total Farm Planning..... | 2 |

Year 3

| | | |
|----------|---|---|
| FBMT1131 | Managing and Modifying Farm System Data..... | 4 |
| FBMT1132 | Interpreting and Using Farm System Data..... | 4 |
| FBMT1233 | Application of Productive Enterprise Information..... | 2 |

Year 4

| | | |
|----------|---|---|
| FBMT2141 | Interpreting and Evaluation of Financial Data | 4 |
| FBMT2142 | Interpreting Trends in Business Planning..... | 4 |
| FBMT2243 | Using Financial Instruments in Farm System Management | 2 |

Year 5

| | | |
|----------|--|---|
| FBMT2151 | Strategies in Farm System Data Management | 4 |
| FBMT2152 | Integrating System Information for Financial Planning..... | 4 |
| FBMT2253 | System Plans and Projections..... | 2 |

Year 6

| | | |
|----------|--|---|
| FBMT2161 | Examination of the Context of Farm System Management | 4 |
| FBMT2162 | Refining Farm System Management..... | 4 |
| FBMT2263 | Evaluating Farm System Programs..... | 2 |

Other Farm Business Management Electives

These courses cover special topics in the following areas:

| | | |
|---------------|-------------------------------|---|
| FBMT2200-2204 | General Farm Management | 1 |
| FBMT2205-2209 | General Farm Management | 2 |
| FBMT2210-2214 | Marketing..... | 1 |
| FBMT2215-2219 | Marketing..... | 2 |
| FBMT2220-2224 | Crop | 1 |
| FBMT2925-2929 | Crop | 2 |
| FBMT2230-2234 | Livestock..... | 1 |
| FBMT2935-2939 | Livestock..... | 2 |

General Studies

| | | |
|----------|--|---|
| FBMT2300 | Computer Applications in Farm Management..... | 2 |
| FBMT2305 | Legal Issues in Agriculture | 2 |
| FBMT2310 | Environmental Interactions in Agriculture..... | 2 |
| FBMT2315 | Effective Time Management..... | 2 |
| FBMT2320 | Family Wellness and Business Relationships | 2 |
| FBMT2325 | Ethics in this Business of Agriculture..... | 2 |
| FBMT2330 | Business Math Principles..... | 2 |
| FBMT2335 | Labor Economics and Management..... | 2 |
| FBMT2340 | Rural Leadership..... | 2 |
| FBMT2345 | CPR and First Aid..... | 2 |

Advanced Management Certificate Coursework

| | | |
|----------|--|---|
| FBMT3100 | Fundamentals of Risk Management..... | 3 |
| FBMT3101 | Applications in Risk Management..... | 3 |
| FBMT3110 | Fundamentals: Strategic Planning..... | 3 |
| FBMT3111 | Applications in Strategic Planning..... | 3 |
| FBMT3120 | Fundamentals: Business Plans | 3 |
| FBMT3121 | Applications in Business Plans | 3 |
| FBMT3130 | Directed Study: Decision Making..... | 2 |
| FBMT3131 | Directed Study: Advanced Communications..... | 2 |
| FBMT3132 | Directed Study: Technical Issues | 2 |
| FBMT3133 | Directed Study: Family Transition..... | 2 |
| FBMT3134 | Directed Study: Personnel Management..... | 2 |
| FBMT3135 | Directed Study: Enterprise Alternatives..... | 2 |

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Finance And Credit

Finance And Credit AAS Degree (72 Credits)



Program Description

The Finance and Credit Program includes course material designed to prepare students interested in pursuing career opportunities in the credit and finance industry. Designed to prepare students for a diverse employment market, courses cover a variety of business related areas including accounting, banking, communications, computer applications, management, math, sales and collections.

By effectively using the material and activities offered in this program, students can develop their abilities to secure promising positions in this dynamic field.

Students may be eligible for individual scholarships in the program.

Career Opportunities

Finance and Credit graduates have found many job opportunities in a variety of businesses such as commercial banks, credit unions, finance companies, collection agencies, medical facilities, mortgage companies, property management associations, and in the credit departments of retail, wholesale, and service organizations.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ACCT1215 | Accounting Principles I | 4 |
| BUSM1200 | Microsoft Software | 3 |
| CRFN1200 | Personal Money Management | 3 |
| CRFN1220 | Principles of Banking | 3 |
| SAMG1210 | Customer Service/Sales Techniques | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|---------------------------------|---|
| ACCT1216 | Accounting Principles II | 4 |
| BUSM1215 | Business Writing | 2 |
| BUSM1267 | Introduction to Business | 2 |
| BUSM1275 | Business Law | 2 |
| CRFN1205 | Professional Expectations | 1 |
| CRFN1255 | Marketing | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| CRFN1205 | Professional Expectations | 1 |
| CRFN1251 | Credit Law | 2 |
| CRFN2215 | Commercial Lending | 3 |
| CRFN2270 | Collection Techniques | 3 |
| SAMG2255 | Applied Sales Strategies/Telemarketing | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|------------------------------------|---|
| ACCT1219 | Spreadsheets-Microsoft Excel | 2 |
| CRFN1245 | Supervision | 2 |
| CRFN2245 | Consumer Lending | 3 |
| CRFN2273 | Internship | 4 |

General Education

| | |
|-----------------------------------|---|
| Communications-Oral | 3 |
| Communications-Written | 4 |
| Critical Thinking | 3 |
| Mathematics and Logic | 3 |
| General Education Electives | 6 |

Estimated cost of books, supplies and materials: \$1,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Finance And Credit

*Business Management Associate in Science Degree
Finance and Credit Emphasis (64 Credits)*



Program Description

Students will gain theoretical and practical knowledge required to manage in a business environment. The Associate in Science Degree in Business Management allows students to move directly into a career in the business field or to transfer to another institution to earn a Bachelor of Applied Science Degree in Management.

Career Opportunities

The Business Management program is designed to prepare graduates for entry-level positions that may lead to management opportunities in a wide variety of business fields such as sales, accounting, and credit and finance.

Students successfully completing the AAS degree may choose to further advance their education by obtaining a Bachelor of Science Degree in Management through Southwest State University, Marshall, MN. Students attend two evening classes per week and one weekend class per month at St. Cloud Technical College.

Finance and Credit Emphasis

Choose 14 credits from the following Technical Studies:

| | | |
|----------|---------------------------------|---|
| ACCT1219 | Spreadsheets | 2 |
| CRFN1200 | Personal Money Management | 3 |
| CRFN1220 | Principles of Banking | 3 |
| CRFN2215 | Commercial Lending | 3 |
| CRFN2240 | Consumer Lending..... | 4 |
| CRFN2270 | Collection Techniques..... | 3 |

Technical Studies

| | | |
|----------|---|---|
| ACCT1215 | Accounting Principles I | 4 |
| ACCT1216 | Accounting Principles II | 4 |
| SAMG1200 | Principles of Marketing | 3 |
| SAMG1210 | Customer Service/Sales Techniques | 3 |
| SAMG1215 | Principles of Management | 3 |
| SAMG1225 | Business Ethics and Law | 3 |

General Education

| | | |
|----------|---------------------------------------|---|
| CPTR1300 | Exploring Computers..... | 3 |
| CSSC1302 | Career Development/Job Search..... | 1 |
| ECON1320 | Introduction to Macroeconomics..... | 3 |
| ECON1330 | Introduction to Microeconomics..... | 3 |
| ENGL1302 | Analytical Writing | 4 |
| MATH1300 | College Algebra | 3 |
| MATH1445 | Introduction to Statistics..... | 3 |
| | Critical Thinking or Humanities | 3 |
| | Communications-Oral..... | 3 |
| | Social Science..... | 3 |
| | General Education Electives..... | 1 |

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Finance And Credit

Finance And Credit Diploma (65 Credits)



Program Description

The Finance and Credit Program includes course material designed to prepare students interested in pursuing career opportunities in the Credit and Finance industry. Designed to prepare students for a diverse employment market, courses cover a variety of business related areas including accounting, banking, communications, computer applications, management, math, sales and collections.

By effectively using the material and activities offered in this program, students can develop their abilities to secure promising positions in this dynamic field.

Students may be eligible for individual scholarships in the program.

Career Opportunities

Finance and Credit graduates have found many job opportunities in a variety of businesses such as commercial banks, credit unions, finance companies, collection agencies, medical facilities, mortgage companies, property management associations, and in the credit departments of retail, wholesale, and service organizations.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| ACCT1215 | Accounting Principles I | 4 |
| BUSM1200 | Microsoft Software | 3 |
| CRFN1220 | Principles of Banking | 3 |
| SAMG1210 | Customer Service/Sales Techniques | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|---------------------------------|---|
| ACCT1216 | Accounting Principles II | 4 |
| BUSM1215 | Business Writing..... | 2 |
| BUSM1267 | Introduction to Business | 2 |
| BUSM1275 | Business Law | 2 |
| CRFN1200 | Personal Money Management | 3 |
| CRFN1205 | Professional Expectations..... | 1 |
| CRFN1255 | Marketing..... | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| BUSM1260 | Applied Business Mathematics/Calculators | 3 |
| CRFN1205 | Professional Expectations | 1 |
| CRFN1251 | Credit Law | 2 |
| CRFN2215 | Commercial Lending | 3 |
| CRFN2270 | Collection Techniques..... | 3 |
| SAMG2255 | Applied Sales Strategies/Telemarketing | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|------------------------------------|---|
| ACCT1219 | Spreadsheets-Microsoft Excel | 2 |
| BUSM1222 | Oral Business Presentations..... | 2 |
| CRFN1245 | Supervision | 2 |
| CRFN2245 | Consumer Lending..... | 3 |
| CRFN2273 | Internship | 4 |

General Studies

| | | |
|----------|----------------------------------|---|
| BUSM1290 | Job Seeking/Keeping Skills | 1 |
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$1,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Graphic Communications

Graphic Communications Diploma (40 Credits)



Program Description

The Graphic Communications Program offers training in the areas of printing and publishing. Instruction ranges from project conception through computer image generation, principles of web site design, image assembly, presswork, and bindery. The program is equipped with modern equipment in both traditional offset lithography and state-of-the-art electronic communication.

Lab work will consist of assigned projects with each emphasizing a variety of particular skills. There will also be opportunity for creating original personal projects as well as live production work.

Available equipment includes fully supplied pre-press and pressrooms as well as training and production computer labs containing over 30 Macintosh computers, scanners, printers and imagesetters.

Career Opportunities

The field of printing and imaging technology offers many job opportunities which range from minimum-skilled occupations through top management positions. Employment areas vary from desktop publishing, computer prepress, offset press operation, and marketing the final project. Placement has been excellent and experts project a shortage of trained workers in this large and rapidly growing industry through the twenty-first century and beyond.

Suggested Technical Studies Semester I

| | | |
|----------|-------------------------------|---|
| ADVR1250 | Introduction to Design | 3 |
| GRPH1206 | QuarkXpress | 3 |
| GRPH1210 | Electronic Imaging..... | 3 |
| GRPH1225 | Adobe Photoshop..... | 3 |
| GRPH1250 | Offset Press Operation I..... | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|---------------------------------|---|
| GRPH1215 | Adobe In-Design..... | 3 |
| GRPH1220 | Adobe Illustrator..... | 3 |
| GRPH1230 | Web Design Fundamentals | 3 |
| GRPH1252 | Offset Press Operation II | 3 |
| GRPH1280 | Print Production | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| GRPH2212 | Advanced Production Techniques I | 2 |
| GRPH2214 | Advanced Production Techniques II..... | 2 |
| OR | | |
| GRPH2222 | Supervised Internship I | 2 |
| GRPH2224 | Supervised Internship II..... | 2 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$310

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Health Care Technician

Health Care Technician Certificate (29 Credits)



Program Description

Health Care is one of the fastest growing industries. An aging population and the retirement of larger numbers of health care workers present a significant need for workers in health occupations. The Health Care Technician program offers the student an opportunity to prepare for entry into one of the College's health career programs and to gain marketable skills for gainful employment.

Career Opportunities

The Health Care Technician Certificate program prepares the student to become a Certified Nursing Assistant/Home Health Aide with a broad base of knowledge and understanding for more health career options.

Technical Studies

| | | |
|----------|---|---|
| EMSC1480 | Emergency Cardiac Care | 1 |
| HLTH1400 | Basic Nursing I | 4 |
| HLTH1424 | Patient Communications | 1 |
| HLTH1440 | Medical Terminology | 1 |
| HLTH1444 | Introductory Anatomy and Physiology | 4 |
| HLTH1448 | Microbiology/Infection Control | 1 |
| HLTH1468 | Essentials of Nutrition | 2 |
| HLTH1484 | Ethics for Health Careers | 3 |

General Education

| | | |
|----------|--|---|
| PSYC1304 | Life Span Developmental Psychology | 3 |
|----------|--|---|

General Studies

| | | |
|----------|---------------------------------|---|
| BUSM1200 | Microsoft Software | 3 |
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$500

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Heating, Air Conditioning and Refrigeration

Commercial Heating, Air Conditioning and Refrigeration

AAS Degree (72 Credits)



Program Description

The Heating, Air Conditioning, and Refrigeration Technology Program prepare workers to enter the heating, ventilation, air conditioning, and refrigeration field. First year emphasizes residential service, maintenance, and installation of forced air furnaces, heat pumps, and air conditioning systems. Second year emphasizes commercial service, maintenance, and installation of heating, air conditioning, and refrigeration systems. Students will gain knowledge in troubleshooting of electrical controls, motors, service and maintain refrigeration equipment, heating and air conditioning systems.

Well-trained service technicians are in great demand in this rapidly growing trade. Service, maintenance and proper installation are of great concern to the customer. Technicians trained in this field will perform preventive maintenance to keep systems operating efficiently and respond to service calls to perform repairs to systems as needed. Service technicians will work alone much of the time and use their training and knowledge to diagnose systems and perform needed repairs. The service technician must also have good customer relation skills.

Career Opportunities

Employment is available with heating, air conditioning, and refrigeration service companies; wholesale supply companies; maintenance positions at hospitals, schools, supermarkets, etc. Positions are also available in sales, installation, design and as manufacturing representatives.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| HART1502 | Copper and Gas Piping | 1 |
| HART1510 | Sheetmetal..... | 1 |
| HART1514 | Forced Air Heating | 5 |
| HART1518 | Electrical Controls for Heating and A/C..... | 4 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| HART1506 | Schematics and Blue Print Reading..... | 3 |
| HART1522 | Installation of Heating and A/C | 3 |
| HART1526 | Principles of Air Conditioning..... | 4 |
| HART1530 | Heat Pumps..... | 2 |
| HART1534 | Troubleshooting Heating and A/C | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| HART2506 | Commercial Refrigeration I..... | 4 |
| HART2510 | Commercial Electrical and Controls..... | 3 |
| HART2522 | Commercial Air Conditioning | 3 |
| HART2530 | Comm. Load Calculating..... | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| HART2502 | Commercial Refrigeration II..... | 4 |
| HART2514 | Compressor Operation and Troubleshooting..... | 3 |
| HART2518 | Commercial Troubleshooting | 2 |
| HART2526 | Commercial Heating and HVAC Systems | 3 |
| HART2534 | Commercial HVAC Controls..... | 2 |

General Education

| | |
|----------------------------------|---|
| Communications-Oral..... | 3 |
| Communications-Written..... | 3 |
| Computers..... | 3 |
| Mathematics..... | 3 |
| General Education Electives..... | 8 |

Estimated cost of books, supplies and materials: \$1,300

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Heating, Air Conditioning and Refrigeration

*Commercial Heating, Air Conditioning and Refrigeration
Diploma (66 Credits)*



Program Description

The Heating, Air Conditioning, and Refrigeration Technology Program prepares workers to enter the heating, ventilation, air conditioning, and refrigeration field. First year emphasizes residential service, maintenance, and installation of forced air furnaces, heat pumps, and air conditioning systems. Second year emphasizes commercial service, maintenance, and installation of heating, air conditioning, and refrigeration systems. Students will gain knowledge in troubleshooting of electrical controls, motors, service and maintain refrigeration equipment, heating and air conditioning systems.

Well-trained service technicians are in great demand in this rapidly growing trade. Service, maintenance and proper installation are of great concern to the customer. Technicians trained in this field will perform preventive maintenance to keep systems operating efficiently and respond to service calls to perform repairs to systems as needed. Service technicians will work alone much of the time and use their training and knowledge to diagnose systems and perform needed repairs. The service technician must also have good customer relation skills.

Career Opportunities

Employment is available with heating, air conditioning, and refrigeration service companies; wholesale supply companies; maintenance positions at hospitals, schools, supermarkets, etc. Positions are also available in sales, installation, design and as manufacturing representatives.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| HART1502 | Copper and Gas Piping | 1 |
| HART1510 | Sheetmetal..... | 1 |
| HART1514 | Forced Air Heating | 5 |
| HART1518 | Electrical Controls for Heating and A/C..... | 4 |
| HART1540 | Internship - Residential..... | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| HART1506 | Schematics and Blue Print Reading..... | 3 |
| HART1522 | Installation of Heating and A/C | 3 |
| HART1526 | Principles of Air Conditioning..... | 4 |
| HART1530 | Heat Pumps..... | 2 |
| HART1534 | Troubleshooting Heating and A/C | 3 |
| HART1538 | HART Job Preparation..... | 1 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| HART2506 | Commercial Refrigeration I..... | 4 |
| HART2510 | Commercial Electrical and Controls..... | 3 |
| HART2522 | Commercial Air Conditioning | 3 |
| HART2530 | Comm. Load Calculating..... | 2 |
| HART2540 | Internship - Internship..... | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| HART2502 | Commercial Refrigeration II..... | 4 |
| HART2514 | Compressor Operation and Troubleshooting..... | 3 |
| HART2518 | Commercial Troubleshooting | 2 |
| HART2526 | Commercial Heating and HVAC Systems..... | 3 |
| HART2534 | Commercial HVAC Controls..... | 2 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| | General Studies Electives | 3 |

Estimated cost of books, supplies and materials: \$1,300

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Heating, Air Conditioning and Refrigeration

Residential Heating And Air Conditioning Diploma (35 Credits)



Program Description

The Heating, Air Conditioning, and Refrigeration Technology Program prepares workers to enter the heating, ventilation, air conditioning, and refrigeration field. First year emphasizes residential service, maintenance, and installation of forced air furnaces, heat pumps, and air conditioning systems. Second year emphasizes commercial service, maintenance, and installation of heating, air conditioning, and refrigeration systems. Students will gain knowledge in troubleshooting of electrical controls, motors, service and maintain refrigeration equipment, heating and air conditioning systems.

Well-trained service technicians are in great demand in this rapidly growing trade. Service, maintenance and proper installation are of great concern to the customer. Technicians trained in this field will perform preventive maintenance to keep systems operating efficiently and respond to service calls to perform repairs to systems as needed. Service technicians will work alone much of the time and use their training and knowledge to diagnose systems and perform needed repairs. The service technician must also have good customer relation skills.

Career Opportunities

Employment is available with heating, air conditioning, and refrigeration service companies; wholesale supply companies; maintenance positions at hospitals, schools, supermarkets, etc. Positions are also available in sales, installation, design and as manufacturing representatives.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| HART1502 | Copper and Gas Piping | 1 |
| HART1510 | Sheetmetal..... | 1 |
| HART1514 | Forced Air Heating | 5 |
| HART1518 | Electrical Controls for Heating and A/C..... | 4 |
| HART1540 | Internship - Residential..... | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| HART1506 | Schematics and Blue Print Reading..... | 3 |
| HART1522 | Installation of Heating and A/C | 3 |
| HART1526 | Principles of Air Conditioning..... | 4 |
| HART1530 | Heat Pumps..... | 2 |
| HART1534 | Troubleshooting Heating and A/C | 3 |
| HART1538 | HART Job Preparation..... | 1 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$1,300

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Land Surveying/Civil Engineering

Land Surveying/Civil Engineering AAS Degree (72 Credits)



Program Description

The Land Surveying/Civil Engineering Technology Program prepares individuals for entry-level employment as engineering/surveying technicians. Students will learn surveying and drafting techniques, along with design and construction practices dealing with sewer, water, streets, roads, and land surveying. Students will be introduced to modern surveying equipment, computer applications, computer aided drafting and surveying systems.

The ability to work independently with accuracy and neatness and make decisions is a very important quality for technicians. Technicians must be able to work with other professional people, as well as the general public on a day-to-day basis. Working conditions for technicians may involve a variety of indoor and/or outdoor settings.

**Students who have earned a grade of "C" or better in all program classes as well as an overall GPA of 2.0 or better will have satisfied the program requirements for a diploma or AAS degree.

Career Opportunities

Technicians may be employed by state, county and city governmental agencies, contractors, private engineering or land surveying firms in a wide range of starting positions. Drafting, computer application, testing of materials, construction surveying and inspection, land surveying, estimating or general design work are just a few examples of career possibilities. This program is articulated with several state universities in the areas of land surveying and construction management.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| LSCE1510 | Civil Drafting Methods..... | 3 |
| LSCE1518 | Materials, Estimating, and Specifications..... | 3 |
| LSCE1530 | Survey Fundamentals..... | 5 |

Suggested Technical Studies Semester II

| | | |
|----------|--------------------------------|---|
| LSCE1502 | Surveying Principles I..... | 3 |
| LSCE1506 | Advanced Survey..... | 5 |
| LSCE1514 | Civil CADD I..... | 3 |
| LSCE1526 | Technical Computations II..... | 4 |

Suggested Technical Studies Semester III

| | | |
|----------|-----------------------------------|---|
| LSCE2502 | Control and Digital Surveys | 5 |
| LSCE2514 | Civil CADD II | 3 |
| LSCE2518 | Utility Design I..... | 3 |
| LSCE2526 | Subdivision Design..... | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| LSCE2506 | Construction Design and Surveying Principles | 5 |
| LSCE2510 | Surveying Principles II | 3 |
| LSCE2522 | Civil CADD III..... | 3 |

General Education

| | | |
|----------|----------------------------------|---|
| MATH1300 | College Algebra | 3 |
| MATH1320 | College Trigonometry | 2 |
| | Communications-Oral..... | 3 |
| | Communications-Written..... | 4 |
| | Humanities | 3 |
| | Social Sciences | 3 |
| | General Education Electives..... | 2 |

Estimated cost of books, supplies and materials: \$3,025

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Land Surveying/Civil Engineering

Land Surveying/Civil Engineering Diploma (67 Credits)



Program Description

The Land Surveying/Civil Engineering Technology Program prepares individuals for entry-level employment as engineering/surveying technicians. Students will learn surveying and drafting techniques, along with design and construction practices dealing with sewer, water, streets, roads, and land surveying. Students will be introduced to modern surveying equipment, computer applications, computer aided drafting and surveying systems.

Ability to work independently with accuracy and neatness and make decisions is a very important quality for technicians. Technicians must be able to work with other professional people, as well as the general public on a day-to-day basis. Working conditions for technicians may involve a variety of indoor and/or outdoor settings.

** Students who have earned a grade of "C" or better, in all program classes, as well as an overall GPA of 2.0 or better will have satisfied the program requirements for a diploma or AAS degree.

Career Opportunities

Technicians may be employed by state, county and city governmental agencies, contractors, private engineering or land surveying firms in a wide range of starting positions. Drafting, computer application, testing of materials, construction surveying and inspection, land surveying, estimating or general design work are just a few examples of career possibilities. This program is articulated with several state universities in the areas of land surveying and construction management.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| LSCE1510 | Civil Drafting Methods..... | 3 |
| LSCE1518 | Materials, Estimating, and Specifications..... | 3 |
| LSCE1522 | Technical Computations I..... | 3 |
| LSCE1530 | Survey Fundamentals..... | 5 |

Suggested Technical Studies Semester II

| | | |
|----------|--------------------------------|---|
| LSCE1502 | Surveying Principles I..... | 3 |
| LSCE1506 | Advanced Survey..... | 5 |
| LSCE1514 | Civil CADD I..... | 3 |
| LSCE1526 | Technical Computations II..... | 4 |

Suggested Technical Studies Semester III

| | | |
|----------|-----------------------------------|---|
| LSCE2502 | Control and Digital Surveys | 5 |
| LSCE2514 | Civil CADD II | 3 |
| LSCE2518 | Utility Design I | 3 |
| LSCE2526 | Subdivision Design..... | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| LSCE2506 | Construction Design and Surveying Principles | 5 |
| LSCE2510 | Surveying Principles II | 3 |
| LSCE2522 | Civil CADD III..... | 3 |
| LSCE2530 | Utility Design II..... | 3 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| | General Studies Electives | 3 |

Estimated cost of books, supplies and materials: \$3,025

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Machine Technology

Machine Tool Technology AAS Degree (72 Credits)



Program Description

The Machine Tool Technology Program provides training in the latest techniques of machining. The shop is equipped with a variety of machines that are representative of the industry.

Machine Tool Technology is a large and expanding occupational field that offers unlimited opportunities to the energetic and competent person who wants to meet the challenge. Employment in the machine tool field is expected to be excellent far into the future.

Career Opportunities

The program is designed to give students the necessary skills to enter the labor market as a machine operator, machinist, or a tool and die or mold-maker apprentice. Graduates can expand to areas such as tool making, precision machining, setup specialist, inspection work, machining technician, computer numerical control programming (C. N.C.) machining.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| MACH1503 | Machine Technology I | 4 |
| MACH1506 | Machine Technology II | 4 |
| MACH1517 | Blueprint Reading I | 1 |
| TECH1552 | Basic Metal Joining and Fabrication | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------|---|
| MACH1507 | Machine Technology III | 4 |
| MACH1509 | Machine Technology IV | 4 |
| MACH1519 | Blueprint Reading II | 1 |
| MACH1530 | CNC Fundamentals | 2 |
| TECH1550 | Basic CADD | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| MACH1525 | Geometric Dimensioning and Tolerancing | 1 |
| MACH2502 | Introduction to CNC Turning | 3 |
| MACH2506 | Introduction to CNC Milling | 3 |
| MACH2510 | Cutting Tool Technology | 1 |
| MACH2514 | Metallurgy | 1 |
| MACH2523 | High Performance Manufacturing | 1 |
| MACH2538 | Tool Making/Wire-Feed EDM CNC | 4 |
| TECH1554 | Basic Electric Circuits | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|----------------------------|---|
| MACH1528 | Jigs and Fixtures | 1 |
| MACH2518 | Advanced CNC Milling | 3 |
| MACH2526 | Advanced CNC Turning | 3 |
| MACH2530 | 3D Milling | 2 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 3 |
|---------------------------|---|

General Education

| | | |
|----------|--|---|
| MATH1300 | College Algebra | 3 |
| MATH1320 | College Trigonometry | 2 |
| PHYS1300 | General Physics | 4 |
| PHYS1302 | Physics Principles and Problem Solving | 1 |
| CMST1320 | Introduction to Speech Communication | 3 |
| CPTR1300 | Exploring Computers | 3 |
| | General Education Electives | 4 |

Estimated cost of books, supplies and materials: \$2,040

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Machine Technology

Machine Tool Technology Diploma (68 Credits)



Program Description

The Machine Tool Technology Program provides training in the latest techniques of machining. The shop is equipped with a variety of machines that are representative of the industry.

Machine Tool Technology is a large and expanding occupational field that offers unlimited opportunities to the energetic and competent person who wants to meet the challenge. Employment in the machine tool field is expected to be excellent far into the future.

Career Opportunities

The program is designed to give students the necessary skills to enter the labor market as a machine operator, machinist, or a tool and die or mold-maker apprentice. Graduates can expand to areas such as tool making, precision machining, setup specialist, inspection work, machining technician, computer numerical control programming (C. N.C.) machining.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| MACH1503 | Machine Technology I | 4 |
| MACH1506 | Machine Technology II | 4 |
| MACH1517 | Blueprint Reading I | 1 |
| TECH1500 | Applied Algebra | 3 |
| TECH1522 | Manufacturing Math | 4 |
| TECH1552 | Basic Metal Joining and Fabrication | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------|---|
| MACH1507 | Machine Technology III | 4 |
| MACH1509 | Machine Technology IV | 4 |
| MACH1519 | Blueprint Reading II | 1 |
| MACH1530 | CNC Fundamentals | 2 |
| TECH1530 | Computer Applications | 2 |
| TECH1550 | Basic CADD | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| MACH1525 | Geometric Dimensioning and Tolerancing | 1 |
| MACH2502 | Introduction to CNC Turning | 3 |
| MACH2506 | Introduction to CNC Milling | 3 |
| MACH2510 | Cutting Tool Technology | 1 |
| MACH2514 | Metallurgy | 1 |
| MACH2523 | High Performance Manufacturing | 1 |
| MACH2538 | Tool Making/Wire-Feed EDM CNC | 4 |
| TECH1554 | Basic Electric Circuits | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|----------------------------|---|
| MACH1528 | Jigs and Fixtures | 1 |
| MACH2518 | Advanced CNC Milling | 3 |
| MACH2526 | Advanced CNC Turning | 3 |
| MACH2530 | 3D Milling | 2 |
| MACH2534 | Production Machining | 2 |
| MACH2544 | CNC/CAM Capstone | 1 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| | General Studies Electives | 1 |

Estimated cost of books, supplies and materials: \$2,040

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Mechanical Design Technology

Mechanical Design Technology (CADD) AAS Degree (66 Credits)



Program Description

This program prepares the student to create mechanical drawings that meet industry standards. These drawings are used to create components and products. Drawings, whether plotted on paper or in an electronic format are the universal graphic language in the manufacturing industry. Students will create designs and drawings for products and machines using state of the art computer hardware and the latest available 2d drawing/design, 3d modeling and computer aided manufacturing software. Students will create designs for simple components, complex machines and consumer products. Many things need to be considered when creating or changing existing products, such as economic, manufacturability, and aesthetics. These are a few of the challenges today's mechanical designer faces.

The Mechanical Design Program consists of a concentration of hands on technology and related math and general education courses. The Mechanical Design Technology program will also have students learning hands-on basics in related fields such as electricity, machine shop, and welding. Courses are designed to produce a well-rounded graduate with a "hands-on" perspective of the manufacturing industry.

Career Opportunities

Graduates of the Mechanical Design Technology Program can expect career opportunities in many areas of the engineering field. Graduates will often assist engineers with product design, tool design or product continuation or improvement. Graduates will utilize mathematics and problem solving skills concerning strength, quality, cost and product appearance. Entry-level positions may include; CAD Drafter/Designer, Engineering Technician, Research and Development Technician, Quality Control or Field Service Technicians and other related areas. The demand for well-rounded individuals with practical hands on education is growing. For individuals interested in changing the way America creates and produces goods, the Mechanical Design Technology program offers an excellent opportunity to do so.

Designers in industry serve society by creating new products and redesigning existing ones that need improvement.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| CADD1502 | Mechanical CADD I..... | 3 |
| CADD1512 | CADD Applications..... | 3 |
| TECH1552 | Basic Metal Joining and Fabrication | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| CADD1507 | Mechanical CADD II..... | 3 |
| CADD1516 | CADD Applications II | 3 |
| CADD1522 | Applied Physics | 4 |
| TECH1556 | Basic Manual - Automated Machining..... | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| CADD1519 | Engineering Math | 1 |
| CADD2505 | Production CADD I..... | 3 |
| CADD2509 | Production CADD II..... | 3 |
| CADD2518 | Statics and Strength of Materials..... | 3 |
| CADD2528 | Manufacturing Systems | 1 |
| TECH1554 | Basic Electric Circuits | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| CADD2510 | Design Concepts | 3 |
| CADD2514 | Computer- Aided Design | 3 |
| CADD2522 | Machine Design..... | 3 |
| CADD2531 | Geometric Dimensioning and Tolerancing | 1 |
| CADD2541 | Basic CAM | 2 |
| CADD2542 | Reverse Engineering..... | 2 |
| TECH1540 | Technical Communications..... | 1 |

General Education

| | | |
|----------|--------------------------------------|---|
| MATH1300 | College Algebra | 3 |
| MATH1320 | College Trigonometry | 2 |
| CPTR1300 | Exploring Computers..... | 3 |
| | Communications-Oral and Written..... | 7 |
| | Humanities/Social Sciences..... | 3 |

Estimated cost of books, supplies and materials: \$3,610

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Mechanical Design Technology

Mechanical Design Technology (CADD) Diploma (64 Credits)



Program Description

This program prepares the student to create mechanical drawings that meet industry standards. These drawings are used to create components and products. Drawings, whether plotted on paper or in an electronic format are the universal graphic language in the manufacturing industry. Students will create designs and drawings for products and machines using state of the art computer hardware and the latest available 2d drawing/design, 3d modeling and computer aided manufacturing software. Students will create designs for simple components, complex machines and consumer products. Many things need to be considered when creating or changing existing products, such as economics, manufacturability, and aesthetics. These are a few of the challenges today's mechanical designer faces.

The Mechanical Design Program consists of a concentration of hands on technology and related math and general studies courses. The Mechanical Design Technology program will also have students learning hands on basics in related fields such as electricity, machine shop, and welding. Courses are designed to produce a well-rounded graduate with a "hands-on" perspective of the manufacturing industry.

Career Opportunities

Graduates of the Mechanical Design Technology Program can expect career opportunities in many areas of the engineering field. Graduates will often assist engineers with product design, tool design or product continuation or improvement. Graduates will utilize mathematics and problem solving skills concerning strength, quality, cost and product appearance. Entry-level positions may include; CAD Drafter/Designer, Engineering Technician, Research and Development Technician, Quality Control or Field Service Technicians and other related areas. The demand for well-rounded individuals with practical hands on education is growing. For individuals interested in changing the way America creates and produces goods, the Mechanical Design Technology Program offers an excellent opportunity to do so.

Designers in industry serve society by creating new products and redesigning existing ones that need improvement.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| CADD1502 | Mechanical CADD I..... | 3 |
| CADD1512 | CADD Applications..... | 3 |
| TECH1500 | Applied Algebra..... | 3 |
| TECH1522 | Manufacturing Math..... | 4 |
| TECH1530 | Computer Applications..... | 2 |
| TECH1552 | Basic Metal Joining and Fabrication..... | 2 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| CADD1507 | Mechanical CADD II..... | 3 |
| CADD1516 | CADD Applications II..... | 3 |
| CADD1522 | Applied Physics..... | 4 |
| TECH1556 | Basic Manual - Automated Machining..... | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| CADD1519 | Engineering Math..... | 1 |
| CADD2505 | Production CADD I..... | 3 |
| CADD2509 | Production CADD II..... | 3 |
| CADD2518 | Statics and Strength of Materials..... | 3 |
| CADD2528 | Manufacturing Systems..... | 1 |
| TECH1554 | Basic Electric Circuits..... | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|---|---|
| CADD2510 | Design Concepts..... | 3 |
| CADD2514 | Computer- Aided Design..... | 3 |
| CADD2522 | Machine Design..... | 3 |
| CADD2531 | Geometric Dimensioning and Tolerancing..... | 1 |
| CADD2541 | Basic CAM..... | 2 |
| CADD2542 | Reverse Engineering..... | 2 |
| TECH1540 | Technical Communications..... | 1 |

General Studies

| | | |
|----------|--------------------------------|---|
| ENGL1100 | Writing for the Workplace..... | 3 |
| GBEH1300 | Human Relations..... | 3 |
| | General Studies Electives..... | 1 |

Estimated cost of books, supplies and materials: \$3,610

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Mechanical Design Technology

Mechanical Design and Manufacturing (CADM)

Advanced Certificate (20 Credits)



Program Description

An advanced certificate is available to graduates of the Machine Tool Technology and Mechanical Design Technology programs. This program allows students to expand the breadth of computer design and CNC (Computer Numeric Control) and related technologies. The cross-functional nature of the advanced certificate broadens their experience in machining and design applications. To enroll in this program a student must have graduated from either the Machine Tool Technology or Mechanical Design Technology AAS or Diploma program.

Career Opportunities

Engineering Technology is a large and expanding occupational field that offers unlimited opportunities to the energetic and competent persons who want to meet the challenge. Employment in the machining and design fields is expected to be excellent far into the future.

Technicians with drafting and design background will often assist engineers and designers with the design and development of new products and tools and the modernizing of present equipment.

Because of the industry's rapid growth, the demand for qualified people in this technical field exceeds supply. For students interested in making a mark in modern day technology, Engineering Technology offers an excellent opportunity. Graduates will find placement opportunities in both large and small companies. The cross-functional nature of the Advanced Certificate gives graduates options in both machining and design technology.

Suggested Technical Studies Semester V

| | | |
|----------|-------------------------------------|---|
| MACH2502 | Introduction to CNC Turning..... | 3 |
| MACH2506 | Introduction to CNC Milling..... | 3 |
| MACH2510 | Cutting Tool Technology | 1 |
| MACH2514 | Metallurgy..... | 1 |
| MACH2523 | High Performance Manufacturing..... | 1 |

Suggested Technical Studies Semester VI

| | | |
|----------|---------------------------|---|
| CADM3502 | CMM Operations..... | 2 |
| MACH1528 | Jigs and Fixtures..... | 1 |
| MACH2518 | Advanced CNC Milling..... | 3 |
| MACH2526 | Advanced CNC Turning..... | 3 |
| MACH2530 | 3D Milling | 2 |

Estimated cost of books, supplies and materials: \$2,500

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Medium/Heavy Truck Technician

Medium/Heavy Truck Technician AAS Degree (72 Credits)



Program Description

The growing demand to transport products quickly by trucks has created an increasing need for skilled medium/heavy truck technicians. Students will perform maintenance, repair, and overhaul on medium/heavy duty trucks and tractor/trailer vehicles. The Medium/Heavy Truck Technician Program is designed to provide individuals with the knowledge and skills needed for an entry-level technician position in the trucking industry.

Students selecting this program will develop and practice their skills in a well-equipped shop and study challenging areas such as truck computers, diesel engines, electrical systems, suspension, air-brakes, and power-train. Instruction is also given in related truck area studies such as welding, transport refrigeration, automatic transmissions, and truck body repair.

St. Cloud Technical College's Medium Heavy Truck Technician Program is ASE Certified and graduates are prepared for the Automotive Service Excellence examinations. The program is certified by the National Automotive Technicians Education Foundation, Inc. (NATEF). The Transportation Studies Core also meets some of the requirements for graduation in the Automotive Service Technician Program.

Career Opportunities

Major employers are independent truck repair shops, truck dealers, and firms that own large fleets of truck transports. After completion of training, medium/heavy truck technicians may wish to specialize in one phase of the field, such as component rebuilding, transport refrigeration, or preventive maintenance.

There are also opportunities for AAS Degree graduates as medium/heavy truck technicians, shop supervisors, dealer and factory representatives.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| MHTT1502 | Diesel Engine I | 4 |
| MHTT1506 | Mobil Hydraulics | 2 |
| MHTT1522 | Electrical II | 2 |
| TRAN1502 | General Service..... | 2 |
| TRAN1504 | Electricity and Electronic Principles | 3 |
| TRAN1518 | Transportation Hazardous Materials..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---------------------------------|---|
| MHTT1514 | Truck Brake Systems | 4 |
| MHTT1518 | Truck Steering/Suspension | 3 |
| MHTT1526 | Truck Maintenance I..... | 3 |
| TRAN2514 | Basic Air Conditioning | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| MHTT1508 | Truck Computer Systems..... | 2 |
| MHTT1510 | Truck Power Train | 4 |
| MHTT2502 | Diesel II | 4 |
| TRAN1520 | Workplace Perceptions and Expectations | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|-----------------------------------|---|
| MHTT2506 | Diesel III | 4 |
| MHTT2522 | Electrical III | 3 |
| MHTT2530 | Truck Heating and AC Systems..... | 2 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 6 |
|---------------------------|---|

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | Humanities | 3 |
| | Mathematics..... | 3 |
| | Social Sciences | 3 |
| | General Education Electives..... | 3 |

Estimated cost of books, supplies and materials: \$2,850

Medium/Heavy Truck Technician

Medium/Heavy Truck Technician Diploma (67 Credits)



Program Description

The growing demand to transport products quickly by trucks has created an increasing need for skilled medium/heavy truck technicians. Students will perform maintenance, repair, and overhaul on medium/heavy duty trucks and tractor/trailer vehicles. The Medium/Heavy Truck Technician Program is designed to provide individuals with the knowledge and skills needed for an entry-level technician position in the trucking industry.

Students selecting this program will develop and practice skills in a well-equipped shop and study challenging areas such as truck computers, diesel engines, electrical systems, suspension, air brakes, and power-train. Instruction is also given in related truck area studies such as welding, transport refrigeration, automatic transmissions, and truck body repair.

St. Cloud Technical College's Medium Heavy Truck Technician Program is ASE Certified and graduates are prepared for the Automotive Service Excellence examinations. The program is certified by the National Automotive Technicians Education Foundation, Inc. (NATEF). The Transportation Studies Core also meets some of the requirements for graduation in the Automotive Service Technician Program.

Career Opportunities

Major employers are independent truck repair shops, truck dealers and firms, which own large fleets of truck transports. After completion of training, medium/heavy truck technicians may wish to specialize in one phase of the field, such as component rebuilding, transport refrigeration, or preventive maintenance.

There are also requirements for AAS Degree graduates as medium/heavy truck technicians, shop supervisors, dealer and factory representatives.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| MHTT1502 | Diesel Engine I | 4 |
| MHTT1506 | Mobil Hydraulics | 2 |
| MHTT1522 | Electrical II | 2 |
| TRAN1502 | General Service..... | 2 |
| TRAN1504 | Electricity and Electronic Principles | 3 |
| TRAN1518 | Transportation Hazardous Materials..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---------------------------------|---|
| MHTT1514 | Truck Brake Systems | 4 |
| MHTT1518 | Truck Steering/Suspension | 3 |
| MHTT1526 | Truck Maintenance I..... | 3 |
| TRAN2514 | Basic Air Conditioning | 2 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| MHTT1508 | Truck Computer Systems..... | 2 |
| MHTT1510 | Truck Power Train | 4 |
| MHTT2502 | Diesel II | 4 |
| TRAN1520 | Workplace Perceptions and Expectations | 2 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| MHTT2506 | Diesel III | 4 |
| MHTT2522 | Electrical III | 3 |
| MHTT2530 | Truck Heating and AC Systems..... | 2 |
| MHTT2546 | Truck Preventive Maintenance and Troubleshooting | 4 |

Technical Studies Electives

| | |
|-----------------------------------|---|
| Technical Studies Electives | 9 |
|-----------------------------------|---|

General Studies

| | |
|---------------------------------|---|
| Communications-Written..... | 3 |
| General Studies Electives | 4 |

Estimated cost of books, supplies and materials: \$2,850

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Nursing Assistant/Home Health Aide

Certificate (4 Credits)



Program Description

Today's health care industry is in need of caregivers at all levels; Nursing Assistants, Home Health Aides/Homemakers, Licensed Practical Nurses, Registered Nurses and many specialty areas. The Basic Nursing I course prepares the students to provide 60 care-giving skills in a supervised simulation laboratory and in an actual work environment.

This Minnesota Department of Health approved course prepares the student to complete a written and skills test in order to be placed on the State Registry and work as a Nursing Assistant and/or Home Health Aide. Attendance of 75 hours or more of the Nursing Assistant portion of the course is mandatory.

Before the student begins clinicals, he/she must obtain a uniform and have evidence of a negative Mantoux or chest x-ray within the past three months showing no active tuberculosis. A Minnesota background check is also required. Information about uniforms, Mantoux and background checks will be discussed the first class session.

The college continually accepts interested students into this course.

Career Opportunities

There is a continuous need for Nursing Assistant/Home Health Aides. A benefit to those students who become employed within 12 months of completing the program is that the state licensed nursing home, which employs the student, will reimburse the student for the course and test out fees. To remain registered, an individual must complete 12 hours of education every year and work in the field at least eight paid hours every two years. A Nursing Assistant/Home Health Aide training certificate is an acceptance requirement for the college Practical Nursing Program.

Technical Studies and Credits

| | |
|--------------------------------|---|
| HLTH1400 Basic Nursing I | 4 |
|--------------------------------|---|

| | |
|---|------|
| Estimated cost for books and supplies | \$85 |
|---|------|

| | |
|----------------------|-------|
| State Test Fee | \$135 |
|----------------------|-------|

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Paramedicine

Paramedicine AAS Degree (71 Credits)



Program Description

Graduates of this Associate Degree program will be qualified and skilled professionals in the field of Emergency Medical Services as Paramedics. The Emergency Medical Technician-Paramedic (EMT-P) works in the exciting, expanding field of Emergency Medical Services (EMS).

This degree incorporates theoretical knowledge with extensive clinical application and experience. The specialization, advanced education and training in the care and transport of the critically ill and injured can mean the difference between life and death. AAS degree graduates have enhanced potential for upward progression in the career of pre-hospital care.

The St. Cloud Technical College Paramedicine AAS program is accredited by the Commission on Accreditation of Allied Health Education Programs.

Career Opportunities

Career opportunities for paramedics include: private ambulance companies, hospitals, industry and city health agencies, fire departments and law enforcement agencies. Park services, ski patrols and other groups in many countries often educate their personnel to become Emergency Medical Technicians or Paramedics as part of their duties.

Acceptance Requirements and Credits

* EMT Basic and Emergency Cardiac Care are required before beginning the Paramedicine program.

Suggested Technical Studies Semester I

| | | |
|----------|--------------------------------------|---|
| EMSP1400 | Paramedicine I | 3 |
| EMSP1402 | Paramedicine Skills I | 3 |
| EMSP1430 | BLS Ambulance Clinical | 1 |
| HLTH1440 | Medical Terminology | 1 |
| HLTH1448 | Microbiology/Infection Control | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| EMSP1404 | Emergency Pharmacology for Paramedics | 2 |
| EMSP1406 | Paramedicine II | 3 |
| EMSP1408 | Paramedicine Skills II | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---------------------------------|---|
| EMSP1432 | Critical Care Clinical | 2 |
| EMSP1434 | Support Services Clinical | 2 |
| EMSP1436 | ALS Ambulance Clinical | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|------------------------|---|
| EMSP2410 | Paramedicine III | 4 |
|----------|------------------------|---|

Suggested Technical Studies Semester V

| | | |
|----------|--|---|
| EMSC2460 | ACLS Provider | 1 |
| EMSC2462 | PHTLS Provider | 1 |
| EMSC2468 | Pediatric Advanced Life Support/Neonatal Resuscitation Provider (PALS/NRP) | 1 |
| EMSC2472 | PEPP Provider | 1 |
| EMSP2438 | Emergency Room Clinical | 3 |
| EMSP2440 | Acute Care Clinical | 3 |
| EMSP2480 | Paramedicine Externship | 8 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 3 |
|---------------------------|---|

General Education

| | | |
|----------|--|---|
| BLGY1300 | Human Anatomy/ Physiology I | 4 |
| BLGY1302 | Human Anatomy/Physiology II | 4 |
| ENGL1302 | Analytical Writing | 4 |
| PSYC1300 | Introduction to Psychology | 3 |
| PSYC1304 | Life Span Developmental Psychology | 3 |
| | Humanities | 3 |

Estimated cost of books, supplies and materials: \$2,159

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Paraprofessional Educator

Paraprofessional Educator AAS Degree (65 Credits)



Program Description

This program meets the requirements and recent federal legislation regarding the employment of paraprofessionals. In order to satisfy the requirement, school districts are encouraged to employ paraprofessionals who have completed two years of study at an institution of higher education; or obtained an Associate's (or higher) Degree, or who have met a rigorous standard of quality and can demonstrate knowledge of and the ability to assist in instructing reading, writing, and mathematics.

This curriculum follows the Minnesota Core Instructional Paraprofessional Competencies which will form the basis of a credentialing system for instructional paraprofessionals. The competencies are statements that indicate the knowledge and skills needed for the paraprofessional to work successfully in educational settings. Students are provided classroom instruction and practical experience in a variety of educational settings, including Early Childhood Family Education (ECFE), Early Childhood Special Education (ECSE), Title 1, Head Start, preschools, elementary schools, secondary schools, and other special education programs. Membership in Skills USA, MnAEYC, NAEYC or other professional organizations is strongly recommended.

Applicants to the Paraprofessional Educator Program must complete any college readiness course with a Pass grade, if indicated by their Accuplacer scores prior to enrolling in the Program courses.

Before being placed on an Internship, students will be required to complete EMSC1404 and submit these completed forms: A Department of Human Services (DHS) Background Study Form, Pre-Entrance Medical Exam, and Immunization Record.

Career Opportunities

Job opportunities for Paraprofessional Education graduates may be found in Special Education, Title 1, Bilingual Programs, and Career and Technical Education. These jobs may be found in a variety of settings including Early Childhood Family Education (ECFE), Early Childhood Special Education (ECSE), Title 1, Head Start, preschools, elementary schools, secondary schools, special education programs. Personal qualities desirable for the field include emotional maturity, physical stamina, the ability to work with people in a variety of settings, and acceptance of people with diverse backgrounds.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| CACE1400 | Professional Relations in CACE Careers | 3 |
| CACE1404 | Safety, Health and Nutrition | 3 |
| CACE1420 | Foundations of Development..... | 3 |
| CACE1440 | Guidance: Managing the Physical and Social Environment | 3 |
| CACE1460 | Internship I..... | 3 |
| EMSC1404 | First Aid and CPR for Child Care Providers | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| CACE1422 | Profiles of the Exceptional Child..... | 3 |
| CACE1424 | School-Age Strategies for Learning | 3 |
| CACE1444 | Planning and Implementing Curriculum | 3 |
| CACE1464 | Internship II | 3 |
| CACE1470 | Professional and Leadership Development | 1 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| CACE1428 | Family and Community Relations..... | 3 |
| CACE1470 | Professional and Leadership Development | 1 |
| CACE1475 | Reading Strategies for Paraprofessionals | 1 |
| CACE1476 | Writing Strategies for Paraprofessionals | 1 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| CACE1426 | Children with Difficult Behaviors | 3 |
| CACE1477 | Math Strategies for Paraprofessionals | 1 |
| CACE1478 | Technology Strategies for Paraprofessionals..... | 1 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 3 |
|---------------------------|---|

General Education

| | |
|-----------------------------------|---|
| Communications-Oral..... | 3 |
| Communications-Written..... | 4 |
| Humanities | 3 |
| Natural Science/Mathematics | 3 |
| Social Science..... | 3 |
| General Education Electives..... | 6 |

Estimated cost of books, supplies and materials: \$913

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Plumbing

Plumbing, Shop Management AAS Degree (60 Credits)



Program Description

The Plumbing Program is designed to give students a series of experiences with a wide variety of tasks normally performed by a plumber. Some areas included are installation of fixtures, pipe threading, use of tools and equipment, hot and cold water supply, drainage systems, fabrication and testing, maintenance and repair of plumbing, and hydronic heating. Students may choose between a Diploma and an AAS Degree. Students choosing an AAS Degree will find added emphasis on shop management and communication skills.

Related material covered includes blueprint reading and sketching, plumbers' mathematics, the Minnesota State Plumbing Code, and a considerable amount of trade knowledge. One of the main class projects involves installation of the plumbing and fixtures in the house project built each year by the building trades classes. The building construction industry is moving ahead rapidly and becoming more complex each year. There is a need for people with the desire and ambition to learn the basics of plumbing and enter the field as apprentices.

Career Opportunities

The plumbing industry presents many outstanding opportunities for advancement and success in residential, commercial, industrial and service plumbing. Skilled mechanics in this trade are among the highest paid of any craft. In this field, initiative and ability are rewarded. Plumbers must keep informed on the latest developments in sanitary science. They contribute to the public health and welfare by means of well designed and properly installed plumbing.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| PLBG1502 | Piping Procedures I..... | 3 |
| PLBG1506 | Plumbing Calculations..... | 3 |
| PLBG1510 | Minnesota State Plumbing Code I..... | 3 |
| PLBG1518 | Blueprint Reading and Estimating..... | 4 |
| PLBG1522 | Water Supply and Sewage Disposal | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| PLBG1514 | Minnesota State Plumbing Code II..... | 3 |
| PLBG1526 | Plumbing Fixture Installation | 4 |
| PLBG1530 | Piping Procedures II | 3 |
| PLBG1534 | Hydronic Heating/Rigging..... | 1 |
| PLBG1538 | Plumbing Internship..... | 2 |
| PLBG1542 | Career Planning/Customer Relations..... | 2 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 9 |
|---------------------------|---|

General Education

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | Humanities..... | 3 |
| | Mathematics..... | 3 |
| | Social Sciences | 3 |
| | General Education Electives..... | 4 |

Estimated cost of books, supplies and materials: \$1,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Plumbing

Plumbing Diploma (37 Credits)



Program Description

The Plumbing Program is designed to give students a series of experiences with a wide variety of tasks normally performed by a plumber. Some areas included are installation of fixtures, pipe threading, use of tools and equipment, hot and cold water supply, drainage systems, fabrication and testing, maintenance and repair of plumbing, and hydronic heating. Students may choose between a Diploma and an AAS Degree. Students choosing an AAS Degree will find added emphasis on shop management and communication skills.

Related material covered includes blueprint reading and sketching, plumbers' mathematics, the Minnesota State Plumbing Code, and a considerable amount of trade knowledge. One of the main class projects involves installation of the plumbing and fixtures in the house project built each year by the building trades classes. The building construction industry is moving ahead rapidly and becoming more complex each year. There is a need for people with the desire and ambition to learn the basics of plumbing and enter the field as apprentices.

Career Opportunities

The plumbing industry presents many outstanding opportunities for advancement and success in residential, commercial, industrial and service plumbing. Skilled mechanics in this trade are among the highest paid of any craft. In this field, initiative and ability are rewarded. Plumbers must keep informed on the latest developments in sanitary science. They contribute to the public health and welfare by means of well designed and properly installed plumbing.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| PLBG1502 | Piping Procedures I..... | 3 |
| PLBG1506 | Plumbing Calculations..... | 3 |
| PLBG1510 | Minnesota State Plumbing Code I..... | 3 |
| PLBG1518 | Blueprint Reading and Estimating..... | 4 |
| PLBG1522 | Water Supply and Sewage Disposal | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| PLBG1514 | Minnesota State Plumbing Code II..... | 3 |
| PLBG1526 | Plumbing Fixture Installation | 4 |
| PLBG1530 | Piping Procedures II | 3 |
| PLBG1534 | Hydronic Heating/Rigging..... | 1 |
| PLBG1538 | Plumbing Internship..... | 2 |
| PLBG1542 | Career Planning/Customer Relations..... | 2 |

General Studies

| | | |
|----------|---------------------------------|---|
| GBEH1300 | Human Relations | 3 |
| | General Studies Electives | 3 |

Estimated cost of books, supplies and materials: \$850

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Practical Nursing

Practical Nursing AAS Degree (67 Credits)



Program Description

The Practical Nursing Program is designed to provide learning opportunities in various settings where students work closely with physicians, registered nurses and other health care professionals in the delivery of delegated medical care and skills. In addition, assistance is provided to individuals to meet their basic human needs. The program stresses meeting basic needs within the framework of normal growth and development throughout the life span. Learning experiences are developed utilizing the nursing process as a framework for training the practical nursing student. Emphasis is placed on safe practice and the role of the Licensed Practical Nurse. Past experience, the study of sciences, and personal initiative are all considered important for success in this program. The program is fully approved by the Minnesota Board of Nursing. Graduates must pass the national licensing exam (NCLEX-PN) for practical nurses and achieve licensure to perform nursing as an LPN.

The Practical Nursing Program provides a foundation for career mobility with associate or baccalaureate professional nursing programs.

Admission to the program is highly competitive and requires the student to attend the pre-program advising sessions offered by the SCTC Admissions Department. Details of course and clinical/lab requirements including physical examination, Minnesota Department of Human Services background study check, current immunization, tuberculosis screening and current certification American Heart Association in CPR/AED are reviewed. Details of application process are coordinated via the Admissions Department. Students must have completed all courses for the acceptance requirements with a grade of "C" or better. Please note information regarding receipt of grade of "W", "D" or "F" in the acceptance information. Minimum GPAs are 2.8 or above for Diploma applicants and 2.5 or above for the AAS applicants. Students will attend a mandatory pre-program orientation following acceptance to review program current policies and plan for future course registration and deadlines.

Students must provide transportation to clinical sites.

Career Opportunities

Graduates of the Practical Nursing Program are prepared to accept positions as beginning practitioners in hospitals, long term care facilities, ambulatory care services and in home care.

St. Cloud Technical College (SCTC) in collaboration with North Hennepin Community College (NHCC) offers an articulation program for graduates of SCTC Associate of Applied Science graduates. Upon successful completion of the AAS and licensure as an LPN, students may seek NHCC admission to their Associate Degree Registered Nurse (RN) Program.

Acceptance Requirements and Credits

| | |
|--|---|
| Human Anatomy/ Physiology I..... | 4 |
| Basic Nursing I | 4 |
| Medical Terminology | 1 |
| Current Health Care Provider Certificate CPR/AED | |

* Applicant may only apply after successful completion of acceptance requirements. These courses must be completed prior to starting the program. In addition, students must have completed the Accuplacer with scores above the cutoff points for Practical Nursing or successful completion of equivalent general education courses work.

* A minimum grade of "C" or better and a cumulative GPA of 2.5 or above in general education coursework is required to be considered for admission and must be maintained.

* A student who receives a "W" "D" or "F" in any course is considered to be making unsatisfactory progress. If a grade of "W" "D" or "F" is obtained on the second attempt, the student will be unable to apply to the program, or will be terminated from the Practical Nursing program.

Suggested Technical Studies Semester I

| | |
|-----------------------------------|---|
| PRSG1410 Nursing Foundations..... | 4 |
|-----------------------------------|---|

Suggested Technical Studies Semester II

| | |
|---|---|
| PRSG1400 Basic Nursing II..... | 3 |
| PRSG1405 Medication Administration for Nursing..... | 4 |
| PRSG1420 Adult Nursing I..... | 3 |
| PRSG1444 Psycho-Social Nursing..... | 2 |
| PRSG1460 Clinical Lab I..... | 5 |

Suggested Technical Studies Semester III

| | |
|--|---|
| PRSG1408 Practical Nursing Perspective..... | 1 |
| PRSG1426 Adult Nursing II..... | 3 |
| PRSG1440 Maternal Child/Obstetrics Pediatrics..... | 3 |
| PRSG1464 Clinical Lab II..... | 5 |
| PRSG1480 State Board Examination Review..... | 1 |

Electives

| | |
|----------------|---|
| Electives..... | 3 |
|----------------|---|

General Education

| | |
|--|---|
| BLGY1302 Human Anatomy/Physiology II..... | 4 |
| CMST1320 Introduction to Speech Communication..... | 3 |
| ENGL1302 Analytical Writing | 4 |
| PSYC1300 Introduction to Psychology..... | 3 |
| PSYC1304 Life Span Developmental Psychology..... | 3 |
| Microbiology | 4 |

Estimated cost of books, supplies and materials: \$3,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Practical Nursing

Practical Nursing Diploma (52 Credits)



Program Description

The Practical Nursing Program is designed to provide learning opportunities in various settings where students work closely with physicians, registered nurses and other health care professionals in the delivery of delegated medical care and skills. In addition, assistance is provided to individuals to meet their basic human needs. The program stresses meeting basic needs within the framework of normal growth and development throughout the life span. Learning experiences are developed utilizing the nursing process as a framework for training the practical nursing student. Emphasis is placed in safe practice and the role of Licensed Practical Nurse. Past experience, the study of sciences and personal initiative are all considered important for success in this program. This program is fully approved by the Minnesota Board of Nursing. Graduates must pass the national licensing exam (NCLEX-PN) for practical nurses and achieve licensure to practice nursing as an LPN.

The Practical Nursing Program provides a foundation for career mobility with associate or baccalaureate professional nursing programs.

Admission to the program is highly competitive and requires the student to attend the pre-program advising sessions offered by the SCTC Admissions Department. Details of course and clinical/lab requirements including physical examination, Minnesota Department of Human Services background study check, current immunization, tuberculosis screening and current certification American Heart Association in CPR/AED are reviewed. Details of application process are coordinated via the Admissions Department. Students must have completed all courses for the acceptance requirements with a grade of "C" or better. Please note information regarding receipt of grade of "W", "D", or "F" in the acceptance information. Minimum GPAs are 2.8 or above for Diploma applicants and 2.5 or above for the AAS applicants. Students will attend a mandatory pre-program orientation following acceptance to review program current policies and plan for future course registration and deadlines.

Students must provide transportation to clinical sites.

Career Opportunities

Graduates of the Program Nursing Program are prepared to accept positions as beginning practitioners of practical nursing in hospitals, long term care facilities, ambulatory care services, and in home care.

Acceptance Requirements and Credits

| | |
|---|---|
| Basic Nursing I | 4 |
| Medical Terminology | 1 |
| Introductory Anatomy and Physiology | 4 |
| Current CPR/AED Healthcare Provider | |

* Applicant may only apply after successful completion of acceptance requirements. In addition, students must have completed the Accuplacer with scores above the cutoff points for Practical Nursing or successful completion of equivalent General Education/General Studies courses work.

* A minimum grade of "C" or better and a cumulative GPA of 2.8 or above in general education coursework is required to be considered for admission and must be maintained.

* A student who receives a "W" "D" or "F" in any course is considered to be making unsatisfactory progress. If a grade of "W" "D" or "F" is obtained on the second attempt, the student will be unable to apply to the program, or will be terminated from the Practical Nursing program.

Suggested Technical Studies Semester I

| | |
|-----------------------------------|---|
| PRSG1410 Nursing Foundations..... | 4 |
|-----------------------------------|---|

Suggested Technical Studies Semester II

| | |
|---|---|
| PRSG1400 Basic Nursing II..... | 3 |
| PRSG1405 Medication Administration for Nursing..... | 4 |
| PRSG1420 Adult Nursing I..... | 3 |
| PRSG1444 Psycho-Social Nursing..... | 2 |
| PRSG1460 Clinical Lab I..... | 5 |

Suggested Technical Studies Semester III

| | |
|--|---|
| PRSG1408 Practical Nursing Perspective..... | 1 |
| PRSG1426 Adult Nursing II..... | 3 |
| PRSG1440 Maternal Child/Obstetrics Pediatrics..... | 3 |
| PRSG1464 Clinical Lab II..... | 5 |
| PRSG1480 State Board Examination Review..... | 1 |

General Education

| | |
|--|---|
| PSYC1304 Life Span Developmental Psychology..... | 3 |
|--|---|

General Studies

| | |
|--|---|
| ENGL1100 Writing for the Workplace | 3 |
| GBEH1300 Human Relations | 3 |

Estimated cost of books, supplies and materials: \$3,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Public Welfare Financial Worker

AAS Degree(63 Credits)

Diploma(42 Credits)



This program is offered in collaboration with Pine Technical College.

Program Description

In the Public Welfare Financial Worker program, students learn the policies and procedures needed to determine initial and ongoing eligibility for public assistance programs. Students will learn to interact with individuals and families served by human service agencies. Students will also learn the computer system used by the Minnesota Department of Human Services and county human services agencies.

Career Opportunities

Students will be qualified to work for the Minnesota Department of Human Services and county human service agencies.

Public Welfare Financial Worker

AAS Degree

Technical Studies and Credits

| | | |
|----------|--|---|
| BUSM1200 | Microsoft Software | 3 |
| BUSM1260 | Applied Business Mathematics/Calculators | 3 |
| BUSM1290 | Job Seeking/Keeping Skills | 1 |
| HUMS1205 | Work Place Diversity | 3 |
| HUMS1230 | Managing Family Cases | 4 |
| HUMS1231 | HC Policy for Families | 4 |
| HUMS1233 | Work Support Programs..... | 3 |
| HUMS1241 | HC Policy for Adults | 4 |
| HUMS1242 | Managing Cash Cases..... | 4 |
| HUMS1290 | Internship - FW | 6 |

General Education and Credits

| | | |
|----------|--|----|
| CMST1320 | Introduction to Speech Communication | 3 |
| CRTK1300 | Introduction to Critical Thinking | 3 |
| ENGL1302 | Analytical Writing | 4 |
| | General Education Electives | 18 |

Estimated cost for books and supplies\$1,800

Public Welfare Financial Worker

Diploma

Technical Studies and Credits

| | | |
|----------|--|---|
| BUSM1200 | Microsoft Software | 3 |
| BUSM1260 | Applied Business Mathematics/Calculators | 3 |
| BUSM1290 | Job Seeking/Keeping Skills | 1 |
| HUMS1205 | Work Place Diversity | 3 |
| HUMS1230 | Managing Family Cases | 4 |
| HUMS1231 | HC Policy for Families | 4 |
| HUMS1233 | Work Support Programs..... | 3 |
| HUMS1241 | HC Policy for Adults | 4 |
| HUMS1242 | Managing Cash Cases..... | 4 |
| HUMS1290 | Internship - FW | 6 |

General Education and Credits

| | | |
|----------|--|---|
| CMST1320 | Introduction to Speech Communication | 3 |
| OR | | |
| CRTK1300 | Intro to Critical Thinking..... | 3 |
| ENGL1302 | Analytical Writing | 4 |

Estimated cost for books and supplies\$750

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Sales And Management

Sales And Management AAS Degree (72 Credits)



Program Description

The Sales and Management program introduces students to a broad base of business related knowledge. Students develop skills and understanding in business communications both written and oral, principles of management, accounting, sales math, sales promotion and advertising, principles of marketing, customer service and sales, and business ethics. More advanced areas of study include sales presentations, marketing management, sales management, human resource management, and entrepreneurship. Courses include an emphasis in practical business related knowledge and hands-on learning. Students apply knowledge through supervised occupational experience while working in a sales, customer service, or management position.

Delta Epsilon Chi (DEX), the collegiate division of DECA is an integral part of the Sales and Management program. Students participate in this organization to further develop and practice the sales, management, marketing, and leadership skills taught in the classroom.

Students successfully completing the AAS degree may choose to further advance their education by obtaining a Bachelor of Science Degree in Management through Southwest State University, Marshall, MN. Students attend two evening classes per week and one weekend class per month at St. Cloud Technical College.

Career Opportunities

Sales and Management graduates are often employed as department managers, store managers, retail sales associates, hospitality managers, customer service representatives, supervisors, business-to-business salespeople, and owners of their own businesses. Graduates work in the areas of wholesale, industrial, and commercial sales, management, or marketing.

A sales, management or marketing career offers dynamic, rapidly growing opportunities for trained persons. It is one of the fastest growing, and most diversified fields of employment. It can also be one of the highest-paid occupations.

Suggested Technical Studies Semester I

| | |
|--|---|
| SAMG1200 Principles of Marketing | 3 |
| SAMG1210 Customer Service/Sales Techniques | 3 |
| SAMG1215 Principles of Management | 3 |
| SAMG1225 Business Ethics and Law | 3 |
| SAMG1240 Professional Self Development..... | 1 |
| SAMG1245 Sales and Marketing Math | 3 |

Suggested Technical Studies Semester II

| | |
|---|---|
| BUSM1200 Microsoft Software | 3 |
| SAMG1220 Sales Promotion/Advertising | 3 |
| SAMG1235 Supervised Occupational Experience | 2 |
| SAMG1240 Professional Self Development..... | 1 |
| SAMG1250 Fundamentals of Sales Accounting..... | 3 |

Suggested Technical Studies Semester III

| | |
|---|---|
| SAMG1235 Supervised Occupational Experience | 2 |
| SAMG1240 Professional Self Development..... | 1 |
| SAMG2245 Marketing Management..... | 3 |
| SAMG2255 Applied Sales Strategies/Telemarketing | 3 |
| SAMG2260 Management Computer Applications | 3 |

Suggested Technical Studies Semester IV

| | |
|---|---|
| SAMG1235 Supervised Occupational Experience | 2 |
| SAMG2270 Human Resource Management..... | 3 |
| SAMG2276 Marketing Research | 3 |
| SAMG2280 Sales Management | 3 |
| SAMG2285 Entrepreneurship/Small Business Management | 3 |

General Education

| | |
|---|---|
| Communications-Oral or Written | 3 |
| History, Social and Behavioral Sciences | 3 |
| Humanities and Fine Arts | 3 |
| General Education Electives..... | 9 |

Estimated cost of books, supplies and materials: \$1,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Sales And Management

*Business Management Associate in Science Degree
Sales and Management Emphasis (64 Credits)*



Program Description

Students will gain theoretical and practical knowledge required to manage in a business environment. The Associate in Science Degree in Business Management allows students to move directly into a career in the business field or to transfer to another institution to earn a Bachelor of Applied Science Degree in Management.

Delta Epsilon Chi (DEX), the collegiate division of DECA is part of the Sales and Management program. Students participate in this organization to further develop and practice the sales, management, marketing, and leadership skills taught in the classroom.

Students successfully completing the AS degree may choose to further advance their education by obtaining a Bachelor of Science Degree in Management through Southwest State University, Marshall, MN. Students attend two evening classes per week and one weekend class per month at St. Cloud Technical College.

Career Opportunities

The Business Management program is designed to prepare graduates for entry-level positions that may lead to management opportunities in a wide variety of business fields such as sales, accounting, and finance and credit.

Sales and Management Emphasis

Choose 14 credits from the following Technical Studies:

| | | |
|----------|---|---|
| SAMG1220 | Sales Promotion and Advertising..... | 3 |
| SAMG1240 | Professional Self Development..... | 1 |
| SAMG1245 | Sales and Marketing Math..... | 3 |
| SAMG2245 | Marketing Management..... | 3 |
| SAMG2255 | Applied Sales Strategies/Telemarketing..... | 3 |
| SAMG2270 | Human Resource Management..... | 3 |
| SAMG2276 | Marketing Research..... | 3 |
| SAMG2280 | Sales Management..... | 3 |
| SAMG2285 | Entrepreneurship/Small Business Management..... | 3 |

Technical Studies

| | | |
|----------|--|---|
| ACCT1215 | Accounting Principles I..... | 4 |
| ACCT1216 | Accounting Principles II..... | 4 |
| SAMG1200 | Principles of Marketing..... | 3 |
| SAMG1210 | Customer Service/Sales Techniques..... | 3 |
| SAMG1215 | Principles of Management..... | 3 |
| SAMG1225 | Business Ethics and Law..... | 3 |

General Education

| | | |
|----------|--------------------------------------|---|
| CPTR1300 | Exploring Computers..... | 3 |
| CSSC1302 | Career Development/Job Search..... | 1 |
| ECON1320 | Introduction to Macroeconomics..... | 3 |
| ECON1330 | Introduction to Microeconomics..... | 3 |
| ENGL1302 | Analytical Writing..... | 4 |
| MATH1300 | College Algebra..... | 3 |
| MATH1445 | Introduction to Statistics..... | 3 |
| | Critical Thinking or Humanities..... | 3 |
| | Communications-Oral..... | 3 |
| | Social Science..... | 3 |
| | General Education Electives..... | 1 |

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Sales And Management

Sales And Management Diploma (65 Credits)



Program Description

The Sales and Management program introduces students to a broad base of business related knowledge. Students develop skills and understanding in business communications both written and oral, principles of management, accounting, sales math, sales promotion and advertising, principles of marketing, customer service and sales, and business ethics. More advanced areas of study include sales presentations, marketing management, sales management, human resource management, and entrepreneurship. Courses include an emphasis in practical business related knowledge and hands-on learning. Students apply knowledge through supervised occupational experience while working in a sales, customer service, or management position.

Delta Epsilon Chi (DEX), the collegiate division of DECA is an integral part of the Sales and Management program. Students participate in this organization to further develop and practice the sales, management, marketing, and leadership skills taught in the classroom.

Career Opportunities

Sales and Management graduates are often employed as department managers, store managers, retail sales associates, hospitality managers, customer service representatives, supervisors, business-to-business salespeople, and owners of their own businesses. Graduates work in the areas of wholesale, industrial, and commercial sales, management, or marketing.

A sales, management or marketing career offers dynamic, rapidly growing opportunities for trained persons. It is one of the fastest growing, largest, and most diversified fields of employment. It can also be one of the highest-paid occupations.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| SAMG1200 | Principles of Marketing | 3 |
| SAMG1210 | Customer Service/Sales Techniques | 3 |
| SAMG1215 | Principles of Management | 3 |
| SAMG1225 | Business Ethics and Law | 3 |
| SAMG1240 | Professional Self Development..... | 1 |
| SAMG1245 | Sales and Marketing Math | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| BUSM1200 | Microsoft Software | 3 |
| BUSM1215 | Business Writing..... | 2 |
| BUSM1222 | Oral Business Presentations..... | 2 |
| SAMG1220 | Sales Promotion/Advertising | 3 |
| SAMG1235 | Supervised Occupational Experience | 2 |
| SAMG1240 | Professional Self Development..... | 1 |
| SAMG1250 | Fundamentals of Sales Accounting..... | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| SAMG1235 | Supervised Occupational Experience | 2 |
| SAMG1240 | Professional Self Development..... | 1 |
| SAMG2245 | Marketing Management..... | 3 |
| SAMG2255 | Applied Sales Strategies/Telemarketing | 3 |
| SAMG2260 | Management Computer Applications | 3 |

Suggested Technical Studies Semester IV

| | | |
|----------|--|---|
| SAMG1235 | Supervised Occupational Experience | 2 |
| SAMG2270 | Human Resource Management..... | 3 |
| SAMG2276 | Marketing Research | 3 |
| SAMG2280 | Sales Management | 3 |
| SAMG2285 | Entrepreneurship/Small Business Management | 3 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |
| | General Studies Electives | 1 |

Estimated cost of books, supplies and materials: \$1,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Sales And Management

Sales And Management Associate Diploma (38 Credits)



Program Description

The Sales and Management program introduces students to business related knowledge. Students develop skills and understanding in business communications both written and oral, principles of management, accounting, sales math, sales promotion and advertising, principles of marketing, customer service and sales, and business ethics. Courses include an emphasis on practical business related knowledge and hands-on learning. Students apply knowledge through supervised occupational experience while working in a sales, customer service, or management position.

Delta Epsilon Chi (DEX), the collegiate division of DECA is an integral part of the Sales and Management program. Students participate in this organization to further develop and practice the sales, management, marketing, and leadership skills taught in the classroom.

Career Opportunities

Sales and Management graduates are often employed as department managers, store managers, retail sales associates, hospitality managers, customer service representatives, supervisors, business-to-business salespeople, and owners of their own businesses. Graduates work in the areas of wholesale, industrial, and commercial sales, management, or marketing.

A sales, management or marketing career offers dynamic, rapidly growing opportunities for trained persons. It is one of the fastest growing, largest, and most diversified fields of employment. It can also be one of the highest paid occupations.

Suggested Technical Studies Semester I

| | | |
|----------|------------------------------------|---|
| BUSM1200 | Microsoft Software | 3 |
| BUSM1215 | Business Writing..... | 2 |
| SAMG1200 | Principles of Marketing | 3 |
| SAMG1215 | Principles of Management | 3 |
| SAMG1220 | Sales Promotion/Advertising..... | 3 |
| SAMG1225 | Business Ethics and Law | 3 |
| SAMG1240 | Professional Self Development..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| BUSM1222 | Oral Business Presentations..... | 2 |
| SAMG1210 | Customer Service/Sales Techniques | 3 |
| SAMG1235 | Supervised Occupational Experience | 2 |
| SAMG1240 | Professional Self Development..... | 1 |
| SAMG1245 | Sales and Marketing Math..... | 3 |
| SAMG1250 | Fundamentals of Sales Accounting..... | 3 |

General Studies

| | | |
|----------|---------------------------------|---|
| ENGL1100 | Writing for the Workplace | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost of books, supplies and materials: \$1,000

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Sonography

***Diagnostic Medical Sonography - Generalist AAS Degree
(72 Credits)***



Program Description

Ultrasound Technologists, also known as Sonographers, perform and analyze diagnostic ultrasound images through the use of high frequency sound waves in a variety of medical settings.

The Sonography Program provides the student with academic study, laboratory education and clinical experience. The clinical experience will affiliate the students with facilities located within the five state region and beyond during the final Spring Semester and May Term.

Sonography students will receive comprehensive training and experience performing scanning procedures in abdominal, superficial structures, gynecological and obstetrical ultrasound. Students will also receive training and experience in vascular ultrasound procedures.

Graduates of this program will be able to obtain, review and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results, analyze and process anatomic, pathologic and/or physiologic data for interpretation by a physician.

Upon completion of the program, graduates are eligible to take the national registry exams in Ultrasound Physics, Abdominal Ultrasound, and Obstetrical and Gynecological Ultrasound following American Registry for Diagnostic Medical Sonography (ARDMS) prerequisite guidelines.

Admission preference will be given to students who have completed the admission requirements with post secondary education and health care experience. Prior health experience is helpful. Applicants should be aware that this program has very rigorous technical and clinical courses where eye-hand coordination skills are required for scanning. Students must be able to communicate effectively when performing ultrasound examinations.

Career Opportunities

Many students find jobs in hospitals, outpatient clinics and mobile services. Ultrasound equipment manufacturers also hire Sonographers to demonstrate and sell their products. Other job opportunities include supervising, managing, education and research.

Acceptance Requirements and Credits

| | |
|-----------------------------------|---|
| Human Anatomy/ Physiology I..... | 4 |
| Human Anatomy/Physiology II | 4 |
| College Algebra | 3 |
| General Physics..... | 4 |

* Contact the admissions department for a complete explanation of the required prerequisites, acceptance criteria and processes.

Suggested Technical Studies Semester I

| | |
|-----------------------------------|---|
| BUSM1200 Microsoft Software | 3 |
| HLTH1440 Medical Terminology..... | 1 |
| USCV1422 Ultrasound Physics | 3 |

Ethics

| | |
|--------------|---|
| Ethics | 3 |
|--------------|---|

Suggested Technical Studies Semester II

| | |
|--|---|
| DMSG1402 Ultrasound Cross-Sectional Anatomy I..... | 3 |
| DMSG1404 Diagnostic Medical Sonography I..... | 3 |
| DMSG1406 Clinical Ultrasound I..... | 3 |
| USCV1440 Introduction to Clinics | 1 |

Suggested Technical Studies Semester III

| | |
|---|---|
| DMSG2402 Ultrasound Cross-Sectional Anatomy II..... | 2 |
| DMSG2404 Diagnostic Medical Sonography II..... | 3 |
| DMSG2406 Clinical Ultrasound II | 5 |
| EMSC1480 Emergency Cardiac Care | 1 |
| HLTH1448 Microbiology/Infection Control..... | 1 |

Suggested Technical Studies Semester IV

| | |
|---------------------------------------|----|
| DMSG2409 Clinical Ultrasound III..... | 13 |
|---------------------------------------|----|

Suggested Technical Studies Semester V

| | |
|--------------------------------------|---|
| DMSG2410 Clinical Ultrasound IV..... | 2 |
|--------------------------------------|---|

General Education

| | |
|-----------------------------|---|
| Communications-Oral..... | 3 |
| Communications-Written..... | 4 |
| Humanities..... | 3 |

Estimated cost of books, supplies and materials: \$3,268

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Supervisory Management

Supervisory Management AAS Degree (64 Credits)



Program Description

The Supervisory Management Program is designed to provide working adults with the skills necessary to be successful in a position of supervisory leadership. The program goals are to prepare individuals for a supervisory position, help individuals who are already in supervisory roles become more effective, and/or prepare individuals for an increase in responsibility and influence. Skills can be applied to any type of organization including manufacturing, retail, health services, and other profit and non-profit organizations.

The Supervisory Management courses consider the different learning styles of adults and seek to actively engage each learner through cooperative group learning. Class activities promote a variety of interactive learning methods that reduces classroom time and increases outside class activities. Classes are scheduled “one at a time” in a preplanned sequence and may be successfully completed in eighteen months. Students are expected to commit and contribute a significant amount of time and effort outside of the scheduled class time in study groups, individual study, and applying relevant concepts on the job.

The Supervisory Management A. A.S. Degree includes the successful completion of the Supervisory Leadership Certificate, Organizational Development Certificate, Quality and Productivity Certificate along with general education courses. General education courses are not included in the preplanned sequence and will need to be taken concurrent with the program courses.

Students successfully completing the Supervisory Management A. A.S. Degree may choose to further their education by obtaining a Bachelor of Applied Science Degree in Management from Southwest Minnesota State University, Marshall. Students will attend two evening classes per week and one weekend class per month at St. Cloud Technical College.

Career Opportunities

Today, all areas of the private and public sectors seek out qualified employees who can move into supervisory positions. The Supervisory Management program provides students with the training to help individuals perform successfully as leaders.

Supervisory Leadership Certificate

Technical Studies

| | | |
|----------|---|---|
| SMGT1601 | Personal Portfolio Design..... | 1 |
| SMGT1602 | Supervision Fundamentals..... | 3 |
| SMGT1604 | Effective Communication..... | 2 |
| SMGT1606 | Managing Change and Conflict..... | 2 |
| SMGT1608 | Personal Leadership..... | 3 |
| SMGT2600 | Supervisory Leadership Field Study..... | 2 |
| SMGT2808 | Leadership Development..... | 2 |

Organizational Development Certificate

Technical Studies

| | | |
|----------|---|---|
| SMGT1701 | Creativity and Work Teams..... | 2 |
| SMGT1702 | Business Ethics and Diversity..... | 2 |
| SMGT1704 | Employment Law and Selection..... | 3 |
| SMGT1706 | Employee Training and Coaching..... | 3 |
| SMGT1708 | Performance Management..... | 2 |
| SMGT2700 | Organizational Development Field Study..... | 2 |

Quality and Productivity Certificate

Technical Studies

| | | |
|----------|--|---|
| SMGT1800 | Providing Quality Customer Service..... | 2 |
| SMGT1802 | Occupational Safety..... | 2 |
| SMGT2800 | Quality and Productivity Field Study..... | 2 |
| SMGT2802 | Project and Meeting Management..... | 3 |
| SMGT2804 | Problem Solving and Quality Tools..... | 4 |
| SMGT2806 | Accounting for Non-Financial Managers..... | 2 |

General Education

| | | |
|----------|---|---|
| CMST1320 | Introduction to Speech Communication..... | 3 |
| CPTR1300 | Exploring Computers..... | 3 |
| ENGL1302 | Analytical Writing..... | 4 |
| | Natural Science/Mathematics..... | 3 |
| | Social Science/Humanities..... | 7 |

Estimated cost of books, supplies and materials: \$900

Supervisory Management

Supervisory Leadership Certificate (15 Credits)



Program Description

The Supervisory Leadership Certificate is an individually available component of the Supervisory Management A. A.S. Degree program. Students are provided with a well-rounded knowledge in the principles of supervision and leadership. Communication skills are stressed such as effective listening, offering feedback, handling criticism, and motivating others. There is a strong focus on personal evaluation and goal development complemented by gaining an appreciation of the strengths and talents of others.

The courses consider the different learning styles of adults and seek to actively engage each learner through cooperative group learning. Class activities promote a variety of interactive learning methods that reduces classroom time and increases outside class activities. Classes are scheduled "one at a time" in a preplanned sequence and may be successfully completed in five months. Students are expected to commit and contribute a significant amount of time and effort outside of the scheduled class time in study groups, individual study, and applying relevant concepts on the job.

Career Opportunities

Today, all areas of the private and public sectors seek out qualified employees who can move into leadership positions. The Supervisory Leadership Certificate provides students with the training to help individuals perform successfully as organizational leaders.

Technical Studies

| | | |
|----------|---|---|
| SMGT1601 | Personal Portfolio Design..... | 1 |
| SMGT1602 | Supervision Fundamentals..... | 3 |
| SMGT1604 | Effective Communication..... | 2 |
| SMGT1606 | Managing Change and Conflict | 2 |
| SMGT1608 | Personal Leadership..... | 3 |
| SMGT2600 | Supervisory Leadership Field Study..... | 2 |
| SMGT2808 | Leadership Development..... | 2 |

Estimated cost of books, supplies and materials: \$300

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Supervisory Management

Organizational Development Certificate (14 Credits)



Program Description

The Organizational Development Certificate is an individually available component of the Supervisory Management A. A.S. Degree program. Students will gain a broad base of knowledge in employee selection, employee retention and employee development techniques. Courses in this certificate also address work teams, a diverse workforce, and business ethics.

The courses consider the different learning styles of adults and seek to actively engage each learner through cooperative group learning. Class activities promote a variety of interactive learning methods that reduces classroom time and increases outside class activities. Classes are scheduled “one at a time” in a preplanned sequence and may be successfully completed in five months. Students are expected to commit and contribute a significant amount of time and effort outside of the scheduled class time in study groups, individual study, and applying relevant concepts on the job.

Career Opportunities

The Organizational Development Certificate provides students with the training to help individuals perform successfully in the area of human resources.

Technical Studies

| | | |
|----------|---|---|
| SMGT1701 | Creativity and Work Teams..... | 2 |
| SMGT1702 | Business Ethics and Diversity | 2 |
| SMGT1704 | Employment Law and Selection..... | 3 |
| SMGT1706 | Employee Training and Coaching | 3 |
| SMGT1708 | Performance Management | 2 |
| SMGT2700 | Organizational Development Field Study..... | 2 |

Estimated cost of books, supplies and materials: \$300

Supervisory Management

Quality And Productivity Certificate (15 Credits)



Program Description

The Quality and Productivity Certificate is an individually available component of the Supervisory Management A. A.S. Degree program. Students are offered a wide introduction to quality concepts that are so vital in today's professional world. Courses highlight effective and efficient use of time in meetings, projects, and development. There is a strong emphasis on customer service, safety and problem solving techniques that work.

The courses consider the different learning styles of adults and seek to actively engage each learner through cooperative group learning. Class activities promote a variety of interactive learning methods that reduces classroom time and increases outside class activities. Classes are scheduled "one at a time" in a preplanned sequence and may be successfully completed in five months. Students are expected to commit and contribute a significant amount of time and effort outside of the scheduled class time in study groups, individual study, and applying relevant concepts on the job.

Career Opportunities

The Quality and Productivity Certificate provides students with the training to help individuals perform successfully as project leaders.

Technical Studies

| | | |
|----------|---|---|
| SMGT1800 | Providing Quality Customer Service | 2 |
| SMGT1802 | Occupational Safety | 2 |
| SMGT2800 | Quality and Productivity Field Study | 2 |
| SMGT2802 | Project and Meeting Management | 3 |
| SMGT2804 | Problem Solving and Quality Tools | 4 |
| SMGT2806 | Accounting for Non-Financial Managers | 2 |

Estimated cost of books, supplies and materials: \$300

Surgical Technology

Surgical Technology AAS Degree (69 Credits)



Program Description

Surgical Technologists are health care workers prepared to function in association with the registered nurse and surgeon in providing patient care and related services in the operating rooms of hospitals and surgical centers. Jobs are available in small Minnesota communities, as well as the metro-area and in various cities throughout the United States. The Surgical Technology Program prepares surgical technologists to function as part of the operating room team by handing instruments to the surgeon during various surgical procedures. They are also familiar with other activities such as patient care, preparation of supplies and instruments, and decontamination.

The curriculum includes classroom, laboratory and clinical experiences. Clinical experience is provided at area hospitals. This clinical experience includes the following surgical areas: general surgery; orthopedics; plastics; obstetrics; genitourinary; eye, ear, nose, and throat; cardiovascular; and neurological. Students also spend time in the instrument room, central supply, recovery room, the delivery room, and with unit support personnel. Students may choose between a diploma and an AAS Degree.

Personal qualities of patience, manual dexterity, the ability to work under stress and to stand for long periods of time are necessities in this field. This profession does require some lifting. Students must maintain a "C" average in every class to enter the clinical rotations. A physical examination is required prior to clinical practice. Students must have a current CPR for Health Care Providers Certificate prior to clinical experience.

Students will join the Association of Surgical Technologists, and graduates of the Surgical Technology Program will be eligible to take the National Certification Examination. This program is nationally accredited by the Commission on Accreditation of Allied Health Education Programs.

Career Opportunities

Surgical Technologists are health care workers prepared to function in association with the registered nurse and surgeon in providing patient care and related services in the operating rooms of hospitals and surgical centers. Jobs are available in small Minnesota communities, as well as the metro-area and in various cities throughout the United States.

Suggested Technical Studies Semester I

| | | |
|----------|---------------------------|---|
| HLTH1400 | Basic Nursing I | 4 |
| HLTH1440 | Medical Terminology | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---------------------------------|---|
| EMSC1400 | Principles of First Aid | 1 |
| HLTH1484 | Ethics for Health Careers | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|---|---|
| CRTK1300 | Introduction to Critical Thinking | 3 |
| EMSC1480 | Emergency Cardiac Care | 1 |
| SURG1400 | Medical Microbiology | 2 |
| SURG1404 | Surgical Pharmacology | 2 |
| SURG1420 | Operating Room Techniques | 3 |
| SURG1424 | Operating Room Techniques Lab | 4 |

Suggested Technical Studies Semester IV

| | | |
|----------|-------------------------------------|----|
| SURG1442 | Surgical Procedures I | 6 |
| SURG1462 | Operating Room Clinical Lab I | 14 |

Suggested Technical Studies Semester V

| | | |
|----------|------------------------------|---|
| SURG1443 | Surgical Procedures II | 1 |
| SURG1463 | O. R. Clinical Lab II | 3 |

General Education

| | | |
|----------|--|---|
| BLGY1300 | Human Anatomy/ Physiology I | 4 |
| BLGY1302 | Human Anatomy/Physiology II | 4 |
| CMST1320 | Introduction to Speech Communication | 3 |
| ENGL1302 | Analytical Writing | 4 |
| DVRS1304 | Diversity and Social Justice | 3 |
| | General Education Electives | 3 |

Estimated cost of books, supplies and materials: \$3,300

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Surgical Technology

Surgical Technology Diploma (50 Credits)



Program Description

The Surgical technology Program prepares surgical technologists to function as part of the operating room team by handing instruments to the surgeon during various surgical procedures. They are also familiar with other activities such as patient care, preparation of supplies and instruments, and decontamination.

The curriculum includes classroom laboratory and clinical experiences. Clinical experience is provided at area hospitals. This clinical experience includes the following surgical areas: general surgery; orthopedics; plastics; obstetrics; genitourinary; eye, ear, nose, and throat; cardiovascular; and neurological. Students also spend time in the instrument room, central supply, recovery room, and with unit support personnel.

Personal qualities of patience, manual dexterity, the ability to work under stress and to stand for long periods of time are necessities in this field. This profession does require some lifting. Students must maintain a “C” average in every class to enter the clinical rotations. A physical examination is required prior to clinical practice. Students must have a current CPR for Health Care Providers Certificate prior to clinical experience.

Students will join the Association of Surgical Technologists, and graduates of the Surgical Technology Program will be eligible to take the National Certification Examination. This program is nationally accredited by the Commission on Accreditation of Allied Health Education Programs.

Students must provide their own transportation to clinical facilities, as well as living arrangements.

Career Opportunities

Surgical Technologists are health care workers prepared to function in association with the registered nurse and surgeon in providing patient care and related services in the operating rooms of hospitals and surgical centers. Jobs are available in small Minnesota communities, as well as the metro-area and in various cities throughout the United States.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| HLTH1440 | Medical Terminology..... | 1 |
| HLTH1444 | Introductory Anatomy and Physiology..... | 4 |

Suggested Technical Studies Semester II

| | | |
|----------|------------------------------------|---|
| HLTH1484 | Ethics for Health Careers..... | 3 |
| SURG1400 | Medical Microbiology..... | 2 |
| SURG1404 | Surgical Pharmacology..... | 2 |
| SURG1420 | Operating Room Techniques..... | 3 |
| SURG1424 | Operating Room Techniques Lab..... | 4 |

Suggested Technical Studies Semester III

| | | |
|----------|------------------------------------|----|
| SURG1442 | Surgical Procedures I..... | 6 |
| SURG1462 | Operating Room Clinical Lab I..... | 14 |

Suggested Technical Studies Semester IV

| | | |
|----------|-----------------------------|---|
| SURG1443 | Surgical Procedures II..... | 1 |
| SURG1463 | O. R. Clinical Lab II..... | 3 |

General Education

| | | |
|----------|--|---|
| CRTK1300 | Introduction to Critical Thinking..... | 3 |
|----------|--|---|

General Studies

| | | |
|----------|-----------------------------|---|
| EMSC1480 | Emergency Cardiac Care..... | 1 |
| GBEH1300 | Human Relations..... | 3 |

Estimated cost of books, supplies and materials: \$2,939

Water Environment Technologies

Water Environment Technologies AAS Degree (67 Credits)



Program Description

Water Environmental Technologies (WETT) is an environmental program geared toward protecting the world's most precious resource; WATER. This course is designed to prepare students for a diverse employment market. Courses cover a variety of chemical, biological, physical and mechanical water and wastewater treatment processes and techniques being applied today. Instruction for this program is provided in well-equipped classrooms and laboratory facilities that are continuously upgraded. Classroom sites are located in St. Cloud at the main campus and also at a unique satellite location in Eden Prairie, Minnesota. Students have the choice of a metropolitan or out-state location for training to accommodate their lifestyles and employment needs. The Eden Prairie location utilizes both an active water and wastewater treatment plant as the classroom.

As guardians of our public water supplies, students will learn the complex processes of obtaining water from its source, to treatment through multiple purification processes, to distribution of safe water in order to maintain the facilities, identify and troubleshoot treatment problems, and devise solutions to those problems to ensure safe uncontaminated water is available to end users.

Students of this program are offered an AAS Degree or Diploma to meet their career objectives. Upon completion of either degree, successful students will be eligible to take the examinations for their State of Minnesota Water and Wastewater certifications. When students successfully pass their state exams they will receive their Class D Water and Wastewater certificates, which are required to operate water and wastewater treatment facilities for both public and private entities.

Students may qualify for individual scholarships and extended internship opportunities while enrolled in the program.

Career Opportunities

Graduates of the Water Environment Technologies Program are prepared to accept position as entry-level water and/or wastewater operators at various water purification facilities. A career in water treatment offers dynamic, rapid growing employment opportunities with competitive salaries and benefit packages.

Water Environment Technologies graduates will have the diverse opportunity to work locally or apply their skills in a global market for either public or private employers. The demand for trained operators is consistently growing in areas of municipal and privately owned facilities. The global concerns for a safe constant supply of drinking water makes this program very attractive to students looking for a meaningful, secure career with an endless variety of opportunities today and in the future.

Suggested Technical Studies Semester I

| | | |
|----------|---|---|
| WETT1502 | Basic Laboratory Skills..... | 1 |
| WETT1506 | Introduction to Water/Wastewater technology..... | 3 |
| WETT1510 | Water/Wastewater Treatment Calibrations | 2 |
| WETT1514 | Source Water Treatment and Development | 4 |
| WETT1518 | Water Plant Operation I | 3 |
| WETT1526 | Water Distribution Systems | 3 |
| WETT1530 | Understanding OSHA Safety Regulations in the Water Industry..... | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| WETT1522 | Water Plant Operation II | 3 |
| WETT1534 | Wastewater Plant Operation I | 3 |
| WETT1538 | Wastewater Plant Operations II | 4 |
| WETT1542 | Wastewater Laboratory Procedures | 3 |
| WETT1554 | Automated Control Systems | 3 |
| WETT1558 | Understanding the EPA Part 503 Biolsolids Rule..... | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| WETT1546 | Collection and Disinfection Systems Operation..... | 3 |
| WETT1550 | Strategic Enhancement for Success | 3 |

Technical Electives

| | |
|---------------------------|---|
| Technical Electives | 3 |
|---------------------------|---|

General Education

| | |
|--|---|
| Communications-Oral..... | 3 |
| Communications-Written..... | 4 |
| History, Social and Behavioral Science, Humanities | 6 |
| Natural Science/Mathematics | 6 |
| General Education Electives..... | 1 |

Estimated cost of books, supplies and materials: \$850

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Water Environment Technologies

Water Environment Technologies Diploma (44 Credits)



Program Description

Water Environmental Technologies (WETT) is an environmental program geared toward protecting the world's most precious resource; WATER. This course is designed to prepare students for a diverse employment market. Courses cover a variety of chemical, biological, physical and mechanical water and wastewater treatment processes and techniques being applied today. Instruction for this program is provided in well-equipped classrooms and laboratory facilities that are continuously upgraded. Classroom sites are located in St. Cloud at the main campus and also at a unique satellite location in Eden Prairie, Minnesota. Students have the choice of a metropolitan or out-state location for training to accommodate their lifestyles and employment needs. The Eden Prairie location utilizes both an active water and wastewater treatment plant as the classroom.

As guardians of our public water supplies, students will learn the complex processes of obtaining water from its source, to treatment through multiple purification processes, to distribution of safe water in order to maintain the facilities, identify and troubleshoot treatment problems, and devise solutions to those problems to ensure safe uncontaminated water is available to end users.

Students of this program are offered an AAS Degree or Diploma to meet their career objectives. Upon completion of either degree, successful students will be eligible to take the examinations for their State of Minnesota Water and Wastewater certifications. When students successfully pass their state exams they will receive their Class D Water and Wastewater certificates, which are required to operate water and wastewater treatment facilities for both public and private entities.

Students may qualify for individual scholarships and extended internship opportunities while enrolled in the program.

Career Opportunities

Graduates of the Water Environment Technologies Program are prepared to accept position as entry-level water and/or wastewater operators at various water purification facilities. A career in water treatment offers dynamic, rapid growing employment opportunities with competitive salaries and benefit packages.

Water Environment Technologies graduates will have the diverse opportunity to work locally or apply their skills in a global market for either public or private employers. The demand for trained operators is consistently growing in areas of municipal and privately owned facilities. The global concerns for a safe constant supply of drinking water makes this program very attractive to students looking for a meaningful, secure career with an endless variety of opportunities today and in the future.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| WETT1502 | Basic Laboratory Skills..... | 1 |
| WETT1506 | Introduction to Water/Wastewater technology..... | 3 |
| WETT1510 | Water/Wastewater Treatment Calibrations | 2 |
| WETT1514 | Source Water Treatment and Development | 4 |
| WETT1518 | Water Plant Operation I | 3 |
| WETT1526 | Water Distribution Systems | 3 |

Suggested Technical Studies Semester II

| | | |
|----------|--|---|
| WETT1522 | Water Plant Operation II | 3 |
| WETT1534 | Wastewater Plant Operation I | 3 |
| WETT1538 | Wastewater Plant Operations II | 4 |
| WETT1542 | Wastewater Laboratory Procedures | 3 |
| WETT1554 | Automated Control Systems | 3 |

Suggested Technical Studies Semester III

| | | |
|----------|--|---|
| WETT1546 | Collection and Disinfection Systems Operation..... | 3 |
| WETT1550 | Strategic Enhancement for Success | 3 |

General Education

| | |
|---|---|
| Communications-Oral or Written | 3 |
| History, Social and Behavioral Sciences and Humanities | 3 |

Estimated cost of books, supplies and materials: \$850

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Welding/Fabrication

Welding/Fabrication Diploma (37 Credits)



Program Description

The Welding Program provides both practical and theoretical knowledge for qualified welding technicians. The specific subjects include: Shielded Metal Arc Welding, Oxy-Acetylene Welding and Brazing, Gas Metal Arc Welding, Gas Tungsten Arc Welding, Cutting Processes-fuel gas and plasma, Metallurgy, Fabrication and Equipment, Blueprint Reading and Math. Safety Procedures are also an important part of each welding process. Good safety practices are stressed in lab situations as required in the metal working industry. Students will work with many of the tools used in industry.

Welds will be made to industry standards using the AWS D1.1 Structural Code and ASME Section IX. Welds will be done in all positions, and guided bend tests will be made to check weld quality.

Career Opportunities

Positions for graduates may be found in fabricating, plant maintenance, structural steel, pipe fitting, and in sales. Many students will find opportunities in supervisory positions after gaining some experience on the job. The opportunities are many and will vary with ability and skills that have been developed. Skilled welders have the satisfaction of knowing that their education can lead to a successful and rewarding future.

Suggested Technical Studies Semester I

| | | |
|----------|--|---|
| TECH1556 | Basic Manual - Automated Machining..... | 2 |
| WELD1507 | Arc Welding Processes I - Lec..... | 1 |
| WELD1511 | AWP I (lab)..... | 4 |
| WELD1514 | Oxy-Fuel Welding and Brazing -Lec..... | 1 |
| WELD1518 | Oxy-Fuel Welding and Brazing Lab..... | 1 |
| WELD1523 | Metallurgy..... | 1 |
| WELD1524 | Related Math for the Welding Profession..... | 1 |
| WELD1528 | Blueprint Reading I..... | 1 |
| WELD1534 | Cutting Processes..... | 2 |
| WELD1554 | Fabrication Equipment I..... | 1 |

Suggested Technical Studies Semester II

| | | |
|----------|---|---|
| TECH1550 | Basic CADD..... | 2 |
| WELD1533 | Blueprint Reading II..... | 1 |
| WELD1539 | AWP II (lecture)..... | 1 |
| WELD1543 | AWP II (lab)..... | 5 |
| WELD1546 | Gas Tungsten Arc Welding - Lecture..... | 2 |
| WELD1550 | Gas Tungsten Arc Welding - Lab..... | 3 |
| WELD1558 | Fabrication/Layout II..... | 2 |

General Studies

| | | |
|----------|--------------------------------|---|
| ENGL1100 | Writing for the Workplace..... | 3 |
| GBEH1300 | Human Relations..... | 3 |

Estimated cost of books, supplies and materials: \$560

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Minnesota Transfer Curriculum

Written and Oral Communication (Goal Area 1)

| | | |
|-----------|---|-----------|
| CMST 1320 | Introduction to Speech Communication... | 3 Credits |
| CMST 2300 | Introduction to Public Speaking..... | 3 Credits |
| CMST 2301 | Persuasion..... | 3 Credits |
| ENGL 1301 | Technical Writing | 4 Credits |
| ENGL 1302 | Analytical Writing..... | 4 Credits |

Critical Thinking (Goal Area 2)

| | | |
|-----------|---|-----------|
| CMST 2301 | Persuasion..... | 3 Credits |
| CRTK 1300 | Introduction to Critical Thinking | 3 Credits |
| WMST 1300 | Introduction to Women's Studies | 3 Credits |

Natural Science (Goal Area 3)

| | | |
|-----------|----------------------------------|-----------|
| BLGY 1300 | Human Anatomy/ Physiology I..... | 4 Credits |
| BLGY 1302 | Human Anatomy/Physiology II..... | 4 Credits |
| BLGY 1305 | Environmental Science..... | 4 Credits |
| PHYS 1300 | General Physics | 4 Credits |

Mathematics/Symbolic Systems (Goal Area 4)

| | | |
|-----------|---------------------------------|-----------|
| MATH 1300 | College Algebra..... | 3 Credits |
| MATH 1320 | College Trigonometry | 2 Credits |
| MATH 1330 | Cultural Mathematics | 3 Credits |
| MATH 1445 | Introduction to Statistics..... | 3 Credits |

Social and Behavior Sciences and History (Goal Area 5)

| | | |
|-----------|--|-----------|
| ANTH 1300 | Introduction to Cultural Anthropology..... | 3 Credits |
| ANTH 2300 | Anthropology of Science Fiction | 3 Credits |
| CVIC 1304 | Introduction to American Politics..... | 3 Credits |
| DVRS 1304 | Diversity and Social Justice | 3 Credits |
| ECON 1320 | Introduction to Macroeconomics..... | 3 Credits |
| ECON 1330 | Introduction to Microeconomics | 3 Credits |
| GEOG 1300 | World Regional Geography | 3 Credits |
| PSYC 1300 | Introduction to Psychology | 3 Credits |
| PSYC 1304 | Life Span Developmental Psychology | 3 Credits |
| PSYC 1310 | Psychology of Women..... | 3 Credits |

Humanities-Arts, Literature and Philosophy (Goal Area 6)

| | | |
|-----------|--|-----------|
| CRTK 1300 | Introduction to Critical Thinking | 3 Credits |
| ENGL 1321 | Introduction to Modern Fiction | 3 Credits |
| ENGL 1322 | Introduction to Literature | 3 Credits |
| ENGL 1340 | Introduction to Multicultural Literature ... | 3 Credits |
| ENGL 1341 | Introduction to Women's Literature | 3 Credits |
| HUMN 1320 | Holocaust and Genocide Studies..... | 3 Credits |
| HUMN 1340 | Middle Eastern Cultures..... | 3 Credits |

Human Diversity (Goal Area 7)

| | | |
|-----------|--|-----------|
| DVRS 1304 | Diversity and Social Justice | 3 Credits |
| ENGL 1340 | Introduction to Multicultural Literature ... | 3 Credits |
| PSYC 1310 | Psychology of Women..... | 3 Credits |
| WMST 1300 | Introduction to Women's Studies | 3 Credits |

Global Perspective (Goal Area 8)

| | | |
|-----------|--|-----------|
| ANTH 1300 | Introduction to Cultural Anthropology..... | 3 Credits |
| ANTH 2300 | Anthropology of Science Fiction | 3 Credits |
| GEOG 1300 | World Regional Geography..... | 3 Credits |
| HUMN 1340 | Middle Eastern Cultures..... | 3 Credits |

Ethical and Civic Responsibility (Goal Area 9)

| | | |
|-----------|--|-----------|
| CVIC 1304 | Introduction to American Politics..... | 3 Credits |
| HUMN 1320 | Holocaust and Genocide Studies..... | 3 Credits |

People and the Environment (Goal Area 10)

| | | |
|-----------|----------------------------|-----------|
| BLGY 1305 | Environmental Science..... | 4 Credits |
|-----------|----------------------------|-----------|

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

General Education, General Studies & Developmental Courses

General Education Courses

| | | |
|-----------|--|-----------|
| ANTH 1300 | Introduction to Cultural Anthropology..... | 3 Credits |
| ANTH 2300 | Anthropology of Science Fiction | 3 Credits |
| BLGY 1300 | Human Anatomy/ Physiology I | 4 Credits |
| BLGY 1302 | Human Anatomy/Physiology II..... | 4 Credits |
| BLGY 1305 | Environmental Science..... | 4 Credits |
| CMST 1320 | Introduction to Speech Communication... | 3 Credits |
| CMST 2300 | Introduction to Public Speaking..... | 3 Credits |
| CMST 2301 | Persuasion..... | 3 Credits |
| CPTR 1300 | Exploring Computers | 3 Credits |
| CRTK 1300 | Introduction to Critical Thinking | 3 Credits |
| CSSC 1300 | Career Exploration | 1 Credit |
| CSSC 1302 | Career Development/Job Search | 1 Credit |
| CVIC 1304 | Introduction to American Politics..... | 3 Credits |
| DVRS 1304 | Diversity and Social Justice | 3 Credits |
| ECON 1320 | Introduction to Macroeconomics..... | 3 Credits |
| ECON 1330 | Introduction to Microeconomics | 3 Credits |
| ENGL 1301 | Technical Writing | 4 Credits |
| ENGL 1302 | Analytical Writing | 4 Credits |
| ENGL 1321 | Introduction to Modern Fiction | 3 Credits |
| ENGL 1322 | Introduction to Literature | 3 Credits |
| ENGL 1340 | Introduction to Multicultural Literature ... | 3 Credits |
| ENGL 1341 | Introduction to Women's Literature | 3 Credits |
| GEOG 1300 | World Regional Geography..... | 3 Credits |
| HUMN 1320 | Holocaust and Genocide Studies..... | 3 Credits |
| HUMN 1340 | Middle Eastern Cultures..... | 3 Credits |
| MATH 1300 | College Algebra..... | 3 Credits |
| MATH 1320 | College Trigonometry | 2 Credits |
| MATH 1330 | Cultural Mathematics | 3 Credits |
| MATH 1445 | Introduction to Statistics..... | 3 Credits |
| PHYS 1300 | General Physics | 4 Credits |
| PSYC 1300 | Introduction to Psychology | 3 Credits |
| PSYC 1304 | Life Span Developmental Psychology | 3 Credits |
| PSYC 1310 | Psychology of Women..... | 3 Credits |
| WMST 1300 | Introduction to Women's Studies | 3 Credits |

General Studies Courses

| | | |
|-----------|----------------------------------|-----------|
| BUSM 1200 | Microsoft Software..... | 3 Credits |
| BUSM 1207 | Basic Keyboarding | 1 Credit |
| BUSM 1267 | Introduction to Business..... | 2 Credits |
| BUSM 1275 | Business Law..... | 2 Credits |
| BUSM 1283 | Economics | 3 Credits |
| CACE 1420 | Foundations of Development | 3 Credits |
| CRFN 1200 | Personal Money Management..... | 3 Credits |
| CULN 1280 | Foodservice Internship | 2 Credits |

| | | |
|-----------|---|-----------|
| EMSC 1400 | Principles of First Aid | 1 Credit |
| EMSC 1420 | Basic Emergency Care | 1 Credit |
| EMSC 1460 | First Responder | 2 Credits |
| ENGL 1100 | Writing for the Workplace..... | 3 Credits |
| GBEH 1300 | Human Relations | 3 Credits |
| GBUS 1320 | Professional Development I | 1 Credit |
| GBUS 1324 | Professional Development II..... | 1 Credit |
| GBUS 1328 | Professional Development III..... | 1 Credit |
| GBUS 1340 | Principles of Quality/Team Building..... | 3 Credits |
| GCOM 1360 | Interpersonal and Group Communication | 3 Credits |
| GRPH 1230 | Web Design Fundamentals | 3 Credits |
| GTEC 1300 | Introduction to Construction Technology. | 3 Credits |
| GTEC 1304 | The Automobile in America | 3 Credits |
| GTEC 1320 | Environmental Technology | 2 Credits |
| HLTH 1460 | Nutrition | 1 Credit |
| HLTH 1480 | Human Development..... | 3 Credits |
| SAMG 1210 | Customer Service/Sales Techniques..... | 3 Credits |
| SAMG 2285 | Entrepreneurship/Small Business Management | 3 Credits |
| TECH 1500 | Applied Algebra | 3 Credits |
| TECH 1530 | Computer Applications..... | 2 Credits |
| TECH 1550 | Basic CADD..... | 2 Credits |
| WELD 1502 | Welding for Work and Leisure | 2 Credits |

Developmental Courses

| | | |
|-----------|---|-----------|
| CRTK 0300 | Reading, Thinking, Writing..... | 3 Credits |
| ENGL 0306 | Basic Writing..... | 2 Credits |
| ENGL 0350 | Introduction to Practical Writing..... | 2 Credits |
| ENGL 0360 | Introduction to Analytical Writing | 3 Credits |
| GSCM 0060 | Beginning ESL Grammar, Speaking, Writing Reading | 2 Credits |
| GSCM 0065 | Intermediate ESL Grammar, Speaking, Writing, Reading | 2 Credits |
| GSCM 0070 | Advanced ESL Grammar, Speaking, Writing, Reading | 2 Credits |
| GSCM 0075 | English Skills Lab for non-Native Speakers..... | 1 Credit |
| MATH 0380 | Basic Math Skills | 3 Credits |
| READ 0300 | Reading and Vocabulary..... | 2 Credits |
| READ 0304 | Reading Strategies..... | 2 Credits |

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

Course Descriptions

(alphabetical by course number)

ABCT 1502 - Collision Welding and Cutting

With the construction of today's vehicles, welding is an important part of auto body repair. This course covers basic welding, safety procedures, application for welding on steel and galvanized metals, introduction to metal arc welding, oxy-acetylene welding and cutting. Major emphasis is placed on MIG (Metal Inert Gas), and plasma cutting according to I-Car standards.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ABCT 1506 - Intro to Collision Repair

This course enables the student to work with power and hand tools used in the daily operation of an Autobody facility. Lab tasks will be performed on vehicles by removal of interior and exterior parts. Other tasks include reconditioning vehicles.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

ABCT 1510 - Collision Repair Lab I

The student will apply basic procedures on production type vehicles, according to NATEF and I-CAR standards. This is a lab course in which students will apply the procedures learned in ABCT-1502; ABCT 1506 and ABCT 1514.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

ABCT 1514 - Basic Collision Repair

In order to develop the basic skills of autobody repair, students will learn the fundamentals of metal straightening, rust repair, fiberglass repair, and attachment of trim and hardware. Students will learn to repair damaged vehicles to the priming stage according to NATEF and I-CAR standards.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

ABCT 1518 - Refinishing Lab I

This is a lab course in which students will apply procedures learned in ABCT 1522 Refinishing. Complete paint jobs will be done on project vehicles.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

ABCT 1522 - Refinishing

This course is a lecture/lab that will enable a student to develop the basic skills in refinishing. It will be an introduction to the application of paint products, the use of equipment, computer paint mixing, safety and environment.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

ABCT 1526 - Refinishing Lab II

The student will continue to develop skills in overall refinishing, spot repair, color match and blend, and reconditioning. Students will satisfactorily complete projects using knowledge and skills learned in previous refinishing courses, according to NATEF and I-CAR standards.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

ABCT 1530 - Color Match and Blend

This course is a lecture/lab enabling a student to develop professional skills in spot repair, blending, tinting and panel refinishing. Practical applications will be done on production projects.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ABCT 1534 - Wind, Water and Noise Service Procedures

Dealerships and independent repair facilities alike encounter numerous requests to repair aggravating wind, water, and noise leaks. Students in this course will identify the causes of these problems and perform repair procedures to correct them.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT 1538 - Auto Restoration

This course will emphasize the repair of older vehicles not normally associated with collision repair. Topics will include: panel replacement, rust repair, body filler application, corrosion protection, and primer application.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT 1541 - Advanced and Custom Refinishing

This course will explore various techniques of advanced refinishing such as: tinting, blending, masking, and tri-stage color application. Students will use a variety of types of refinishing equipment and materials to produce let-down panels spray tri-stage paints and have the opportunity to design, mask, and spray custom designed panels of their own.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT 2502 - Estimating

An estimate is a written guide to the repairs that will be performed on a vehicle. Instruction will include becoming familiar with the manuals, forms, and procedures used in writing estimates. Insurance procedures and customer relations will be examined.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT 2506 - Electrical Systems

Electrical components are often damaged as a result of a collision. In most cases the collision technician is responsible for completing the required repairs. The focus of this course will be diagnosing and repairing electrical malfunctions including air bags, power accessories, and lighting systems.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ABCT 2510 - Damage Analysis and Measuring Systems

Vehicles are built to very close tolerances and standards during the repair process these standards must be duplicated. You will identify, examine designs, use measuring equipment, and analyze damage to create repair plans that will be used to perform repairs.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

PLEASE NOTE: All program plans are preliminary and curriculum may change without notice.

ABCT 2514 - Plastic Repair

Plastics have become an integral part of automobile design and construction. Identification and the repair of these products has become a must for the collision technician. Topics include: plastic welding, smc repair, adhesive repair, and plastic refinishing.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT 2518 - Collision Repair Lab II

This course will run concurrent with Damage Analysis and Measuring Systems. Students will use repair plans to perform repairs on collision damaged unibody and conventional frame vehicles.

This is a variable credit course, with 1-3 credits.

Prerequisites: None.

(C: 0 lect/pres, 3 lab, -3 other)

ABCT 2522 - Structural Damage Repair

With high strength steel, lighter sheet metal, and glass being used for structural support, today's technician must fully understand how the automobile functions as a complete unit. Students will identify and perform repairs on structural components in accordance with industry standards.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

ABCT 2526 - Collision Repair Lab III

This lab will run concurrent with ABCT 2522 Structural Repair. It allows students the necessary time to perform structural repairs.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

ABCT 2530 - Mechanical Systems

Suspension and other mechanical parts often become damaged as a result of an accident. Collision technicians must be able to identify and possibly repair this damage. In this course, students will perform minor repairs to these systems. Environmental concerns and other topics pertaining to mechanical repairs will be addressed.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

ABCT 2534 - Collision Repair Lab IV

In the collision industry attention to detail, accuracy, and use of time are highly prioritized attributes. With the aid of the instructor, students will choose projects that will enable them to have these skills in preparation for entering the work force.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

ABCT 2542 - Supervised Internship

Internships can help aid the students make an easier transition from school to work. Students will be placed in collision repair facilities to work side-by-side with journeymen technicians. Specific duties to be performed on the job will be arranged by the sponsoring repair facility, instructor, and the student.

This is a variable course with credits 1-6.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

ACCP 2290 - Accounting Comp. Review

review course for Registered Accounting Professional (RAP) exam.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ACCT 1204 - Fundamentals of Accounting I

This course is designed to examine the parts of profit and loss statements, calculations, and formulas and how they relate to the effective operations of a business.

The course includes basic accounting fundamentals, along with interpreting financial operating statements and methods to improve the profitability of the business.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ACCT 1214 - Principles of Accounting I - Modified Course for Tech Prep

This course is an introduction to the fundamental accounting concepts and principles used to analyze and record business transactions. Topics include accounting as an information system, measuring and recording business transactions, business income, adjusting entries, the accounting cycle, accounting for service businesses and merchandising operations, accounting systems, special purpose journals, accounting for cash, receivables, temporary investments and inventories. This is a variable credit course, with 1-3 credits.

Prerequisites: None.

(C: 3 lect/pres, 1 lab, -4 other)

ACCT 1215 - Accounting Principles I

This course is an introduction to the fundamental accounting concepts and principles used to analyze and record business transactions. Topics include accounting as an information system, measuring and recording business transactions, business income, adjusting entries, the accounting cycle, accounting for service businesses and merchandising operations, accounting systems, special purpose journals, accounting for cash, receivables, temporary investments and inventories.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 1216 - Accounting Principles II

This course covers the analysis and recording of business transactions related to partnerships and corporations. Topics include but not limited to organization, capital structure, stockholders equity, earning dividends and the Retained Earnings Statement. Also included are accounting for long-term liabilities and the statement of cash flows.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 1217 - Cost Accounting I

This course covers cost accounting for materials, labor and factory overhead in a manufacturing entity for a job order cost system.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 1218 - Computerized Accounting I

This course is an introduction to computerized accounting and Internet applications. Topics include computerized general ledger, payroll, accounts receivable, account payable, and business applications of the Internet.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ACCT 1219 - Spreadsheets-Microsoft Excel

This course covers the most recent versions of spreadsheet applications. Topics include document design and creation, format modifications, and advanced formulas and functions.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ACCT 1220 - Payroll Accounting

This course covers the various state and federal laws pertaining to the computation and payment of salaries and wages. Topics include preparation of employment records, payroll registers, employee earnings records, time cards, and state and federal reports.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ACCT 2219 - Computerized Accounting II

This course covers additional computerized accounting applications. Topics include payroll, income tax preparation, general ledger setup and maintenance, business presentations, and financial analysis. Computerized accounting simulation is utilized.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ACCT 2226 - Intermediate Accounting I

Students will explore accounting as a process of measurement and communication of economic data with an emphasis on recording, classifying, measuring and reporting. Procedures for the recognition of revenue and long-term debt are also included.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 2227 - Intermediate Accounting II

A continuation of ACCT 2226 with an emphasis on accounting requirements and procedures that relate to equity financing, investing activities, leases, income tax, employee compensation, financial statement disclosures, earnings per share, accounting changes and error corrections, and financial statement analysis.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 2228 - Cost Accounting II/Managerial Accounting

Managerial accounting is the process of producing financial and operating information regarding the economic condition of the organization for users internal to the organization. The process is driven by the informational needs of individuals internal to the organization with an emphasis on cost systems, pricing decision, budgeting, planning and control.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 2230 - Income Tax I

This course focuses on federal individual income taxes. The student will learn the tax laws as they apply to individual income taxes, how to complete a variety of federal income tax forms, and how to approach the yearly filing of federal individual income taxes.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 2231 - Income Tax II

This course will provide the student a hands on experience working with federal individual income taxes, Minnesota state income taxes, and other federal taxes (partnership, corporate, FICA, FUTA). The student will learn to use a computerized tax preparation program, and prepare various forms and schedules. The course will also focus on tax planning issues and the income tax system.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ACCT 2233 - Fund/Not-for-Profit Accounting

A study and application of fund accounting principles and procedures that apply to governmental entities and not-for-profit organizations with an emphasis on the application of recording and reporting economic information for these organizations.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ACCT 2234 - Auditing

This course is a study of the methods and procedures used to verify the completeness and accuracy of accounting records. Topics include professional ethics, the audit process, nature of evidence, internal control, audit-sampling techniques, the audit examination, and audit reports.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1202 - Keyboarding/Word Processing

Students will cover the basic formatting of business documents using word processing. Document storage, retrieval, and major editing will be used. Students will continue the development of keyboarding speed, accuracy, and proofreading skills.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1203 - Advanced Keyboarding/Word Processing Appl.

This course is a continuation of ADMS 1202. The student will continue the development of keyboarding skills, and emphasize the formatting of various kinds of business correspondence, reports, tables, electronic forms, and desktop publishing projects from unarranged and rough-draft sources.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1204 - Advanced Microsoft Office

Advanced Microsoft Office will introduce the intermediate and advanced features of MS Office. They will also require the advanced skills of Windows 98 and a solid foundation in the problem-solving and communication competencies so important in the contemporary workplace.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1206 - Keyboard Speedbuilding

This course is designed for the student to increase keyboarding speed and improve accuracy through personal goal setting and intensive practice work.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

ADMS 1207 - Office Procedures I

This course will include basic filing and calculator skills. Students will be introduced to the rules and procedures involved when storing documents using the A.R.M.A. rules. Alphabetic, numeric, and geographic systems will be studied. Students will develop speed and accuracy using the touch system for four basic arithmetic operations and solving business applications on the calculator.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1208 - Office Procedures II

Students will complete a simulation (hands-on and technology based) which will allow the student to perform various administrative tasks. Using today's technology the student will research information, maintain an electronic calendar, send and receive e-mail. A variety of other office administrative tasks involving the use of advanced word processing functions and database and spreadsheets will be performed.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1214 - Administrative Desktop Publishing

This course provides an introduction to the Microsoft Publisher 2002. Topics include creating and editing single-page and multi-page publications, using wizards, commercial printing considerations, editing text, colors, and graphic design objects, personal information sets, logos, the Pack and Go Wizard, and using Publisher to create flyers, newsletters brochures, logos, and calendars. Also included are topics covering business forms such as letterheads, business cards, envelopes, labels with mail merge, invoices, fax covers and tables.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1221 - Medical Machine Transcription I

Students will transcribe a variety of medical documents using word processing skills. Emphasis will be on building accuracy, speed, advanced editing and proofreading skills.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1222 - Medical Machine Transcription II

This course covers transcription of dictated medical material into a variety of usable medical documents. Emphasis will be on authentic forms and material; building speed and accuracy; and proofreading and correcting errors.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1223 - Administrative Medical Terminology

This is a basic medical vocabulary building course with emphasis on human anatomy, including terminology analysis and structure as related to the digestive, urinary, female and male reproductive, nervous, cardiovascular, respiratory, musculoskeletal, skin, and endocrine systems as well as cancer medicine with focus on spelling and pronunciation.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ADMS 1224 - Administrative Pharmacology

This course will introduce basic pharmacology concepts, such as drug terminology, abbreviations, drug effects, dosages and the use of drug reference books. Will discuss commonly prescribed drugs and look alike/sound alike drug names.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ADMS 1225 - Introduction to Health Information Technology

The purpose of this course is to introduce the student to health information technology both as a work-based, task-oriented function and as a part of a larger profession of health information management.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 1226 - CPT Insurance Coding

This course covers basic coding rules and principles for coding diseases using CPT-4 classification systems. Accuracy and the need for following coding rules are emphasized when coding procedures.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 1227 - ICD-XCM Medical Insurance Coding

This course covers the basics of coding with ICD-9-CM coding system. Students learn how to classify and index diagnoses and procedures for the purposes of standardization, retrieval, and statistical analysis.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 1236 - Administrative Legal Transcription

Students will use computers to digitally transcribe and prepare legal correspondence and legal documents from digitized dictation. Students will become familiar with documents and correspondence common to specific legal proceedings, and will learn specialized rules of punctuation and standards for preparing legal documents. Students will become familiar with legal citations and transcribe court documents containing extensive citations. Students will be able to correctly spell, define legal terminology, and use legal terminology in their transcriptions. Emphasis will be on formatting legal documents, correct use of citations, proofreading, correcting errors, accuracy, and speed.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1237 - Administrative Legal Office Procedures

This course is intended to teach general legal office skills such as docket control, tickler file techniques, records management, and machine transcription. Ethical considerations in the law office and a comprehensive introduction to the preparation of legal documents are emphasized. This course is a prerequisite to all other Legal Administrative Classes.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

ADMS 1240 - Computerized Health Information

Students will learn to input provider and patient information, bill insurance companies, and schedule appointments. At the end of the course, students will be running daysheets, patient ledgers, and other financial reports that are important to the day-to-day financial operations of the medical practice.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 2204 - Administrative Pathophysiology I

This course will provide students with the basic concepts and terminology related to diseases and disorders of the human body. Focus will be on the nature, causation, diagnostic procedures and treatment of common diseases of genetic and cellular origin, electrolyte and acid-base imbalance, immune system breakdown, the biology of cancer in adults and children, neurologic system dysfunction in adults and children, and pulmonary system dysfunction in adults and children.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2210 - AAS Internship

This is a cooperative work-study program that will be available to students who have demonstrated readiness and willingness to work in an on-the-job situation. It usually will be a training culmination and an opportunity to apply the skills learned.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

ADMS 2212 - Quality Improvement and Healthcare Statistics

This course covers the components of quality improvement systems using practical tools for problem-solving, decision-making, time management, and implementation of quality concepts. Activities that provide the process of reviewing and evaluating health care services will be examined as well as topics related to utilization review and risk management will be explored. This course is also a study of collecting, analyzing, interpreting, and presenting numerical data relating to health care services.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2220 - Legal Aspects of Health Information

This course covers the application of legal principles, policies, regulations, and standards for the control and usage of health information. Ethical and bioethical practices will be explored, along with discussion on contracts and consent forms used in health care.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2224 - Advanced Medical Coding

This course will provide more complex cases to allow the student to coordinate CPT, HCPCS, and ICD-9-CM coding in outpatient settings of the clinical and outpatient departments of the hospital across all major specialties. The course will ready the student for the certification process.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2231 - Paralegal Basic Law I

This course presents the American legal system, including sources of law, court systems and procedures and the relationship between state and federal laws and procedures.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

ADMS 2232 - Paralegal Basic Law II

This course presents Administrative Law and Government Regulation; Civil Litigation; Conducting Interviews and Investigation; Trial Procedures; Criminal Law and Procedures; Legal Research and Analysis; Computer Assisted Legal Research; Legal Writing: Form and Substance.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

ADMS 2240 - Administrative Office Management and Supervision

This course would introduce current management principles, concepts, and organizational trends, in addition, also acknowledge that it is everyone's job to manage office information systems, from the top executive to the receptionist. The course will provide a strong, management-based background using a humanistic approach for managing and supervising staff in an office environment. The course will also include managing human resources in the office, working with groups and teams, managing essential administrative services, and managing workplace systems and technology. Technological changes in the workplace demand that each employee be computer-oriented with knowledge of efficiency techniques relative to office systems.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2242 - Healthcare Information Systems

Students will learn to apply knowledge of data base architecture and design. Students will learn the concepts of data warehousing, security measures to protect organization-wide information systems, measures to protect data integrity and validity using software or hardware technology, contingency planning, and data recovery procedures. The concepts of integration of computer-systems, testing, evaluation and support for organization-wide information systems will be discussed.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ADMS 2244 - HIT Review for Certification

The course will provide study tips, comprehensive list of useful resources, review questions within the course content areas, and practice examination questions.

Prerequisites: None.

(2 C: 1 lect/pres, 0 lab, 1 other)

ADVR 1200 - Introduction to Advertising

Students will study the history of advertising, its social and legal impact as well as other aspects of the advertising industry. Sales Promotion will also be studied as an important part of the advertising and marketing industry.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

ADVR 1210 - Computer Design and Layout - Modified Course for Tech Prep

Using a leading dominant page layout graphic program, students will learn to use this powerful software to create pamphlets, advertisements, booklets and just about any printed to digital document. Features include extensive text manipulation, photo and illustration control, color trapping, art and design capabilities and preparation for output. It is a highly versatile program that is valuable for beginners and professionals alike.

NOTES:

For details of topics covered in the high school variable course please refer to the appropriate Tech Prep articulation agreement.

This variable course is designed to allow students with Tech Prep College credit for ADVR 1210 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (ADVR 1210) will be delivered concurrently with ADVR 1211.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

ADVR 1211 - Computer Design and Layout

Using a leading dominant page layout graphic program, students will learn to use this powerful software to create pamphlets, advertisements, booklets and just about any printed or digital document. Features include extensive text manipulation, photo and illustration control, color trapping, art and design capabilities and preparation for output. It is a highly versatile program this is valuable for beginners and professionals alike.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR 1214 - Drawing with the Computer - Modified Course for Tech Prep

Students will learn the functions of Adobe Illustrator, a vector-based Macintosh application, to create drawings, logos and other design projects. Basic grayscale scanning will be taught as it relates to creation of drawing templates. Design, drawing and color theory are taught as integral parts of this class.

NOTES:

For details of topics covered in the high school variable course please refer to the appropriate advanced standing articulation agreement.

This variable course is designed to allow students with Tech Prep College credit for ADVR 1214 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (ADVR 1214) will be delivered concurrently with ADVR 1216.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

ADVR 1216 - Drawing with the Computer

Students will learn the functions of Adobe Illustrator, a vector-based Macintosh application, to create drawings, logos and other design projects. Basic grayscale scanning will be taught as it relates to creation of drawing templates. Design, drawing and color theory are taught as integral parts of this class.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ADVR 1220 - Computer Imaging and Editing- Modified Course for Tech Prep

Using a leading image editing software application, students will learn to create color corrections and special effects using photographic and computer generated images. In addition, they will learn the functions of this application to create and process images for various outputs, including print media, multimedia and web images. The basics of scanning will be covered. Design and color theory are taught as integral parts of this class.

NOTES:

For details of topics covered in the high school variable course please refer to the appropriate Tech Prep articulation agreement.

This variable course is designed to allow students with Tech Prep College credit for ADVR 1220 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (ADVR 1220) will be delivered concurrently with ADVR 1221.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

ADVR 1221 - Computer Imaging and Editing

Using a leading image editing software application, students will learn to create color corrections and special effects using photographic and computer generated images. In addition, they will learn the functions of this application to create and process images for various outputs, including print media, multimedia and web images. The basics of scanning will be covered. Design and color theory are taught as integral parts of this class.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR 1225 - Basic Drawing

Students will study basic visual communications through exploration of contemporary and traditional methods of drawing for advertising. Students will work from nature, still life and use various drawing media.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR 1230 - Copywriting

Students will study copywriting techniques and copy research, as well as creative strategies and objectives. The learned principles are then applied to various areas of the print and broadcast industries.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

ADVR 1240 - Multimedia for Web Design

Students will study the process of creating and designing a multimedia web design using the Macromedia Flash MX software. Lessons will be covered using the Official Macromedia Flash MX Training Manual. Conceptualization, storyboarding and the production process will be covered through a lecture/lab format using G4 Macintosh computers. Successful completion will result in an interactive, Macromedia Flash MX multimedia web design project.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 1241 - Website Creation and Editing

This course is designed to instruct students in combining visual layout tools with text based HTML editing features for the creation, management, and maintenance of web sites. This course guides students toward developing necessary skills in designing and building web pages and combining them into a finished, publishable product.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 1250 - Introduction to Design

This course will introduce students to a methodical approach to problems of graphic design. Students will take a step-by-step approach from the rudiments of dot design to more complicated design involving letters, signs and illustration.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 1255 - Fundamentals of Design I

This course will introduce students to a methodical approach to problems of graphic design. Students will take a step-by-step approach to learn design basics, basic drawing skills and color theory. Hands-on projects will be creating using a variety of mediums.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 1261 - Public Relations

Students will identify the public relations and publicity functions often assigned to advertising personnel and learn to apply these procedures and practices to business and community needs.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ADVR 1265 - Fundamentals of Design II

This course will allow students to apply basic design skills previously acquired to more advanced design in a variety of applications. Students will also study the history and use of typography in design through-out the semester.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 1270 - Media Research and Planning

Students will be presented with basic media research principles as they relate to today's advertising industry and will practice advertising research methods. Students will also construct a "real life" media plan with the assistance of professional industry contacts.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 1271 - Web Design Project

This course is designed to challenge the web designer student during their last semester with a specialized web design experience exemplarily of industry standards.

Each web design project is an individualized experience with a sponsoring business professional/agency and their instructor. Students will integrate knowledge of copywriting, design, research, and digital photography techniques into their project.

Each project will include a finished web site for a local (fictitious or real) company.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

ADVR 1290 - Printing for Designers

The student will gain a general knowledge of printing areas including electronic publishing, image generation, image assembly, preflighting, multipurposing documents, and press operation. This course is designed to provide students with the skills that will allow them to understand the printing processes and effectively communicate with graphic arts professionals regarding the proper creation and production of digital files.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ADVR 2200 - Commercial Illustration

Students are introduced to advertising studio techniques in pencil, ink, markers and paint. Emphasis is on the development of line, volume, texture, color, light and composition.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR 2206 - Ad-Ventures

Students will be exposed to advertising avenues not covered in core classes, yet are incremental in creating strong advertising and design. The main focus will be on exploring creativity and brainstorming, strong advertising, advertising trends and time management.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ADVR 2210 - Introduction to Photography

Students will learn black and white photography as it relates to advertising.

Techniques are covered in the use of 35mm cameras and studio lighting with emphasis on creative product shots.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR 2250 - Retail Advertising

Students will learn the fundamentals of national and local retail advertising operations and creatively gain experience in newspaper, tabloid and broadcast advertising as applied to the advertising industry.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 2255 - Internship

Students gain "real-life" internship experience with an industry related company. Instructor supervision and critique is a critical element of the internship experience. The learned principles are then applied to various areas studied of the ADvertising industry for future employment. This is an excellent way to "Beef Up" your resume and polish your skills!

This is a variable credit course, with credits 1-6.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

ADVR 2260 - Advertising Campaign Development

Students will study three types of advertising objectives: selling, behavioral effects and communications. Students will examine benefits and problem solutions as related to an advertising campaign. Also, there are challenges to create: art, copy, music and strategy for a complete, integrated advertising campaign.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

ADVR 2265 - Advertising Campaign Development II

The student will research, plan, develop and present an advertising campaign.

Students will use team dynamics in seeking solutions to a marketing problem.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 2270 - Advertising Campaign Management Seminar

Selected students will participate in the organization of a working team specifically for the purpose of competing in the American Federation's National Student Advertising Campaign, (NSAC). Students will be presented with a marketing challenge developed for this effort in conjunction with a major corporation. (Examples include: Toyota USA, The New York Times, etc.) Students will research all aspects of the challenge and its relevant markets, audiences, time, etc. The team will then resynthesize, evaluate and develop a comprehensive marketing plan, including all tactical elements sued in said plan - advertising, media, sales promotion, public relations support, etc. In addition, students will develop, write, design and produce a comprehensive campaign plansbook, along with a professional multi-media campaign presentation, which will be debuted at the upper Midwest regional competition of the NSAC. This is a focused and intense learning experience that leverages all theoretical classroom learning as students become immersed in the complexities of a real-world marketing challenge.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 2281 - Broadcast

Students will study commercial construction as it relates to the radio and television broadcast industry. Lessons will be covered using the Official Finalcut Pro Training Manual. They will also receive technical instruction in the Finalcut Pro multimedia software and create radio and television commercials suitable for portfolio presentation.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

ADVR 2285 - Portfolio Construction and Presentation

This course is designed to challenge the fourth semester, second year student with a purposeful, specialized occupational experience in the advertising field.

Each student project is an individualized experience with a training plan in conjunction with the sponsoring business professionals/agency and their instructor. Students will integrate knowledge of advertising writing, design, research, photography and production techniques coordinated with their industry professionals and instructor to complete a series of projects that will closely simulate actual work experience.

Projects may include, but are not limited to free lance, volunteer projects, competitive events, awards and industry related seminars.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ADVR 2295 - Multimedia/Director

Students will study the process of creating and designing professional quality multimedia presentation using the Macromedia Director Software. Lingo and Basic Lessons will be covered using the Official Macromedia Director Training Manual, Conceptualization, storyboarding and the production process will be covered through a lecture/lab format using G4 Macintosh Computers. Successful completion will result in creating a professional, interactive, Macromedia Director project exemplary of industry standards.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

ADVR 2300 - Final Student Project

This course is designed to challenge the fourth semester, second year student with a purposeful, specialized occupational experience in the advertising field. Each student project is an individualized experience with a training plan in conjunction with the sponsoring business professionals/agency and their instructor. Students will integrate knowledge of advertising writing, design, research, photography and production techniques coordinated with their industry professionals and instructor to complete a series of projects that will closely simulate actual work experience. Projects may include, but are not limited to free lance, volunteer projects, competitive events, awards and industry related seminars.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ANTH 1300 - Introduction to Cultural Anthropology

Meets MN Transfer Goals 5 and 8 - History/Social, Behavioral Sciences and Global Perspective.

Students will learn and apply anthropology concepts and methods as tools for self-understanding, and for understanding others. The course will focus on ways anthropology can be applied to workplace cultures and to understanding the world we live in.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ANTH 2300 - Anthropology of Science Fiction

Meets MN Transfer Goal Areas 5 and 8 - History and the Social and Behavioral Sciences and Global Perspective.

Basic concepts of anthropology will be used to interpret the imaginary worlds of science fiction. Fictional cultures will be examined to see how features of human biology, language, social organization, technology, etc. are patterned after or different from known human cultures. Anthropology and science fiction will then provide a framework for students to deepen their understanding of themselves, our contemporary culture and current world issues.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ARCH 1502 - Introduction to Architectural Drafting

The student will learn how to use drafting tools, develop preliminary plans, design and sketch preliminary plans for a storage building, a one story home, and a two-story home.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 1505 - Intro to Architectural CAD - Modified Course for Tech Prep

This computer-aided drafting course will include beginning graphic communication using basic computer skills/application. The student will work with AutoCAD or comparable CAD software to create drawings and learn "tools" of CAD: organizing, editing, drawing skills, printing/plotting, adding text and dimensions.

NOTES: For details of topics covered in the high school variable course please refer to the appropriate Tech Prep articulation agreement.

This variable course is designed to allow students with Tech Prep College credit for ARCH 1505 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (ARCH 1505) will be delivered concurrently with ARCH 1506.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

ARCH 1506 - Intro to Architectural CAD

This computer aided drafting will include beginning graphic communication using basic computer skills/applications. The student will work with Autocad software to create drawings, learn "tools" of the cad, organizing, editing, drawing skills, printing/plotting, adding text and dimensions.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 1510 - CAD and Design Studio

This course will give the capacity to use drafting systems to develop sales presentations, details, sections and construction plans for a two-story house.

Prerequisites: None.

(6 C: 2 lect/pres, 4 lab, 0 other)

ARCH 1513 - Estimating and Construction Fundamentals I - Modified Course for Tech Prep

This course will give the student the basics of construction practices, techniques, estimating and construction problem solving. The excavation, footings, foundations, floor framing, wall framing, and roof framing of residential building will be emphasized. The uniform building code and regulations will be the benchmark. Some writing and class participation are required.

NOTES: For details of topics covered in the high school variable course please refer to the appropriate Tech Prep articulation agreement.

This variable course is designed to allow students with Tech Prep College credit for ARCH 1513 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (ARCH 1513) will be delivered concurrently with ARCH 1514.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

ARCH 1514 - Estimating and Construction Fundamentals I

This course will give the student the basics of construction practices, techniques, estimating and construction problem solving. The excavation, footings, foundations, floor framing, wall framing, roof framing of residential building will be emphasized. The uniform code and regulations will be the benchmark. Some writing and class participation are required.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 1518 - Estimating and Construction Fundamentals II

This course will give the pupil basics of construction practices, techniques, estimating and construction problem solving. The interior finishes, roof systems, stairways, fireplaces, thermal, moisture, and ventilation of residential building will be emphasized. The uniform building code and regulations will be the benchmark. Some writing and class participation are required.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 1522 - Residential Design Principles

Students will learn individual room design, placement of rooms on the floor plan, architectural history of house styles and criteria to determine good exterior and interior principles of design.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH 1526 - Residential Materials and Methods I

Students will learn the use of building materials such as, concrete, windows, doors, lumber and wood products. Also the principles of reading residential blueprints.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ARCH 1530 - Residential Materials and Methods II

Students will learn the use of building materials for residential construction, such as concrete blocks, bricks, stones, heating systems, solar systems, and architectural history.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ARCH 1534 - Residential Design and Presentation

Students will learn different architectural history of house styles, remodeling design, pencil and colored rendering and to help build on good principles of design. Student will also learn oral and written communication to help them present their projects.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH 2502 - Kitchen and Bath Remodeling and Design

Students will study design principles, construction methods, and products that are involved in the kitchen and bath business. Basic graphic presentation techniques will assist the student in entering careers as kitchen and bath design/sales specialists. Students will produce a remodeled plan for an actual kitchen and bath of their choice. Skills in product selection, ordering, project pricing, customer relations, and contracts will also be developed.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ARCH 2506 - Architectural Design Studio I

This course is an introduction to light commercial drafting procedures. Students will develop working drawings for a small commercial building utilizing pole frame, slab on grade construction. Details will also be developed for a commercial building utilizing masonry wall systems. Emphasis is placed on drawing details that meet ADA requirements. Other topics include hand sketching, shop drawings, commercial detailing, and sectioning principles.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2510 - Architectural CAD II

This course will enable students to use their knowledge of construction materials, systems and practices by drafting the working drawings of a split-level home or twin home. Students will use AutoCAD software to produce the documents necessary for industry standard communication and construction.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2514 - Architectural Design Studio II

This course will enable students to create presentation drawings that will help your customer and other concerned people understand proposed building projects. Preliminary drawings, perspectives, and enhanced elevations will be prepared.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2518 - Architectural CAD III

This course enables the student to draft the complete working drawings of a commercial remodeling project and a small commercial building using AutoCad software. The student will select the appropriate building materials and systems to demonstrate their construction knowledge and understanding of project design requirements.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2522 - Commercial Design Principles and Practice

This course is designed to provide students the principles of design as they apply to multi-family housing and light commercial construction. Topics of study will include aesthetics, building accessibility requirements for ADA (Americans with Disabilities Act), system selections, durability and selected fire and life-safety provisions of the Uniform Building Code. Students will study commercial design by reading and analyzing blueprints, specifications and bidding documents from actual commercial projects. Emphasis is placed on reading and understanding commercial working drawings.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ARCH 2526 - Construction Estimating Analysis I

This course will enable the students to estimate residential construction. Students will be required to apply piecework material takeoffs for woodframe construction. Emphasis is placed on accuracy of measurement, correct description of items, logical sequence of quantity takeoff and presentation of required building materials. Complete estimates for residential projects will be established.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2530 - Building Systems

This course is designed to provide students with industry standards, manufacturer's specifications, distribution methods and use of various building material systems as organized in the CSI format. Specific areas of study include thermal and moisture protection, interior finish products, commercial doors and windows, masonry and selected mechanical building systems. Emphasis is placed on selection of systems for durability, design, code compliance, and cost and life of building considerations.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH 2534 - Construction Management and Contracting

Students will be introduced to the principles of the construction industry, and the phases of the construction process. Students will examine management systems used in construction. Areas of study will include: project manager duties, contract documents, bid process, project scheduling, as well as materials and methods used in the industry.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH 2538 - Construction Estimating Analysis II

This course will introduce the student to commercial estimating concepts. Application of linear, square, and cubic measurements and their relationships to the estimating process will be studied. Timberline estimating software will be introduced and used for residential and commercial applications. The application of the Minnesota Energy Code in residential and commercial construction will be studied.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2542 - Structural Building Systems

Statics and strengths of construction materials are presented. Structural and architectural elements in soil mechanics, structural wood, concrete, steel, pre-stressed and post tensioned concrete are they primary emphasis. Students will develop skills in using basic structural formulae and procedures. Students will also learn procedures for producing shop drawings for various materials.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2546 - Design/Build

The course will give the pupil an introduction to the system by which a building contractor provides preliminary design, planning, cost management and construction of various buildings. An analysis of construction systems, techniques and presentation design following the uniform building code as a benchmark.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH 2550 - Professional Constructor Seminar

This course will enable students to prepare a resume, letters of application, and a portfolio. Students will also study and practice interviewing techniques and do oral presentations. Students will practice the behaviors, attitudes, and ethics expected of the constructor by society and the business world will also be studied. Business forms and laws pertaining to contractors and their customers will be studied.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

AUTO 1508 - Automotive Wheel Alignment

Students in this course will study and apply specific geometric angles and their terms as used in four-wheel alignment. Students will become familiar with the latest technologies and equipment used to measure and correct these angles.

Steering and suspension system nomenclature and theory of operation will also be discussed, as well as the diagnosis of abnormal tire wear, undesirable handling characteristics, noises, sags and other steering and suspension problems. The focus of this course is understanding and correcting alignment angles, theory and operation of suspension and steering systems and maintenance/repair of suspension and steering systems.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

AUTO 1509 - A6: Automotive Electrical/Electronic Systems

In this course the student will learn the basics of electricity and electronics. The student will study the sources of electricity, circuits, magnetism, resistance, voltage and amperage. Students will learn about diodes, transistors and solid-state devices. Lab work will give the students hands on experience with digital meters, power supplies and oscilloscopes.

This course also covers the operation, service techniques and diagnosis of most types of body electrical components. The student will learn about starter and alternator testing and replacement. The lab work will develop skills in repairing today's high tech accessories.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

AUTO 1510 - Chassis Electrical

This course covers the operation, service techniques and diagnosis of most types of body electrical components. The student will learn about starter and alternator testing and replacement. The lab work will develop skills in repairing today's high tech accessories.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

AUTO 1512 - Engine Repair Theory

This course will cover principles of operation and diagnosis of automotive engines including construction, parts identification, engine disassembly and reassembly procedures. Students will learn how to analyze the internal parts and determine the necessary repairs.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

AUTO 1514 - Engine Repair Lab

This course will be primarily lab work and will give the student hands-on experience in engine repair and diagnose engine failures. The student will identify internal parts, perform wear measurements, rebuild cylinder heads and engine block.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

AUTO 1516 - Brakes

The students will learn the use of brake hydraulic systems. Students will repair disc, drum brakes and power assist units. The operation and repair of antilock brake systems will also be taught.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

AUTO 1522 - A8 Engine Performance

Students will develop skills in basic engine performance on gasoline four stroke engines. Lab work consists of typical service, repair and diagnosis procedures on ignition, fuel, emissions and related electrical systems on late model vehicles. Students should be able to describe system operation and perform engine performance and fuel system service in accordance with manufacturer's procedures.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

AUTO 2502 - Engine Performance I

Students will develop skills in basic engine performance on gasoline four stroke engines. Lab work consists of typical service, repair and diagnosis procedures on ignition, fuel, emissions and related electrical systems on late model vehicles. Students should be able to describe system operation and perform engine performance service in accordance with manufacturer's procedures.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

AUTO 2505 - Engine Performance II

Students will develop skills servicing fuel systems and computer control systems. Lab work consists of typical service, repair and diagnosis procedures on fuel and computer systems on late model vehicles. Students should be able to describe system operation and perform fuel system service in accordance with manufacturer's procedures. Students should be able to describe computer and sensor operation and perform computer system service in accordance with manufacturer's procedures.

Prerequisites: None.

(5 C: 3 lect/pres, 2 lab, 0 other)

AUTO 2506 - Principles of Torque Transfer

How engine torque is transferred to the wheels is the focus of this comprehensive drive train course. Students will study the theory of torque multiplication and division, applying it to all automotive and light truck applications. Operation and repair of manual transmissions and transaxles, transfer cases, differentials, propeller shafts and front driving axles will be the main topic. This course includes All Wheel Drive and Four Wheel Drive applications. All aspects of driveline repair on automotive and light truck applications will be practiced, with the exception of automatic transmission and transaxle overhaul.

Prerequisites: None.

(7 C: 2 lect/pres, 5 lab, 0 other)

AUTO 2511 - Automatic Transmission and Transaxle Overhaul

Advancements in the electronic control of automatic transmissions and transaxles require a good understanding of the hydraulic, mechanical, and electronic functions of these units in order to accurately diagnose some driveability problems. In this course students will study and apply the operation, repair, diagnosis and overhaul of automatic transmissions and transaxles. Students will be exposed to the latest tools required to repair or overhaul them as well as the scan tools needed to diagnose them.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

AUTO 2512 - Driveline Repair II

This lab course offers the opportunity for students to advance further in the techniques and procedures of diagnosing and repairing driveline failures including automatic transmission and transaxle overhaul.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

AUTO 2516 - Automotive Heating and Air Conditioning

This course covers the operation, testing and repairs of manual and automatic systems. The student will learn about vacuum, electronic controls and air flow distribution.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

AUTO 2520 - Engine Driveability

Students will learn the basic systems approach to diagnosing engine performance problems. Lab work consists of using oscilloscopes, lab scopes, DVOM meters and scan tool usage when repairing engine performance problems on today's vehicles. Students should be able to perform engine performance service in accordance with manufacturer's procedures.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

AUTO 2522 - Advanced Electronic Systems

Students will develop a fundamental understanding of vehicle electronic control units controlling Anti-locking brake systems, automatic transmissions control, and supplemental restraint systems. Lab work consists of using scan tools for service, repair and diagnosis procedures on these electronic/mechanical systems on late model vehicles. Students should be able to describe system operation and perform service in accordance with manufacturer's procedures.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

AUTO 2538 - Supervised Internship

Students will work in a sponsoring automotive service facility. The work will be full time, approximately 40 hours per week. The tasks will be consistent with previous course work. This is a variable credit experience. Students may earn 1 to 4 credits. Course goals vary with the number of credits.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

BLGY 1300 - Human Anatomy/Physiology I

Meets MN Transfer Goal 3 - Natural Sciences

This course covers the structure and metabolic activity of organ systems including integumentary, skeletal, muscular, and nervous. ACCUPLACER scores must be met or the student must have successfully completed the appropriate developmental coursework in reading and arithmetic in the testing center with a grade of "P" Pass if Pass/Fail or "C" or above if graded.

Prerequisites: Appropriate Accuplacer Score.

(4 C: 2 lect/pres, 2 lab, 0 other)

BLGY 1302 - Human Anatomy/Physiology II

Meets MN Transfer Goal 3 - Natural Sciences

This course covers the structure and metabolic activity of organ systems including circulatory, respiratory, digestive, excretory, endocrine, and reproductive.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

BLGY 1305 - Environmental Science

Meets MN Transfer Goals 3 and 10 - Natural Sciences and People and the Environment

This course in environmental science studies the impact of humankind's activities on the planet. Class discussion and interaction will be encouraged. The problems and issues which the course will be dealing with are difficult and complex. The instructor promises no easy answers to these challenges.

Prerequisites: Appropriate Accuplacer Score.

(4 C: 3 lect/pres, 1 lab, 0 other)

BUSM 1200 - Microsoft Software

Students will work with Microsoft packages. This course will give the necessary skills to complete word processing, spreadsheets, database, file management and internet projects in an office or for personal use.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

BUSM 1207 - Basic Keyboarding

Students will build accuracy and speed using the alpha, numeric, symbol, and service keys on the keyboard. Emphasis will be placed on the development of basic keyboarding techniques.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

BUSM 1215 - Business Writing

This course covers writing and editing a variety of business communications.

Students will continue to develop grammar, punctuation, spelling, and vocabulary skills.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

BUSM 1222 - Oral Business Presentations

This course covers the development of professional oral communication skills. It includes training in listening skills, verbal and nonverbal messages, proper use of grammar, delivering oral presentations, evaluating oral presentations, and organizing a business meeting.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

BUSM 1230 - Microsoft Word

This course instructs students in the theories and practical applications of Microsoft Word. Students will learn to create, edit, save and print simple business documents including letters, memos, reports, and table.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

BUSM 1256 - Web Site Management

Web Site Management will introduce the development, maintenance and publication of a Web site. Students will create, view, and edit Web pages insert and edit text and pictures; import and export files; and add, test, and repair hyperlinks to and within pages.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

BUSM 1260 - Applied Business Mathematics/Calculators

This course covers application of mathematics functions to the solution of business problems using a 10-key calculator. The touch method of calculator operation will be used with emphasis on speed and accuracy.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

BUSM 1267 - Introduction to Business

This course is designed to provide students with an overview of business functions in the United States. It will discuss the responsibilities of business to the economy, employees, environment and the government.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

BUSM 1274 - Business Law - Modified Course for Tech Prep

This course is an introduction to the principals of law as they apply to citizens and businesses. Topics include the court system, legal system, contracts, negotiable instruments, employer/employee relationships, and tenant/landlord laws.

NOTES: For details of topics covered in the high school variable court please refer to appropriate advanced standing articulation agreement. This variable course is designed to allow students with Advanced Standing credit for BUSM 1274 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (BUSM 1274) will be delivered concurrently with BUSM 1275.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

BUSM 1275 - Business Law

This course is an introduction to the principles of law as they apply to citizens and businesses. Topics include the court system, legal system, contracts, negotiable instruments, agency and employer/employee relationships.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

BUSM 1283 - Economics

This course covers both micro and macro economic principles such as social choice, the market system, the role of money, and the banking system.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

BUSM 1290 - Job Seeking/Keeping Skills

This course offers an individualized approach to developing job seeking and keeping skills. Students will create resumes, write job application letters, complete a job application form, and prepare for the employment interview. Consideration will also be given to critical attitudes needed for job keeping.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CACE 1400 - Professional Relations in CACE Careers

This course explores career opportunities for working with people in a variety of programs. This course also examines job requirements, duties, regulations, and issues, skills, and personal characteristics for becoming successful professionals in child and adult care and education.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1404 - 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 environment for young children. Topics include preventing illness and accidents, handling emergencies, providing health, safety, and nutrition educational experiences, meeting children's basic nutritional needs, child abuse, and current health related issues.

THIS COURSE DOES NOT INCLUDE CPR OR FIRST AID CERTIFICATION.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1420 - Foundations of Development

This course provides an overview of typical and atypical development across cultures, from prenatal through late adult, including physical, social/emotional, and cognitive development. It integrates developmental theory with appropriate practices in a variety of caregiving and education settings.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1422 - Profiles of the Exceptional Child

This course provides an overview of a variety of disabilities and handicapping conditions that might affect a child's growth and development. It provides caregiving and classroom strategies to promote inclusion of all children in their communities.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1424 - School-Age Strategies for Learning

This course provides an overview of school-age theory and development in home or center-based settings. Students will integrate knowledge of developmental needs, developmentally appropriate environments, effective caregiving, teaching strategies and observation methods.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1426 - Children with Difficult Behaviors

This course helps students understand children's behavior problems and identify intervention strategies to prevent and resolve problem behavior, use behavior modification techniques effectively, and design behavior plans.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1428 - Family and Community Relations

This course helps child care providers increase their understanding of diverse families and provides an opportunity to examine how current societal and community issues impact the development of children and the well-being of families. The changing role and structure of families will be explored. Other topics related to families include cultural diversity/dynamics, bias, public education, housing, employment, crime, health care, legal services, and social services.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1440 - Guidance: Managing the Physical and Social Environment

This course provides an exploration of the physical and social environments that promote learning and development. It includes an introduction to basic guidance techniques for individual and group situations. Emphasis on problem-prevention and positive guidance strategies; recognition, communication, limit setting, problem-solving.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1444 - Planning and Implementing Curriculum

This course examines the role of the teacher in early childhood settings. It applies the knowledge of child development as it relates to individual children, communities, curriculum and communication activities.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1448 - Literature and Language Development Experiences

This course provides an overview of language and literacy learning experiences in either home or center-based settings. Students will integrate knowledge of children's language development, learning environments, and teaching methods to select, present, and evaluate literature experiences, and to promote literacy and conversation.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1460 - Internship I

This course gives the students the opportunity to observe, practice, and apply skills and techniques at an introductory level. These opportunities will take place in a variety of supervised placements.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 1 lect/pres, 0 lab, 2 other)

CACE 1464 - Internship II

This course provides an opportunity to apply knowledge and skill in caregiving and/or education settings. Students will observe and assess behavior, facilitate free choice activities, implement adult-oriented learning experiences, and maintain professional relationships.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 1 lect/pres, 0 lab, 2 other)

CACE 1470 - Professional and Leadership Development

This course focuses on the importance of professional organizations and community service. The course allows a student to develop self-confidence, practice leadership and management skills while involved in professional organizations.

Prerequisites: Appropriate Accuplacer Score.

(1 C: 1 lect/pres, 0 lab, 0 other)

CACE 1475 - Reading Strategies for Paraprofessionals

This course combines an understanding of how children learn Reading and how to promote that learning by supporting the instruction of the classroom teacher.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CACE 1476 - Writing Strategies for Paraprofessionals

This course combines an understanding of how children learn Writing and how to promote that learning by supporting the instruction of the classroom teacher.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CACE 1477 - Math Strategies for Paraprofessionals

This course combines an understanding of how children learn Math and how to promote that learning by supporting the instruction of the classroom teacher.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CACE 1478 - Technology Strategies for Paraprofessionals

This course combines an understanding of how children learn to use Technology and also Assistive/Augmentative Technology; and how to promote that learning by supporting the instruction of the classroom teacher.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CACE 1480 - Caring for Children with Special Health Needs

This course introduces terminology and basic concepts of care related to children with special medical needs. The purpose of this course is to provide some basic knowledge and information on a variety of medical disabilities and how these medical issues affect a child's care. Some of these disabilities may require short-term intervention and support, while other disabilities are a lifelong challenge.

This information is designed to give a framework of information the student can build upon.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

CADD 1502 - Mechanical CADD I

Students will develop knowledge of system configuration and operation of interactive graphics software and will input drafting commands to develop drawings, store data and output drawings to the plotter for hard copy.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 1507 - Mechanical CADD II

This course is a further study of Computer Aided Drafting. Students will input drawings using absolute, relative and polar coordinates and will examine advanced CAD capabilities such as libraries, attributes, isometric drawing, and 3D drawing.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 1511 - CADD Applications - Modified Course for Tech Prep

This course will provide students with additional practice in the fundamentals of multi-view drawings, along with the fundamentals of dimensioning standard machine elements, dimensional notes and functional drawing dimensioning. Students will create component part drawings using 2D and solid modeling software.

NOTES: For details of topics covered in Principles of Engineering PLTW 1502, please refer to the appropriate Tech Prep articulation agreement. This variable course is designed to allow students with Tech Prep College credit for PLTW 1502 that was earned in high school to complete the remaining course requirements for CADD 1511 at SCTC. This SCTC course (CADD 1511) will be delivered concurrently with CADD 1512.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

CADD 1512 - CADD Applications

This course provides students with additional practice in the fundamentals of multi-view drawings, along with the fundamentals of dimensioning standard machine elements, dimensional notes and functional drawing dimensioning.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 1516 - CADD Applications II

This course provides information for completing engineering drawings including design layouts, geometric construction, fasteners, tolerances and fits using 2D and solid modeling software.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 1519 - Engineering Math

This course will study geometric propositions, utilize algebra, geometry and trigonometry to solve practical drafting and design problems.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

CADD 1521 - Applied Physics - Modified Course for Tech Prep

The student will study the principles of force, motion, acceleration, deceleration, work, power, energy, thermodynamics and the properties of solids, liquids, and gases. They will apply this knowledge through experimentation and problem solving.

NOTES: For details of topics covered in Principles of Engineering PLTW 1502, please refer to the appropriate Tech Prep articulation agreement. This variable course is designed to allow students with Tech Prep College credit for PLTW 1502 that was earned in high school to complete the remaining course requirements for CADD 1521 at SCTC. This SCTC course (CADD 1521) will be delivered concurrently with CADD 1522.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

CADD 1522 - Applied Physics

The student will study the principles of force, motion, acceleration, deceleration, work, power, energy, thermodynamics and the properties of solids, liquids and gases. They will apply this knowledge through experimentation and problem solving.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

CADD 2505 - Production CADD I

This course will provide students with the techniques to do sketches of objects as well as advanced drawings consisting of sections, auxiliary views, and the application of finish marks using 2D and solid modeling software.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2509 - Production CADD II

This course will provide students with the knowledge and skills to create bolted and welded assembly drawings using 2D and solid modeling software.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2510 - Design Concepts

Students will examine the relationships between product functions, design, quality control and manufacturing techniques. Students will discuss and apply practical geometric, dimensioning to industry drawings.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2514 - Computer- Aided Design

This course deals with constructing a drawing portfolio for a completed design. Detail and design drawings are developed with emphasis on accuracy, tolerances, surface finishes, notes, system design and symbol diagrams.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2517 - Statics and Strength of Materials - Modified Course for Tech Prep

Statics is an area of study concerned with determining the magnitude and direction of forces acting upon or generated by machine components. Strength of materials involves calculating stress, strain, and modulus of elasticity to determine material to be used and size of structural members.

NOTES: For details of topics covered in Principles of Engineering PLTW 1502, please refer to the appropriate Tech Prep articulation agreement. This variable course is designed to allow students with Tech Prep College Credit for PLTW 1502 that was earned in high school to complete the remaining course requirements for CADD 2517, at SCTC. This SCTC course (CADD 2517) will be delivered concurrently with CADD 2518.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

CADD 2518 - Statics and Strength of Materials

Statics is an area of study concerned with determining the magnitude and direction of forces acting upon or generated by machine components. Strength of materials involves calculating stress, strain, and modulus of elasticity to determine material to be used and size of structural members.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2522 - Machine Design

This course will examine the design and function of common machine elements, such as bearings, shafts, belt and chain drives, lubrication, fasteners and springs. Students will also consider more comprehensive design problems in the area of machine design. Upon completion of this course the student will have an understanding of the broad field of activities identified by the term "Machine Design".

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2528 - Manufacturing Systems

This course will provide many opportunities to study the basic elements of manufacturing as a managed body of activities. These basic elements are arranged under two major categories: materials and processing and management.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

CADD 2531 - Geometric Dimensioning and Tolerancing

Students will examine the relationships between product functions, design, quality control and manufacturing techniques. Students will discuss and apply practical geometric dimensioning to industry drawings.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

CADD 2541 - Basic CAM

This course will emphasize the function of Computer-Aided Manufacturing software (CAM), and the application of computer generated machining data.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

CADD 2542 - Reverse Engineering

This course will enhance the student's ability to use various forms of inspection devices. Students will sketch and document finished part data. Students will create assembly and detailed piece part drawing. Creation of these drawings will help build a portfolio of engineering documents for job interviews.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

CADM 3502 - CMM Operations

Student will setup and perform flexible gauging operations on a stand-alone coordinate measuring machine (CMM). Inspection of piece-parts and fixtures will be done on the three axes. Students will do part-to-print inspection. Piece-parts and matching prints drawn in conventional and geometric dimensioning will be inspected to size and location tolerances, as well as other tolerancing such as runout, form and orientation where applicable.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CARP 1505 - Construction Tools - Modified Course for Tech Prep

This course will enable students to identify, properly use and maintain carpenter hand, portable tools, machines and equipment. Skills development, safety, OSHA requirements and work practices are stressed. Construction equipment is studied and utilized as lab and projects warrant. NOTES: For details of topics covered in the high school variable course please refer to appropriate advanced standing articulation agreement. This variable course is designed to allow student with Advanced Standing credit for CARP 1505 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CARP 1505) will be delivered concurrently with CARP 1506.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

CARP 1506 - Construction Tools, Equipment and Machines

This course will enable you to identify, properly use and maintain carpenter hand, portable tools, machines and equipment. Skill development, OSHA requirements and work practices are stressed. Construction equipment is studied and utilized as lab and projects warrant.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

CARP 1513 - Blueprint Reading and Estimating - Modified Course for Tech Prep

This course will enable students to develop skills in reading the UBC Building Codes for residential construction and applying them to blueprints. The course concentrates on the lines, symbols and abbreviations to read and understand the pages of residential blueprints. Knowledge of building codes will be stressed. NOTES: For details of topics covered in the high school variable course please refer to the appropriate advanced standing articulation agreement.

This variable course is designed to allow students with Tech Prep college credit for CARP 1513 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CARP 1513) will be delivered concurrently with CARP 1514.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

CARP 1514 - Blueprint Reading and Estimating

This course will enable students to develop skills in reading the UBC Building Codes for residential construction and applying them to blueprints. The course concentrates on the lines, symbols and abbreviations to read and understand the pages of residential blueprints. Materials and estimating will be part of the student's studies.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CARP 1519 - Construction Principles - Modified Course for Tech Prep

This course will enable the student to learn about materials and methods for framing floors, walls, and rafters for residential and light commercial construction. The course will cover terms, techniques and layouts used. Estimating and materials used will also be emphasized. NOTES: For details of topics covered in the high school variable course please refer to the appropriate advanced standing articulation agreement. This variable course is designed to allow student with Advanced Standing credit for CARP 1519 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CARP 1519) will be delivered concurrently with CARP 1520.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

CARP 1521 - Construction Principles

This course will enable the student to learn about materials and methods for framing floors, walls, and rafters for residential and light commercial construction. The course will cover terms, techniques and layouts used. Estimating and materials used will also be emphasized. Installation of doors and windows, roofing and siding will be covered.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

CARP 1524 - Rafters and Stairs

This course will enable the student to learn about materials and methods for framing floors, walls, and rafters for residential and light commercial construction. Rafter framing of different roof systems will be emphasized. Straight stairs, hand railings, terms, techniques and layout will be emphasized.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

CARP 1527 - Exterior/Interior Finish

This course will enable students to examine types, styles and applications of sidings, roofing treatments and finishes. This class will also cover insulation, paneling and wallboard applications as well as interior finishes and woodwork.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CARP 1529 - Building Layout and Concrete

This course will enable students to cover building layout terms and techniques using builder and laser levels. Students will find property lines, building lines, and layout a basement for a house. The course will also cover types of foundations, and materials used in foundations. Concrete will also be emphasized as a building material. Students will also develop skills in forming and pouring concrete flatwork like sidewalks, driveways, steps and floor slabs. The course will concentrate on the make-up of concrete, tools used, safety and techniques used in the industry.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

CARP 1530 - Residential Drafting and Design

This course will enable students to study residential housing design characteristics and the factors that determine or affect them. The class will cover factors such as age, family size. Lifestyles, etc. and how housing design can enhance them. Students will be able to design and analyze using Softplan.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

CARP 1536 - Cabinet Building and Estimating

This course will enable students to study design and construction fundamentals and techniques. Students also learn materials, hardware and finishing skills for custom made residential cabinetry. Estimating of materials will also be included. Basic drafting principles will apply.

Prerequisites: None.

(5 C: 2 lect/pres, 3 lab, 0 other)

CARP 2502 - Concrete II

This course will enable the student to analyze terms, materials and techniques used to form, reinforce and pour foundation, footings and walls.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CARP 2506 - Residential Framing II

This course will enable students to analyze and use their knowledge to select materials and layout methods. Advanced methods of framing floors and walls will also be emphasized. Students will also use these skills on a residential structure.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

CARP 2510 - Stair Building

The student will study fundamental and advanced methods of stair building. This will include calculations, layout, and terminology related to stair building. This course will enable the students to study design, style, and safety of various stairs. The course will include layout and construction of several styles of stairs.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CARP 2518 - Exterior Finish

This course will enable the student to develop skills used to properly install windows, exterior doors, shingles, soffits and siding.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CARP 2522 - Interior Finish

This course will enable the student to study methods of finishing the interior of a house; from insulation and gypsum board; to hanging doors and installing trim. Finish skills will also include: wood flooring, underlayment, shelving, and cabinet installation.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CARP 2524 - Residential Construction Lab I

This course will enable the student to use the construction skills and techniques he/she has developed to build a residence as needed. Course will focus on framing and exterior finishes.

Prerequisites: None.

(5 C: 0 lect/pres, 5 lab, 0 other)

CARP 2530 - Cabinet Building II

This course will enable the student to analyze, design, layout, and construct wall and base cabinets for a house project. Consideration will be given to kitchen shape and workability along with materials, finishes, and countertops.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

CARP 2534 - Construction Management

This course will enable the student to study the needs and requirements of a contractor as he/she runs the business. The course will concentrate on job site management, business management and the personal skills needed for a construction business to get started and remain profitable.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CARP 2546 - Residential Construction Lab II

This course will enable the student to implement and practice the knowledge and skills learned to build a residence. Course will focus on interior finish and trim techniques and materials.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

CARP 2562 - Carpentry Internship

This course will enable students to apply the knowledge and skills learned while working for a contractor. All activities will relate to knowledge and skills previously learned.

Prerequisites: None.

(3 C: 0 lect/pres, 0 lab, 3 other)

CARP 2566 - Cabinetmaking Internship

This course is designed to allow students to apply the knowledge and skills learned in the classroom and lab. Student will work in a cabinet shop that does the different facets of the cabinetmaking trade.

Prerequisites: None.

(6 C: 0 lect/pres, 0 lab, 6 other)

CMSC 1200 - Computer Concepts

Students will study how computers affect our daily lives and how they will continue to have an increasing impact on our future. The course will cover computer hardware, software and software development, connecting to the world, and the social challenges for society. The student will have critical thinking projects and have practice using the World Wide Web to research Internet resources.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC 1201 - Data Communications

This course provides an introduction to data communications. Topics included are fundamentals of data communications, communication media, communication terminals, communication equipment, data transmission, protocols, network basics, wide area networks, local area networks, distributed networks, network management and network software.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

CMSC 1202 - Introduction to HTML

This course introduces students to HTML and is designed to implement the creation of web pages. After a brief introduction to the Internet and the World Wide Web, the focus is centered on HTML. Students will complete exercises which include the creation of web pages with links, graphics, sound, and animation.

The programming techniques include handling conversions from both servers and clients, passing communications, distributed information handling, and tags.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1203 - Structured Programming Logic

The student will study structured programming logic. This course will cover programming design tools, such as, pseudocode and flowcharting for developing algorithms to solve many programming problems.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1208 - Panduit Network Infrastructure Essentials (PNIE)

The PNIE course is designed for students interested in the physical aspects of voice and data network cabling and installation. The course focuses on cabling issues related to data and voice connections and provides an understanding of the industry and its worldwide standards, types of media and cabling, physical and logical networks, as well as signal transmission. This course stresses documentation, design, and installation issues, as well as laboratory safety, on-the-job safety, and working effectively with others.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1213 - Network Administration

The student will study the skills needed to effectively manage a Network network. Students will learn how to set up users, directories, login scripts, and security. Network utilities are taught through hands-on training and team projects.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC 1214 - Novell Operations

The student will study the skills needed to effectively manage a Network network. Students will learn how to set up users, directories, login scripts, and security. Network utilities are taught through hands-on training and team projects.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1218 - Disk Operating System

Students will study the skills needed to effectively manage the disk operating system (DOS). Topics include how to use functions and utilities, file management, managing a hard disk, troubleshooting tools, batch files, system configuration, memory management, and Windows graphical user interface.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

CMSC 1221 - Windows Operating Systems

Students will study the skills needed to effectively manage and configure the MS-Window desktop operating environment. Topics include how to use functions and utilities, manage graphical user interface properties, manage hardware devices, install operating system and applications and describe importance of DOS environment.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1224 - Introduction to Windows

Students will study the skills to effectively use a windows operating system. Topics include managing folders and files, using the control panel, using Internet Explorer, using e-mail and backing up your files.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CMSC 1226 - Microsoft Server

Students will study the skills needed to effectively manage the Microsoft Server operating system environment. Students will learn how to use functions and utilities, manage program properties, manage hardware devices, install operating system and applications.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1229 - Organization Behavior

This course teaches organization behavior with regard to parliamentary procedures. The student will learn parliamentary procedure purpose and use. This course will use Robert's Rules of Order as the basic authority on parliamentary law.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CMSC 1230 - COBOL I

This course introduces COBOL Programming Language for use on personal computers, mainframe and microcomputer systems. Topics include structured program design, arithmetic operations, control logic, report generation, editing and control breaks.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1231 - COBOL II

This is the second course in COBOL Programming Language for use on personal computers, mainframe and microcomputer systems. Topics include table processing, string processing and advanced editing, report writing, sort verb and some advanced COBOL instructions.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1232 - Project/Team Management

This course will provide the student with information technology project management skills via projects in real world scenarios. The student will learn team building skills through participation in a student/professional organization.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CMSC 1233 - Personal Development/Job Seeking

This course teaches the student how to develop as a professional. The student will learn what qualities define a professional in business and social situations. The student will learn how to gain recognition as the true professional in the workplace. This course also includes job seeking skills needed to enter the workplace.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CMSC 1241 - RPG Language I

This is the first of three Report Program Generator (RPG) courses. It includes an introduction to programming logic and design, the fundamentals of RPG specifications, source entry, backup techniques, files access, data manipulation, and reporting.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1246 - Web Programming Languages

The student will study basic web scripting concepts. This course will cover program-related problems that individuals could expect to encounter in business. Two scripting languages will be emphasized: Javascript and CGI/Perl.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1247 - C++ Language I

This is the first of a two-course introduction to programming in the C++ programming language. Topics include syntax, vocabulary, functions, types, operators, and graphics.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC 1248 - Perl Programming Language

The student will study basic Perl programming concepts. This course will cover program-related problems that individuals could expect to encounter in business.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1250 - AS/400 Operations and Utilities

Students will study IBM AS/400 system operations and utilities. This course covers hardware configurations, security, working with jobs and message handling, managing print functions, backup and restore, program temporary fixes, data description specifications, the source entry utility, the data file utility, screen design aid, and the query utility.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC 1251 - AS/400 DB2 Database

The student will study the DB2/400 relational database. This course covers physical and logical file features, accessing databases from high-level languages, database modeling and design, structured query language, database security, and backup and recovery.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1255 - PHP Scripting

This course is an introduction to PHP, Hypertext Preprocessor. The students will be involved in writing HTML pages that incorporate PHP into them. This will enable the students to perform database connectivity from an HTML page, utilize the GD library and create graphics on their pages as well as learning the basics of the PHP language including variables, decision and loop structures and more. This will also enable the students to stay current with market demands for programmers. Dynamic web applications will be developed using HTML and PHP.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1261 - Microcomputer Database

The student will study database concepts and software for microcomputers. The course will include data base structures, file creation, file manipulation, and report generation. The student will get in-depth coverage of fundamental programming concepts with hands-on application generation.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1262 - Microcomputer Software Support

The student will study basic application software. This course will cover troubleshooting and problem solving for application software support needs.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1263 - Oracle Database

The student will study the development of relational database applications using Oracle. This course will cover relational database concepts using command-line SQL environment.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1264 - Oracle Essentials II

The student will study the development of relational database applications using Oracle. This course will cover advanced form builder, report builder, graphics builder and integrated database application.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1265 - Help Desk Operations

As computers and networks become more complicated, the support infrastructure must also increase in sophistication. This class will study the tools and techniques used to operate a successful help desk. Students will also work with hands-on projects which provide real-world support examples. In addition to the textbook, the student will volunteer at least two hours a week working in the community in a help desk environment.

Prerequisites: None.

(3 C: 1 lect/pres, 1 lab, 1 other)

CMSC 1275 - Cisco Routing I

This is the first of four Cisco Routing courses leading to the Cisco Certified Network Associate (CNA) certification. It introduces students to the networking field. The course focuses on network terminology and protocols, local area networks (LANs), wide area networks (WANs), Open System Interconnection (OSI) models, Ethernet, Internet Protocols (IP) addressing, and network standards.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1276 - Cisco Routing II

This is the second of four Cisco Routing courses leading to the Cisco Certified Network Associate (CCNA) certification. It focuses on initial router configuration, Cisco IOS software management, routing protocol configuration, TCP/IP, and access control lists (ACLs).

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

CMSC 1280 - PC Network Hardware

This course covers installing, upgrading and troubleshooting microcomputer systems. Class discussion topics include microcomputer architecture and peripheral devices.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC 1281 - HP IT Essentials I

Students will learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. The students, through hands-on activities and labs, learn to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. In addition, this course includes an introduction to networking. This course helps students prepare for the CompITA A+ certification.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2207 - Web Programming Tools

This course covers three of the more commonly used Web page designing tools; Netscape Composer, Microsoft Internet Explorer, and Microsoft FrontPage 2000. After a brief review of The World Wide Web and the Internet, this course will introduce students to the WYSIWYG editors that are becoming more and more popular for creating, managing and maintaining HTML Web page documents.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2215 - GroupWise Administration

This course will have students install a single domain GroupWise system. Students will set up post offices, user accounts and install email clients on workstations.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC 2217 - Network Security

This lecture and lab course is designed to expose security concepts to the computer careers student. The student will understand how to prevent hackers from entering their network, and if breached, detect the intrusion. Through current and book examples, the course will present real-world examples of the issues facing network administrators. Students will explore the basics of network security, security objectives, security architecture, security models, risk management, network security policy, and security training.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2218 - Wireless Networking

This lecture and lab course is designed to expose wireless concepts to the computer careers student. The student will understand how to install, configure, and troubleshoot wireless networks. Through current and book examples, the course will present real-world examples of the issues facing network administrators. Students will explore the basics of wireless networks, wireless security, network architecture, network models, risk management, network security policy, and configuration training.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC 2223 - Windows Active Directory Services

Students will study the skills needed to effectively manage the Windows Server Active Directory Services. Students will learn how to use functions and utilities, install, configure, administer, monitor and troubleshoot Microsoft Windows 2000 Active Directory.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2229 - UNIX Operating System

This course covers the UNIX operating system. After a brief review of all computer operating systems and a brief history of computers, this course will introduce students to the very complex and powerful UNIX operating system. Students will be introduced to the different shells and editors available to UNIX, along with file management, graphical user interfaces, networking, programming tools, system administration, and the UNIX Utility Programs. Students will study e-mail, files and file system structure, file security, basic file processing, file sharing and advanced file processing.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC 2230 - Linux Server

Students will study the skills needed to effectively manage the Linux Server operating system environment. Students will learn how to use functions and utilities, manage program properties, manage hardware devices, and install the operating system and applications.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2242 - RPG Language II

This is the second of three Report Program Generator (RPG) courses. It includes file access and record manipulation, interactive applications, tables, arrays, and modular programming concepts.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2243 - RPG Language III

This is the third of three Report Program Generator (RPG) courses. It includes advanced data definition, advanced programming techniques, and program and system integration in the ILE environment.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC 2246 - Java for RPG Programmers

The student will study basic Java programming concepts on the AS/400. This course will cover program-related problems that individuals could expect to encounter in business.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2249 - C++ Language II

This is the second of a two-course introduction to programming in the C++ programming language. Topics include syntax, vocabulary, functions, types, operators and graphics.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC 2257 - JavaServer Pages

This course empowers students to develop and maintain information-rich, platform-independent, Web-based applications. The course covers both beginning and more advanced topics, from beginning concepts to database access using JavaServer Pages technology.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2258 - AS/400 CL Programming

Students will study AS/400 Control Language Programming. This course covers command syntax, controlling workflow, execution environments and restrictions, and the capabilities of Control Language programs.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC 2261 - Visual Basic I

Students will study the skills necessary for the effective and efficient creation of computer programs using Visual Basic.Net. Students will complete exercises that include the creation and modification of several Visual BASIC applications.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2262 - Microcomputer Database II

This is a second course allowing students to exploit the richness of Microsoft Access with the creation of applications. The course uses Visual Basic language for more sophisticated applications.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2263 - Visual BASIC II

Students will study the skills necessary for the effective and efficient creation of computer programs using client/server programming with Visual Basic.Net. Students will complete exercises that include the creation and modification of several Visual BASIC applications.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2264 - Java Language I

Students will study the skills necessary for the effective and efficient creation of computer programs using Java Programming. Students will complete exercises which include the creation of several Java applications and the modification of some existing Java applications. The programming techniques to be taught include object-oriented logic.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2265 - Oracle Database Administration

The student will study the skills needed to effectively manage a Netware network. Students will learn how to set up users, directories, login scripts, and security. Netware utilities are taught through hands-on training and team projects.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC 2266 - Java Language II

This course is a continuation of Java Language I. After a brief review of Java Language I, the students will be involved in writing Java stand-alone applications as well as Java applets to be embedded in HTML documents. Graphics will be explored further and students will become versed in the AWT (Abstract Windows Toolkit), the Event Model and Exception Handling, Database connectivity will be covered thoroughly.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2267 - Java Language III

This course is a continuation of Java Language II. The students will be involved in writing Java on different platforms, including wireless platforms and the AS/400. Database applications will also be developed on different platforms. Dynamic web applications will be developed using XML, HTML and Java. The course will also cover software applications that will enable the data transfer between platforms.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC 2277 - Cisco Routing III

This is the third of four Cisco Routing courses leading to the Cisco Certified Network Associate (CCNA) certification. It focuses on advanced IP routing techniques (VLSM), intermediate routing protocols, command line interface configuration of switches, Ethernet switching, Virtual Local Area Networks (VLANs), Spanning Tree Protocol (STP), and VLAN trunking protocol (VTP).

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2278 - Cisco Routing IV

This is the fourth of four Cisco Routing courses leading to the Cisco Certified Network Associate (CCNA) certification. It focuses on advanced UI addressing techniques (NAT, PAT, and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management and an introduction to optical networking. In addition, the students will prepare for taking the CCNA exam.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC 2279 - Systems Analysis and Design

This course includes an introduction to systems analysis and design, technique and tools. Students will complete several projects throughout the term.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2282 - Web Site Development

The student will study the planning and design of a Web site. A Web site will be designed, developed, tested, documented and demonstrated by the student.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2283 - Hewlett Packard (HP) Information Technology (IT) Essentials II

This course is an intensive introduction to networking fundamentals and multiuser/multitasking network operating systems. Students will learn characteristics of the Linux and Windows network operating systems. They will explore a variety of topics including installation and configuration procedures. Students will also learn more advanced administrative tasks such as troubleshooting issues, security issues, and remote access.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2290 - Internship

This course will be available to students who have demonstrated readiness and willingness to work in an on-the-job situation. It usually will be a training culmination and an opportunity to apply the skills learned.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

CMST 1320 - Introduction to Speech Communication

Meets MN Transfer Goal 1 - Communication

Students will study the history and need for communication on our daily lives. Interpersonal communication, small group communication and public speaking will also be studied as integral elements in the communication process. Students will be encouraged to study theory, think critically, organize clearly and speak and listen effectively.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CMST 2300 - Introduction to Public Speaking

Meets MN Transfer Goal 1 - Communication

This course helps students become familiar with, and use, a variety of techniques for effective public speaking. Topics included are topic selection and development; audience analysis; message and argument construction, critical thinking and evaluation; outlining and organization; and delivery and presentation skills.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CMST 2301 - Persuasion

Meets MN Transfer Goals 1 and 2 - Communication and Critical Thinking

This course will explore the logical and psychological processes and theories of persuasion as they occur in a range of communication situations.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CPTR 1300 - Exploring Computers

Students will gain an understanding of computer hardware and software in addition to becoming familiar with terminology used in the computer world using the Microsoft Office Suite. They will gain hands-on experience with an understanding of word processing, database management and spreadsheet programs. This course teaches the appreciation of the moral and social implications of computer technology; computer applications used in today's society; the human factors involved in the use of computers; and will review the development of computers.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 1200 - Personal Money Management

This course provides instruction in financial management involving maintaining financial records (balance sheet and income statement), budgeting, banking services, credit card use, major expenditure decisions, income and asset protection, and investment planning.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

CRFN 1205 - Professional Expectations

Students will identify credit and finance industry expected skills, abilities, and character traits and incorporate strategies to exhibit the ability and willingness to meet the expectations of the credit and finance industry.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CRFN 1220 - Principles of Banking

A history of banking and the current banking industry is examined. The focus centers on the main functions of banking and the products and services offered by the banking industry.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 1245 - Supervision

This course concentrates on the managerial functions of planning, organizing, staffing, leading, and monitoring/controlling, including goal setting, time management, motivation techniques, communications, problem solving, and decision making.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CRFN 1251 - Credit Law

This course expands on contract law and the laws dealing more specifically with credit, banking, insurance and real estate transactions.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

CRFN 1255 - Marketing

This course provides students with introduction to marketing essentials such as marketing concepts and processes, understanding consumers and markets, targeting markets, marketing mix concepts, marketing research and decision making processes.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 2215 - Commercial Lending

This course covers the basic definitions, concepts and principles of commercial lending. Areas covered include a review of the commercial lending environment, loan interviewing, credit investigation, financial statement analysis, loan structuring, loan negotiation, documentation and closing, and resolving problem loans.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

CRFN 2245 - Consumer Lending

Students will study the essential concepts needed to understand the consumer loan function, including a history of consumer credit, evaluation of credit risks, and the gathering, investigating, and analysis of credit information. Students will also study procedures involved in documenting, servicing, managing, pricing and marketing flows.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 2270 - Collection Techniques

This course covers information regarding regulations as they pertain to collections and the tools and techniques used by credit grantors and collection agencies in skip tracing and collecting.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 2273 - Internship

This will be available to students who have demonstrated readiness and willingness to work in an on-the-job situation. It usually will be a training culmination and an opportunity to apply the skills learned.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

CRTK 0300 - Reading, Thinking, Writing

This course is intended to develop the student's ability to read, comprehend, analyze, and draw conclusions from written material. The course emphasizes the reading, thinking, and writing skills necessary for beginning college work. Topics include vocabulary development, analyzing relationships, making judgment based on data, and expressing thoughts clearly. In this class, students will identify, define, examine, analyze and explain ideas present in written material.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

CRTK 1300 - Introduction to Critical Thinking

Meets MN Transfer Goals 2 and 6 - Critical Thinking and Humanities/Fine Arts Intro to Critical Thinking is a practical course in critical thinking. It develops monological and multilogical and ethical reasoning skills and explores creative and logical approaches to problem solving. It examines how our thinking skills affect our personal identities, our relationships with others, and our understanding of culture. It analyzes systems of ideas, multiple perspectives on issues, and differing analytical approaches. It develops the higher order thinking skills, intellectual values, and the qualities of thought important for personal integrity, academic success, and effective citizenship.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

CSSC 1300 - Career Exploration

This course is designed for students who are not enrolled in a program of study and are uncertain about their career choices. The course will assist students in determining educational and career direction through an examination of values, preferences, interests, and skills. In addition, students will become familiar with sources of occupational information. Decision-making and goal setting skills are utilized in the development of an educational and career plan.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CSSC 1302 - Career Development/Job Search

This course is intended for students in their last two semesters before graduation. The focus of this course is to assist students with the skills needed to find and obtain career related employment, to become familiar with methods of developing career development opportunities essential for life-long learning, and to become aware of critical attitudes needed in job keeping and career advancement. Students not within 2 semesters of graduation need instructor approval.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CULN 1201 - Kitchen Operations

This course teaches the skills students will need to know about the food service industry. This course will cover counter service operation, kitchen math, warewashing procedures, equipment identification and equipment usage.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CULN 1202 - Introduction to Culinary Arts

This course includes an introduction to the Food Service Industry, culinary terms, history and use of weights and measures. This course also covers basic cooking techniques and knife identification and use.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

CULN 1203 - Introduction to Culinary Arts - Modified Course for Tech Prep

This course includes an introduction to the Food Service Industry, culinary terms, history, and use of weights and measures. This course also covers basic cooking techniques and knife identification and use.

NOTES: For details of topics covered in the high school variable course, please refer to the appropriate advanced standing articulation agreement.

This variable course is designed to allow students with Tech Prep college credit for CULN 1203 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CULN 1203) will be delivered concurrently with CULN 1202.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

CULN 1220 - Introduction to Pantry Food Preparation

This course covers proper techniques, procedures and responsibilities for the preparation of food, such as salads, salad dressings and sandwiches. Proper care and handling of ingredients and finished products are emphasized.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CULN 1225 - Servsafe Certification

This course includes an introduction to safe food handling, personal hygiene, food-borne illnesses, HACCP procedures. This course also provides the student an opportunity to pass a food management certificate through the State of MN.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

CULN 1230 - Vegetables, Potato, Rice and Farinaceous Products

This course covers identification and preparation of vegetables, potatoes, rice and farinaceous products. -

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CULN 1240 - Stocks, Soups, Sauces

This course will identify the preparation of classical and convenience stocks. From these stocks, various soups and sauces will be prepared using various techniques.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CULN 1244 - Basic Baking - Modified Course for Tech Prep

This course covers baking terminology, function of ingredients and texture of finished products such as quick breads, yeast breads, pies, cakes and cookies.

NOTES: For details of topics covered in the high school variable course please refer to the appropriate advanced standing articulation agreement. This variable course is designed to allow students with Advanced Standing credit for CULN 1244 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CULN 1244) will be delivered concurrently with CULN 1245.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

CULN 1245 - Basic Baking

This course covers baking terminology, function of ingredients and texture of finished products such as quick breads, yeast breads, pies, cakes and cookies.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CULN 1250 - Basic Cooking Principles

This course teaches the preparation of stocks, soups, and sauces. The course also includes the preparation of meat, poultry, and fish items using the various moist and dry heat methods.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

CULN 1260 - Introduction to Breakfast

This course teaches the cooking of meats, eggs, cereals and the preparation of fruits and garnishes for breakfast. This course will include production techniques used in the preparation of breakfast foods.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

CULN 1265 - Basic Food Production Principles

This course teaches the preparation of meat, seafood, vegetables, fruits, pasta and other menu items using the various moist and dry heat cooking methods. This course will include production techniques used in the preparation of foods.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

CULN 1270 - Garde Manager

This course is designed to teach the student the fundamentals of garde manage decorating. This will include aspic sheets, chaud froid sauce, fruit carving, vegetable carvings and preparing centerpiece displays.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

CULN 1280 - Foodservice Internship

This course includes a three-week internship at local restaurant operations. This course will also give the student an opportunity to sharpen their culinary skills in a fast paced environment. The student will also experience teamwork, problem solving, and a feel for the industry.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

CULN 1290 - Social Etiquette

This course is intended to give students basic information about etiquette. Students will understand why things are done as they are. Proper etiquette is dictated if one is to succeed in today's business world.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

CVIC 1304 - Introduction to American Politics

Meets MN Transfer Goals 5 and 9 - History/Social, Behavioral Sciences and Ethical/Civic Responsibility

Introduction to American Politics is an introductory course on political ideologies, (democracy, capitalism, etc.), political institutions, (federal, state, and local governmental systems), and processes, (how a bill becomes a law, etc.). Team learning, community involvement and off-campus activities such as city council meetings are used as teaching tools.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

DEHY 1400 - Dental Hygiene Seminar I

This course is an introduction to dental hygiene clinical techniques and clinical practice. This course provides didactic instruction on patient medical history and data gathering, sterilization, infection control protocol, comprehensive patient treatment to include assessment, planning, implementation and evaluation of selective services.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1402 - Dental Hygiene Seminar II

This course is designed to continue the students' education in the basic dental hygiene sciences with an emphasis on dental health education, primary preventive measures, and nutritional educational counseling.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1404 - Clinical Seminar III

This course is a continuation of Clinical Seminar II (DEHY 1402) with emphasis on advanced dental hygiene skills, client relations and special needs. The course includes didactic study of treatment planning, oral health care adjuncts, root planing techniques, powered scaling, sealants, dental materials, implant care and care for the client who is medically compromised. This course is to be taken concurrently with DH Materials and Methods (DEHY 1420) and Clinical Dental Hygiene III (DEHY 1486).

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1406 - Clinical Seminar IV

This course is a continuation of DEHY 1404 with continuing focus on care of the client with special needs, and continuing with emphasis on dental hygiene research, leadership, management, ethics and jurisprudence in dentistry, new products, consumer awareness and the role of the dental hygienist in alternative care settings. This course is to be taken concurrently with DEHY 1488.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1410 - Introduction to Dental Materials and Methods

This lecture/lab course is designed to provide the dental hygiene student with information required to facilitate the optimal selection, handling, placement and care of the materials used in dentistry. Topics covered include cements, varnishes, liners, esthetic anterior restorations, posterior restorations, sealants, impression materials, dental stone and plaster, polymers for prosthetics, and provisional restorations. Students will work with dental materials and typodonts in the laboratory setting.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1418 - Introduction to Dental Radiology

This lecture/laboratory course provides dental hygiene students with the knowledge of radiographic principles and exposure techniques. Course content includes theoretical concepts of radiation, radiation safety and monitoring, infection control, x-ray film, processing and mounting, operation of the x-ray unit, intraoral and extraoral radiographic techniques, anatomical landmarks, and exposing and processing errors. The laboratory portion of the course will prepare the student to demonstrate competence in exposing radiographs using the bisecting and paralleling techniques. Students will practice taking radiographs on phantoms, skulls and DXTR.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1420 - Dental Hygiene Materials and Methods

This course is designed to introduce the student to materials and techniques utilized in clinical situations. The laboratory portion covers sealants, amalgams, impressions, study models, sonics/ultrasonics, prophylactic jet polisher, dental records and treatment planning. All topics will be taught to lab competency. Some sections of the lab will be devoted to pain management methods in coordination with DEHY 1468. To be taken concurrently with DEHY 1404, 1486.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

DEHY 1422 - Dental Pharmacology

This course covers a survey of drug groups with special emphasis on the drugs used in dentistry. This course will include content in the following: physical, and chemical properties of drugs, modes of administration, therapeutic and adverse effects, and drug interactions. Identifying and managing clinical emergencies is also included.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1424 - Orofacial Structures

This course covers the anatomical components and functions of head, neck, teeth and supporting structures. Emphasis will be on the skeletal, muscular, nervous, venous and masticatory systems. The course includes comparative study of the deciduous and permanent teeth.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

DEHY 1426 - Oral Histology/Embryology

This course covers concepts of the embryological development of orofacial organs and structures.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

DEHY 1428 - General and Oral Pathology

This course covers concepts of development and growth disturbances; diseases of microbiological origin, injury and repair; metabolic and disease disturbances; and oral manifestations of various diseases and conditions. Special emphasis is placed on clinical, and slide recognition of pathology in the oral cavity.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

DEHY 1440 - Community Dental Health I

This course introduces students to the disciplines and basic principles of dental public health, epidemiologic methods, and biostatistical measurements and analysis. The course will include identification of current issues in community dental health and review current community health practices. Emphasis will be placed on comparing and contrasting community health practices with those in private clinical settings. Students will be introduced to current literature in the field of community dental health through completion of abstracts of articles related to topics presented in class.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1444 - Community Dental Health II

This lecture course is designed to provide the dental hygiene student with field experience in assessment, planning, implementation and evaluation of community dental health presentations. Practical application of dental public health methods is included.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1448 - Dental Hygiene Radiology

This lecture/laboratory course provides the student with the knowledge of radiographic principles and exposure techniques. The course covers the characteristics of radiation, radiation production, operation of the x-ray unit, radiation safety and monitoring, x-ray film, processing and mounting, anatomical landmarks, intraoral and extraoral radiographic techniques, and exposing the processing errors. The laboratory aspect of this course prepares the student to demonstrate competence in exposing radiographs using the bisecting and paralleling techniques. Students will also process exposed radiographs utilizing automatic processing techniques and mounts films. This course also covers the interpretation of dental radiographs for the dental hygienist. The emphasis is on recognition of anatomic conditions, technique errors, caries, periodontal disease, abnormalities, dental materials, foreign objects and periapical lesions. All dental hygiene students must complete this course prior to graduation.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1460 - Periodontics

This course will focus on the pathogenesis, diagnosis, and treatment of periodontal disease. Emphasis will be on 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: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1464 - Advanced Periodontics

Students will study periodontal pathology, treatment planning, case studies, current literature and periodontal treatment modalities and periodontology.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

DEHY 1468 - Pain Management

This course covers pain management techniques used in dentistry. The course will focus on preparing the dental hygiene students for the safe, effective administration of local anesthesia and nitrous oxide/oxygen inhalation for dental hygiene practice. Included in this course are content areas in anatomy, physiology, pharmacology and emergency procedures as they relate to local anesthesia and nitrous oxide. Course information will be presented through discussion groups and lab/clinical experience. The laboratory sessions are designed to develop actual experiences in the administration of local anesthesia and nitrous oxide/oxygen inhalation. In the clinical sessions, students will be administering local anesthesia and nitrous oxide/oxygen to fellow students.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1480 - DH- Pre-Clinical Lab I

This lab course introduces the student to dental hygiene fundamentals, with emphasis on principles of disease transmission, preventive dental aids, data gathering, patient assessment, medical emergencies, dental deposits and entry-level instrumentation techniques.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

DEHY 1482 - DH Pre Clinical/Clinical Lab II

This course is a continuation of DEHY 1480 with emphasis on principles and practice of instrumentation skills, instrument sharpening, patient safety, patient education, assessment and treatment planning.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

DEHY 1484 - Clinical Dental Hygiene II

This is a supervised clinical experience where students will provide fundamental clinical, preventive educational and therapeutic services to patients. Emphasis on treating periodontal disease, scaling, oral hygiene counseling, radiology and professionalism.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

DEHY 1486 - Clinical Dental Hygiene III

This course is a continuation of Clinical DH II with supervised clinical experiences, which include introduction to periodontal therapy, ultrasonic instrumentation, margination, amalgam polishing, and sealant placement. Radiographic interpretation is incorporated within the radiographic portion of this clinical experience. To be taken concurrently with DEHY 3510, Clinical Seminar II and Materials and Methods DEHY 3835.

Prerequisites: None.

(6 C: 0 lect/pres, 6 lab, 0 other)

DEHY 1488 - Clinical Dental Hygiene IV

This course is a continuation of Clinical DH III (DEHY 1486) with supervised clinical experiences which includes advanced periodontal therapy, advanced ultrasonic instrumentation, chemotherapeutics and completion of procedural requirements. Clinical application of pain management techniques is also a focus. Radiographic interpretation is incorporated within the radiographic portion of this clinical experience. Concurrent registration DEHY 1406 and DEHY 1464.

Prerequisites: None.

(6 C: 0 lect/pres, 6 lab, 0 other)

DEHY 2851 - Dental Hygiene Radiology

This lab course provides the student with the knowledge of radiographic principles and exposure techniques. The laboratory aspect of this course prepares the student to demonstrate competence in exposing radiographs using the bisecting and paralleling techniques.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

DEHY 3400 - Dental Hygiene Integrated Board Review

This course is designed as a comprehensive review of dental hygiene in preparation for the National and Regional Board Examinations. It includes discussion and synthesis of dental hygiene theories and clinical applications.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

DENT 1400 - Dental Sciences

This course is designed to provide fundamental knowledge of embryonic development of the face and oral cavity, oral histology and development of the hard and soft tissues, and terminology related to the oral cavity and teeth. The student will be introduced to the structures and functions of the head and neck as it relates to the oral cavity and dentistry. Characteristics supporting structures are studied. An introduction to basic body systems will also be covered.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

DENT 1409 - Preclinical Dental Assisting

This course will enable the dental assisting student to function effectively as part of the dental health team in medical and dental emergency situations. Evaluating and understanding medical conditions, symptoms, and treatments will be an integral part of this course. The student will be familiar with the fundamentals of pharmacology and the drugs used in dentistry and their effects and interactions.

Prerequisites: Appropriate Accuplacer Score.

(1 C: 1 lect/pres, 0 lab, 0 other)

DENT 1411 - Infection Control in the Dental Environment

This course will enable the dental assisting student to function effectively as part of the dental health team within the concepts of infection control, bloodborne pathogen standards and hazard communications plans. It will also help to prepare the student to successfully write the ICE examination. This course provides essential background information on methods of sterilization and disinfection, barrier techniques, and infection control standards recommended by OSHA, CDC, Minnesota Board of Dentistry and the American Dental Association. Various types of microorganisms will be discussed as well as their mode of transmissions. Topics will include terminology, disease transmission, sterilization and disinfection, occupational safety and infection control.

Prerequisites: Appropriate Accuplacer Score.

(2 C: 2 lect/pres, 0 lab, 0 other)

DENT 1420 - Chairside Assisting I

The course combines lecture and laboratory practice to acquaint the student to the fundamentals of working in a dental office as a chairside assistant. The students will be introduced to concepts and techniques of basic equipment, anesthesia, instrument identification and proper use. Concepts on numbering systems, charting and maintaining patient clinical records will be taught. Emphasis is placed on oral evacuation and current concepts of four-handed dentistry in restorative dentistry and infection control protocols. Students will also utilize oral communication skills to instruct patients in oral hygiene and preventive dentistry.

Prerequisites: Appropriate Accuplacer Score.

(4 C: 2 lect/pres, 2 lab, 0 other)

DENT 1434 - Dental Materials I

This course is designed to introduce the student to those materials and techniques utilized for various laboratory and clinical applications. It includes both didactic information and laboratory practice with such products as gypsum, thermoplastic resins, impression materials, waxes and other dental materials. Safety is emphasized.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DENT 1440 - Dental Radiology I

This course combines lecture and laboratory practice to introduce dental assisting students to the knowledge and skills needed for working with dental radiology. The course introduces students to various full mouth radiographic surveys and provides instruction on the paralleling and bisecting techniques with emphasis on paralleling. Concepts including radiographic anatomy, intraoral and extraoral films, film processing, critiquing skills, quality assurance and infection control are included. Laboratory practice on skills and teaching manikins is provided.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

DENT 1444 - Expanded Functions I

This course will prepare the student to perform the expanded functions that have been delegated to the registered dental assistant in the State of Minnesota. The course combines lecture and laboratory practice of expanded duties. The development of skills is achieved on typodonts, teaching manikins as well as working on fellow classmates.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

DENT 1460 - Internship I

This course is designed to allow the first year dental assisting student to transition into the second year by spending time in various specialty and general dentistry practices for observation during the summer between years. Students would spend approximately four (4) hours in each type of specialty office, as well as in both a smaller and a larger dentistry office and a full service dental laboratory.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

DENT 2404 - Dental Health

This course will provide an overview of pathological condition of the oral cavity and infectious diseases of the human body. Concepts of disease prevention and treatment will be discussed as it relates to the disease and origin. Students will recognize the appearance and maintenance of healthy oral tissue and recognize anomalies of the teeth and surrounding tissues. Students will apply their knowledge while providing oral hygiene instructions and dental health education through community projects.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

DENT 2412 - Dental Practice Management

This course is designed to acquaint the student with legal and ethical issues vital in dentistry today. It will expand into the procedures utilized in the management of the business office. Attention is given to appointment control, recall, telephone techniques, financial records maintenance, third-party reimbursement forms, office manual procedures, and supply inventory.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

DENT 2424 - Chairside Assisting II

This course the student will be introduced to the different specialties in dentistry, specifically: endodontics, oral surgery, prosthodontics, periodontics, and pediatric dentistry. Through lecture and instrument identification, the student will become familiar with the procedures and instruments used in each specialty. Current concepts of chairside assisting in general dentistry as well as dental specialties are presented with emphasis on the utilization of the dental assistant.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

DENT 2440 - Dental Materials II

This course is designed to introduce the student to those materials and techniques utilized for various restorative and clinical applications. It includes both didactic information and laboratory practice with such products as cements, amalgams, bonding agents, esthetic restorative materials, synthetic resins, and provisional restorations. Safety is emphasized.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

DENT 2446 - Dental Radiology II

This course combines lecture and laboratory practice to expand on the dental assisting student's knowledge and skills working with dental radiology. Principles of radiation physics, production and control are discussed. Concepts including radiographic imaging, x-ray characteristics and biological effects are included. Processing skills, radiographic techniques and various darkroom exercises are enhanced. Operator and patient safety procedures are incorporated and the clinical practice is expanded to include patients. Digital radiography is introduced.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

DENT 2454 - Expanded Functions II

This course is a continuation of Expanded Functions I and will provide the student with the background knowledge and prepare the student to perform the expanded functions that are legally performed by a registered dental assistant (RDA) according to the Minnesota Dental Practice Act. This course combines lecture, laboratory and clinical practice which expand on the dental assisting students' current knowledge and skills to perform the advanced functions on typodonts, manikins and patients in the dental clinic.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

DENT 2460 - Internship II

This experience will consist of two rotations in different extramural assignments. The first assignment of approximately 6 weeks (160 hour MINIMUM) will be in a general practice or a specialty dental office. The second assignment of approximately 6 weeks (160 hours MINIMUM) will be in a different general practice or a specialty dental office. Students will be expected to work the same hours that the office works. The intent of each extramural assignment is to allow the student to further develop speed and accuracy of the skills learned throughout the program. Integration of knowledge and skills to a job entry level by hands-on experience and evaluation of competence is expected. The student is given the opportunity to work with one or more dentists and staff in a real-life situation for each rotation.

Prerequisites: None.

(6 C: 0 lect/pres, 0 lab, 6 other)

DENT 2480 - Dental Practice Act Review

This OPTIONAL course is a guided process to help the student to review the Minnesota Dental Practice Act and prepare to write the jurisprudence test required on that document by state law.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

DENT 2484 - Board Review

This OPTIONAL course is a guided process to help the dental assistant student to review and prepare to write both the state (Registration) and national (Certification) board examinations.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

DMSG 1402 - Ultrasound Cross-Sectional Anatomy I

This course focuses on a detailed study of the normal anatomy and physiology of the abdomen, neck, musculoskeletal, neonatal brain and non-cardiac chest as it relates to the ultrasound examination.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

DMSG 1404 - Diagnostic Medical Sonography I

Detailed study of the normal and pathological ultrasound images of the abdomen, thyroid and neonatal head as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

DMSG 1406 - Clinical Ultrasound I

Introduction to the aspects of sonography in a hospital or simulated clinical laboratory setting. Emphasis will be placed on instrumentation, on imaging, and identification of anatomy of the abdomen and thyroid.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

DMSG 2402 - Ultrasound Cross-Sectional Anatomy II

This course focuses on a detailed study of the normal anatomy and physiology of the male and female reproductive system, obstetrics covering all trimesters, breast sonography and vascular technology as it relates to the ultrasound field.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

DMSG 2404 - Diagnostic Medical Sonography II

Detailed study of normal and pathological ultrasound images of the male and female reproductive systems, obstetrics covering all trimesters, breast sonography and vascular technology as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

DMSG 2406 - Clinical Ultrasound II

Practical training in a hospital or simulated clinical laboratory will focus on completing and becoming proficient in scanning of the human body. Emphasis will be placed on instrumentation, protocol, record findings along with associated calculations, and anatomy identification of the abdomen, thyroid, pelvis, obstetrics, breast and vascular systems.

Prerequisites: None.

(5 C: 0 lect/pres, 5 lab, 0 other)

DMSG 2409 - Clinical Ultrasound III

Advanced clinical training in a hospital or clinical setting. The student will focus on completing and becoming proficient in the scanning of the human body, including the abdomen, thyroid, pelvis, obstetrics, breast and vascular systems. Students will broaden and perfect their skills through hands-on participation.

Upon completion, the student will be able to carry out the everyday duties as an ultrasound technologist.

Prerequisites: None.

(13 C: 0 lect/pres, 15 lab, -2 other)

DMSG 2410 - Clinical Ultrasound IV

Advanced clinical training in a hospital or clinical setting. The student will focus on completing and becoming proficient in the scanning of the human body, including the abdomen, thyroid, pelvis, obstetrics, breast and vascular systems. Students will broaden and perfect their skills through hands-on participation.

Upon completion, the students will be able to carry out the everyday duties as an ultrasound technologist.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

DVRS 1304 - Diversity and Social Justice

Meets MN Transfer Goals 5 and 7 - History/Social, Behavioral Sciences and Human Diversity

Diversity and Social Justice is a course that uses critical thinking and questioning to define, recognize and analyze individual, institutional and cultural/societal racism, sexism, classism, heterosexism and other forms of oppression. It will focus on development of practical skills for eliminating racism, sexism, classism, heterosexism and other oppressive elements from personal, professional and public life.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ECHO 1423 - Echocardiography I

A study of application of physics and technique used in the 2-Dimensional, M-Mode, Color Doppler and Spectral Doppler evaluation of the normal adult heart. This class will prepare the beginning cardiac sonographer by introducing methods of obtaining normal imaging views, measurements, and basic calculations in the standard modalities of echocardiography and their associated pitfalls and set-up errors. The focus of this class will concentrate on knowledge required to perform an echocardiogram on the normal adult heart with special attention to machine controls, image quality and orientation, and anatomical detail.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

ECHO 1443 - Echocardiography Clinic I

Actual scanning of the heart in a hospital or clinic setting. The student will learn how to produce and interpret normal and pathognomonic sonograms of the heart. If a student's clinical performance is unsatisfactory or if at any time the student's clinical performance comprises the safety of the patient, the student will be terminated from the program.

Prerequisites: None.

(5 C: 0 lect/pres, 5 lab, 0 other)

ECHO 2426 - Echocardiography II

An in depth study of ultrasound physics concepts, mathematical computations, quality assurance, biological effects and artifacts will be the basis of study. Prerequisites: Echocardiography Principles and Instrumentation.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

ECHO 2446 - Echocardiography Clinic II

Actual scanning of the heart and peripheral vasculature in a hospital or clinic setting. The student will learn how to produce and interpret normal and pathological echocardiograms of the heart. This is an extension of the learning that the student obtained during the first year. Imaging of the heart will be accomplished utilizing such modalities as Doppler, Color Doppler, M-mode, EKG, and 2 dimensional imaging. NOTE: If the student's clinical performance is unsatisfactory or if at any time the student compromises the safety of a patient, the student will be terminated from the program.

Prerequisites: None.

(5 C: 0 lect/pres, 5 lab, 0 other)

ECHO 2450 - Applied Clinical Internship

Advanced and intense internship in a hospital or clinic setting. Specific detailed learning objectives are developed for each course by the college facility. Students will broaden and perfect their skills through hands-on participation. Students will be able to carry out everyday duties of the technologist when their clinical experience is complete.

Prerequisites: None.

(13 C: 0 lect/pres, 0 lab, 13 other)

ECON 1320 - Introduction to Macroeconomics

This course is a study of the topics and issues related to economic growth, national income, measurement of economic performance, understanding of economic fluctuations, determination of output, price level, inflation, deficits, knowledge of monetary and fiscal policy, and unemployment in the United States.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ECON 1330 - Introduction to Microeconomics

This course is a study of the economic topics concerned with individual units such as industries, firms, and households; plus determination of prices and quantities, measurement of costs and productivity, individual markets, specific goods and services, and product and resource prices.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ELEC 1502 - Basic Wiring and Materials I

This course enables you to perform basic wiring of general lighting circuits, switching, receptacles and appliances. Identification of electrical materials and proper installation practices will be carefully evaluated. Service layout and installation calculations will be incorporated with safety habits, tools and romex wiring materials.

Prerequisites: None.

(5 C: 2 lect/pres, 3 lab, 0 other)

ELEC 1506 - Basic Wiring and Materials II

This course will enable students to address and install special lighting, appliances, smoke and fire, low voltage and identify installation methods for spa and pool wiring. Introduction to conduit, wire-mold, PVC and flex wiring systems for installation and safety will be emphasized.

Prerequisites: None.

(5 C: 2 lect/pres, 3 lab, 0 other)

ELEC 1510 - National Electrical Code I

This course will prepare the students to apply code to the installation of basic wiring. Make aware of laws and licensing of electricians. Use and interpret code general wiring practices. Calculate circuit loads. Calculate feeder demands, service installations, overcurrent protection, and appropriate grounding practices. Utilize tables for conductor size and other purposes.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

ELEC 1514 - National Electrical Code II

The student will identify code requirements for the installation of wire, cable, conduit and wiring systems, also boxes, switches, transformers, lighting equipment, motors, motor controls. Identify hazardous wiring locations.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

ELEC 1518 - Applied Electrical Principles and Formulas

This course will enable the student to utilize ohms' law in the application series, parallel and combination circuits. Calculate voltage current and resistance in these applications. Apply power calculations for circuits. Utilize electrical meters. Apply resistance values in the calculations used for equipment and conductors. Apply magnetic principles to operation of electrical equipment. Describe uses and application of a battery type in industry. Identify basic transformer types and operation. Apply appropriate electrical formulas in solution of electrical problems.

Prerequisites: Appropriate Accuplacer Score.

(5 C: 2 lect/pres, 3 lab, 0 other)

ELEC 1522 - Drafting Blueprint Reading and Specification

This course teaches students to identify construction design of residential and commercial building. Application of proper symbols and layout of a workable electrical plan along with specifications will enable students to draft a complete set of electrical plans including circuit layout, heating, cooling, and other equipment as required along with the support of a specifications sheet.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ELEC 1526 - Applied Electrical Principles and A.C. Fund.

This course teaches students to identify differences in DC and AC current. Use trigonometric formulas to calculate voltage, current, impedance values in AC circuits. Identify resistive circuits, pure inductive circuits, resistive inductive circuits, resistive-capacitive circuits, and inductive-capacitive circuits. In-phase and out of phase conditions will be discussed. Calculate leading and lagging power factor. Calculate power factor correction of equipment and feeders.

Prerequisites: None.

(5 C: 2 lect/pres, 3 lab, 0 other)

ELEC 1530 - Electric Heat

This course will teach students to identify various types of electric heat systems and heat transfer methods. Critical thinking will be applied in calculating heating needs and service load. Students will be required to install and connect various heating controls and electric heat units.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

ELEC 1534 - Construction Trades Integration

This course is designed for Construction Electrician Students to become familiarized with other trades and skills that they will have to work with on a day-to-day basis as a construction electrician. The course will utilize experts from Carpentry, Heating and Air Conditioning, Plumbing, Welding, and Architectural to teach safety, basic concepts, theory, code, and blueprint reading.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ELEC 1538 - Industry Skills Development

This course will introduce students to total quality management, team building and networking skills. Students will explore their humanitarian responsibility, personal accountability and develop organizational and management skills. The student will be responsible for developing a working knowledge of the electrical industry, as well as a personal resume, an example of a cover letter, and interviewing skills.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

ELEC 2502 - Residential Wiring I

The student will work on the installation of temporary service and installation of permanent service for a residential dwelling and enhance his wiring skills by the rough-in wiring for a residential dwelling. Job seeking skills will be developed as part of this class.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ELEC 2506 - Residential Wiring II

The student will install light fixtures, trim out outlets and switches, wire a furnace, water heater, range and dryer and complete the final installation of a residential dwelling for a final code inspection.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ELEC 2510 - National Electrical Code III

This course will develop a working knowledge of the National Electrical Code in commercial and industrial situations as they apply to chapters 1-4 in the NEC. Students will be given electrical situations and they should describe the minimum NEC standards.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ELEC 2514 - National Electrical Code IV

This course will develop a working knowledge of the National Electrical Code in commercial and industrial situations as they apply to chapters 5-9 in the NEC. The student will be given electrical situations and they should describe the minimum NEC standards.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ELEC 2518 - Commercial Wiring and Lighting

Students will read and interpret blueprints and develop procedures to follow in the installation of wiring and control systems used in commercial buildings; determine pipe fill, box fill, voltage drop, ampacities and derating of conductors; develop their pipe bending skills be lab projects in EMT with 1/2 inch and 3/4 inch conduit. MN cable and AC cable lab projects will enhance the students' knowledge of other wiring installations for commercial wiring; study incandescent, fluorescent, HID, and mercury vapor light fixtures, operation of troubleshooting and repair layout of systems and efficient usage.

Prerequisites: None.

(5 C: 1 lect/pres, 4 lab, 0 other)

ELEC 2522 - AC Motor Control I

Students will study the design, construction and operation of motors. This includes lab time on single phase, squirrel cage, synchronous, repulsion and shaded pole motors. Students will examine the basic design and construction of control equipment for single phase and three phase motors.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ELEC 2526 - A.C. Motor Control II

This course is a continuation of ELEC 2522. Students will examine complex motor control circuits, develop motor control problem solving skills, and design working motor control diagrams.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

ELEC 2532 - Solid State and PLC Controls

This course will enable you to analyze solid state devices and use the knowledge in a lab to assemble solid state devices such as diodes, rectifiers, filters and transistors. Then the course will develop into PLC basics and eventually complex PLC motor control situations.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ELEC 2534 - Industrial Systems

This course will examine wiring practices associated with industrial plants and operations. Students will assemble industrial services, bus ducts, and fire alarm systems. The students will also analyze hazardous areas as defined in the NEC, and interpret various job blueprints.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

ELEC 2538 - Transformers, Three Phase systems, and Formulas

Students will analyze the principles and theory of single and three phase transformers and apply that knowledge to a lab situation where they will construct working models of transformers and three phase systems. Students will also use complex trigonometric formulas to describe electrical principals.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

ELEC 2540 - Low Voltage Systems

This course will introduce students to low voltage/limited energy electrical circuits, which include, but are not limited to Telecommunications, Coax cable, networking, Class 2 and 3 circuits, millivolt and fiberoptic systems, security systems, and fire alarm systems. The student will learn proper cable installation and termination skills, as well as basic problems and solutions to electromagnetic interference and other forms of electrical noise.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

EMSC 1400 - Principles of First Aid

This course provides students with the knowledge and skills required called for in most situations in which emergency first aid care is required and medical assistance is not excessively delayed.

Prerequisites: None.

(1 C: 18 lect/pres, 0 lab, -17 other)

EMSC 1404 - First Aid and CPR for Child Care Providers

This is a general First Aid and CPR course. Topics covered in this course will include: how to recognize a situation needing emergency care, how to access the EMS system, and how to care for the victim until help arrives. Prevention, medical emergencies and injuries will be the major focus of the course. This course will cover first aid care and treatment of adults and children and will include CPR and Sudden Infant Death Syndrome. Emphasis is on pediatric first aid. This course is taught to the standards of the American Heart Association and the National Safety Council.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 1420 - Basic Emergency Care

This is a general First Aid and CPR course. Topics covered in this course will include: how to recognize a situation needing emergency care, how to access the EMS system, and how to care for the victim until help arrives. Prevention, medical emergencies and injuries will be the major focus of the course. This course will cover first aid care and treatment of adults and children and will include CPR and Sudden Infant Death Syndrome. This course is taught to the standards of the American Heart Association and the National Safety Council.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 1430 - Emergency Medical Services 1 (EMS1)

Students will be able to apply the fundamental skills and knowledge required to function as an entry level First Responder. Emphasis will be placed on skills needed for the recognition of, and emergency care of sick or injured people, utilizing basic EMS equipment and assisting Emergency Medical Technicians once they have arrived.

This is a Department of Transportation designed course for non-ambulance personnel such as law enforcement, fire, rescue, DNR, industry, and private citizens who are involved in pre-hospital emergency care and are first on the scene in an emergency.

This course is taught utilizing the 1995 US DOT First Responder Curriculum and is approved by and taught to the standards of the Minnesota Emergency Medical Services Regulatory Board (EMSRB).

Upon passing this course the student will be registered with the Minnesota EMSRB as a First Responder. First Responder Certification is valid for two (2) years. This course is approved for Minnesota Peace Officers Standards and Training (POST).

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

EMSC 1432 - Emergency Medical Services 2 (EMS2)

Students will be enabled to apply the fundamental skills and knowledge required to function as an entry level Emergency Medical Technician Basic. Emphasis will be placed on skills needed for the recognition of, and emergency care of sick or injured people, utilizing basic and advanced EMS equipment and assisting Paramedics once they have arrived.

This is a Department of Transportation designed course for ambulance personnel and is also sometimes required by law enforcement, fire, rescue, DNR, industry, and private citizens who are involved in pre-hospital emergency care and are first on the scene in an emergency.

This course is taught utilizing the 1994 US DOT Emergency Medical Technician Basic Curriculum and is approved by and taught to the standards of the Minnesota Emergency Medical Services Regulatory Board (EMSRB).

Upon passing this course the student will be eligible to take the National Registry of Emergency medical Technicians Basic (EMT-B) exam and the Minnesota Emergency medical Technician Basic practical exam. Successful completion of both of these exams will certify the student as both a Nationally Registered EMT-B and a Minnesota EMSRB EMT-B. Certification is valid for (2) years. This course is approved for Minnesota Peace Officers Standards and Training (POST).

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

EMSC 1440 - Emergency Medical Technician Basic (EMT-B)

Students will be enabled to apply the fundamental skills and knowledge required to function as an entry level Emergency Medical Technician Basic. Emphasis will be placed on skills needed for the recognition of, and emergency care of sick or injured people, utilizing basic and advanced EMS equipment and assisting Paramedics once they have arrived. This is a Department of Transportation designed course for ambulance personnel and is also sometimes required by law enforcement, fire, rescue, DNR, industry, and private citizens who are involved in pre-hospital emergency care and are first on the scene in an emergency.

This course is taught utilizing the current US DOT Emergency Medical Technician Basic Curriculum and is approved by and taught to the standards of the Minnesota Emergency Medical Services Regulatory Board (EMSRB). Interactive lecture, assigned readings, demonstrations, individual coaching and practice of aspects related to the learning outcomes of this course are based on these standards and curriculum.

Prerequisites: None.

(6 C: 4 lect/pres, 2 lab, 0 other)

EMSC 1444 - Emergency Medical Technician Basic Refresher (EMT-B)

This US Department of Transportation course is designed to review and enhance the knowledge and skills of certified Emergency Medical Technician Basic. This course is taught utilizing the most current US DOT Emergency Medical Technician Basic Curriculum and is approved by and taught to the standards of the Minnesota Emergency Medical Services Regulatory Board (EMSRB). The focus is this course is the recognition of, and emergency care of sick or injured people, utilizing basic EMS equipment.

Upon passing this course the student will be re-registered with the Minnesota EMSRB as a Emergency Medical Technician Basic. Emergency Medical Technician Basic Certification is valid for two (2) years. This course is approved for 28 clock hours of Minnesota Peace Officers Standards and Training (POST).

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

EMSC 1460 - First Responder

Students will be enabled to apply the fundamental skills and knowledge required to function as an entry level First Responder. Emphasis will be placed on skills needed for the recognition of, and emergency care of sick or injured people, utilizing basic EMS equipment and assisting Emergency Medical Technicians once they have arrived.

This is a Department of Transportation designed course for non-ambulance personnel such as law enforcement, fire, rescue, DNR, industry, and private citizens who are involved in pre-hospital emergency care and are first on the scene in an emergency.

This course is taught utilizing the most current US DOT First Responder Curriculum and is approved by and taught to the standards of the Minnesota Emergency Medical Services Regulatory Board (EMSRB).

Upon passing this course the student will be registered with the Minnesota EMSRB as a First Responder. First Responder Certification is valid for two (2) years. This course is approved for Minnesota Peace Officers Standards and Training (POST).

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

EMSC 1464 - First Responder Refresher

This US Department of Transportation course is designed to review and enhance the knowledge and skills of certified First Responders. This course is taught utilizing the most current US DOT First Responder Curriculum and is approved by and taught to the standards of the Minnesota Emergency Medical Services Regulatory Board (EMSRB). The focus of this course is the recognition of, and emergency care of sick or injured people, utilizing basic EMS equipment and assisting Emergency medical Technicians once they have arrived. Upon passing this course the student will be re-registered with the Minnesota EMSRB as a First Responder. First Responder Certification is valid for two (2) years. This course is approved for 16 clock hours of Minnesota Peace Officers Standards and Training (POST).
Prerequisites: None.
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 1480 - Emergency Cardiac Care

This course is designed for health care providers. This course will cover how to prevent heart attacks and how to perform CPR in the event that someone does go into respiratory or cardiac arrest. The course will also cover what to do when someone is choking.
Prerequisites: None.
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 2460 - ACLS Provider

This course will result in the awarding of Advanced Cardiac Life Support Provider certification from the American Heart Association. It will cover all aspects of treating cardiac and stroke patients at the advanced level to include basic and advanced airway management, cardiac rhythm interpretation, medication administration and post resuscitation management.
Prerequisites: None.
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 2462 - PHTLS Provider

This course will award certification as a Pre-Hospital Trauma Life Support Provider at the Advanced level. This course covers areas such as Kinematics, various injury pathologies and mechanisms and trauma patient management priorities.
Prerequisites: None.
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 2468 - Pediatric Advanced Life Support/Neonatal Resuscitation Provider (PALS/NRP)

This course will result in the awarding of Pediatric Advanced Life Support Provider certification from the American Heart Association. It will cover all aspects of treating pediatric respiratory and cardiac patients at the advanced level to include basic and advanced airway management, cardiac rhythm interpretation, medication and fluid administration, intraosseous cannulation and post resuscitation management.
Prerequisites: None.
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 2472 - PEPP Provider

Pediatric Education for Prehospital Professionals is a 13-hour two day course designed for any allied health professional who is responsible for the emergent care of children. This course has skill stations for ALS and BLS providers concurrently and emphasis is placed towards caregivers that practice in the out-of-hospital setting. Topics include Pediatric Assessment, Respiratory, Medical and Traumatic Emergencies, Children with Special Needs, Child Maltreatment, Emergency DELivery and NEwborn Stabilization and others.
Prerequisites: None.
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSP 1400 - Paramedicine I

This is an introductory course for the Paramedicine student reflective of the 1998 National Standards Curriculum. This course will enable the student to advance in knowledge from their EMT-B education to the advanced roll of the paramedic in topics such as medical-legal issues, roles and responsibilities, communication, personal wellness and the etiology of trauma.
Prerequisites: None.
(3 C: 3 lect/pres, 0 lab, 0 other)

EMSP 1402 - Paramedicine Skills I

This is an introductory skills course for the Paramedicine student reflective of the 1998 National Standards Curriculum. It will cover the core skills of the basic EMS provider and then expands to the advanced skills of the paramedic. Students will be enabled to apply fundamental skills in patient care to include I.V. therapy, basic and advanced airway management, advanced patient assessment/physical exam and others.
Prerequisites: None.
(3 C: 0 lect/pres, 3 lab, 0 other)

EMSP 1404 - Emergency Pharmacology for Paramedics

This course covers the pharmacology portion of the 1998 National Standards Paramedic Curriculum. Students learn pharmacological concepts, drug legislation and drug categories. Emphasis is placed on commonly used drugs in the emergency setting and their effects on body systems. This course will also provide the student with a basic understanding of pharmacology necessary for safe drug administration.
Prerequisites: None.
(2 C: 2 lect/pres, 0 lab, 0 other)

EMSP 1406 - Paramedicine II

This course will cover the Pulmonary and Cardiology portion of module five of the 1998 National Standard Paramedic Curriculum. Emphasis is placed on pathophysiological principals and assessment findings for the student to formulate a field impression and implement a treatment plan for a patient with a respiratory or cardiovascular emergency.
Prerequisites: None.
(3 C: 3 lect/pres, 0 lab, 0 other)

EMSP 1408 - Paramedicine Skills II

This course is the skills component of EMSP 1406 and EMSP 1404, reflective of the 1998 National Standards Paramedic Curriculum. It will continue to enhance and refine the skills learned in EMSP 1402. Fundamental skills of critical cardiac and respiratory related emergencies will be enhanced. More advanced techniques and skills such as rapid sequence intubation, 12-lead application and interpretation, thoracentesis and surgical airways will be explored. Emphasis is placed on scenario-based learning.
Prerequisites: None.
(3 C: 0 lect/pres, 3 lab, 0 other)

EMSP 1430 - BLS Ambulance Clinical

This course is designed to introduce the student to the BLS and ALS ambulance operations. The student will observe the operations, procedures, and cares provided by the pre-hospital personnel along with performing BLS level skills and advanced patient assessment.
Prerequisites: None.
(1 C: 0 lect/pres, 1 lab, 0 other)

EMSP 1432 - Critical Care Clinical

This course is designed to allow the Paramedicine student to refine basic and advanced airway management skills and knowledge along with I.V. therapy techniques in a clinical setting. Opportunity is also afforded to allow students to develop an understanding of care given in a critical care setting. The student utilizes all of the knowledge and skills learned to this point to provide and assist in patient care in this setting under the direct supervision of an Anesthesiologist, Registered Nurse or both.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

EMSP 1434 - Support Services Clinical

This course covers the various support services and ancillary areas in a clinical setting that affect what a Paramedic does in the field. The student utilizes all of the knowledge and skills learned to this point to provide and assist in patient care in this setting under the direct supervision of a Registered Nurse and/or Physician.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

EMSP 1436 - ALS Ambulance Clinical

This course is designed to introduce the student to an Advanced Life Support ambulance service. The student will become familiar with the operations, procedures and care provided by the Paramedic in the field. The student will be involved with BLS and ALS patient care, treatment and transport under the direct supervision of a staff Paramedic.

Prerequisites: None.

(4 C: 1 lect/pres, 0 lab, 3 other)

EMSP 2410 - Paramedicine III

This course covers the medical portion of the 1998 National Standard Paramedic Curriculum. Topics covered are Hematology, OB/GYN, Toxicology, Gastroenterology, Neurology, Endocrinology and others. Emphasis is placed on understanding pathology and how it relates to specific medical emergencies. Students also learn to "put it all together" and practice assessment, management and treatment of various medical and traumatic emergencies in scenario based learning.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

EMSP 2438 - Emergency Room Clinical

This course covers the operations of the Emergency Department of a Level I or Level II trauma center. The student utilizes all of the knowledge and skills learned to this point to provide and assist in patient care in this setting under the direct supervision of a registered Nurse and/or Physician.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

EMSP 2440 - Acute Care Clinical

This course includes clinical rotation through labor and delivery, pediatrics and psychiatry. The student utilizes all of the knowledge and skills learned to this point to provide and assist in patient care in this setting under the supervision of appropriate staff.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

EMSP 2480 - Paramedicine Externship

This course covers the application of advanced level skills and knowledge in the evaluation and care of the sick and injured patient. The student will be involved in practicing the art and science of out-of-hospital medicine as a team member and a team leader under the direct supervision of a staff paramedic.

Prerequisites: None.

(8 C: 0 lect/pres, 0 lab, 8 other)

ENGL 0306 - Basic Writing

Provides an overview in the basic study and review of standard written and spoken English. The course emphasizes English usage, sentence structure, punctuation, grammar, spelling, paragraph writing, and an introduction to composition.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ENGL 0350 - Introduction to Practical Writing

This is the second course in the developmental sequence for students seeking a diploma. The focus will be on developing practical writing skills. Students will be introduced to organization, audience, tone, purpose, and forms of development. Special emphasis will be placed on mechanics. Students entering this course will have scored between the 13th and 25th percentiles on the Accuplacer Test or have successfully completed GCOM 0306. This course is developmental and does not fulfill a general studies requirement.

Prerequisites: Appropriate Accuplacer Score.

(2 C: 2 lect/pres, 0 lab, 0 other)

ENGL 0360 - Introduction to Analytical Writing

This is the second course in the developmental sequence for students seeking and AAS degree. In this preparatory course, students will study and apply principles of sentence, paragraph, research, and essay structure as they read and write narrative, descriptive, expository and persuasive pieces. This course is developmental and does not fulfill a general education requirement.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1100 - Writing for the Workplace

Emphasizes writing skills impacting academic success, personal development, and social/cultural involvement. Organization, tone, purpose, mechanics, and forms of development are addressed along with general communication issues.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1301 - Technical Writing

Meets MN Transfer Goal 1 - Communication

This course will teach students the established basics for effective written composition in the business world. They will learn how to write and design visually effective print and electronic documents so that people can understand them clearly and use them efficiently. Students will learn how to analyze their audience, apply this knowledge to their written documents, and demonstrate that their choices were informed, accurate, and effective.

Prerequisites: Appropriate Accuplacer Score.

(4 C: 4 lect/pres, 0 lab, 0 other)

ENGL 1302 - Analytical Writing

Meets MN Transfer Goal 1 - Communication

This course is designed to develop the writing, research and analysis skills necessary for success in academic work. The participants will analyze and discuss critically readings from the text. They will plan, write, and revise personal essays and work effectively in peer evaluation groups. They will develop research skills in a variety of projects, culminating in one extensive research paper.

Prerequisites: Appropriate Accuplacer Score.

(4 C: 4 lect/pres, 0 lab, 0 other)

ENGL 1321 - Introduction to Modern Fiction

Meets MN Transfer Goal 6 - Humanities/Fine Arts

This course is designed to be an interesting survey of modern literature representing the traditional to the avant grade. Students will read, interpret, discuss and write about this literature.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1322 - Introduction to Literature

Meets MN Transfer Goal 6 - Humanities/Fine Arts

An introduction to the study of creative literature in order to engage in critical analysis, form aesthetic judgments and develop an appreciation of literature as essential to the survival and enrichment of society.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1340 - Introduction to Multicultural Literature

Meets MN Transfer Goals 6 and 7 - Humanities/Fine Arts and Human Diversity

This course provides a broad introduction to multicultural literature. Students will read, discuss, and analyze various types of multicultural literature. Literature to be studied may include the following: Native American, Holocaust, African American, Japanese American, Latino/Latina, Chicano/Chicana, Vietnam War, or Gay/Lesbian, or Chinese American.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1341 - Introduction to Women's Literature

Meets MN Transfer Goal 6 - Humanities/Fine Arts

This course introduces students to the history, language and culture of women's literature. In this course, students will gain an understanding of women's lives from the past and in the present in relationship to themselves, their children and their male counterparts.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ETEC 1506 - Digital Electronics

This is a first course in Digital Electronics. A background in basic electronics is helpful for the understanding of some of the material presented in this course but not required. The primary goals of this course are to help individuals acquire a solid foundation in digital electronics and to apply these skills through simulation and laboratory experiments. Topics include: number systems and codes, logic gates and boolean algebra, combinational logic circuits, flip-flops, counters and registers, integrated circuits, and interfacing with the analog world.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

ETEC 1509 - AC/DC Electricity - Modified Course for Tech Prep

This is an introductory course in Basic Electronics. This course is designed for students who have no previous experience in electronics and for those who need a review of basic electronic concepts. The primary goals of this course are to help individuals acquire a solid foundation in the basic electronic skills and to apply these skills through problem solving, simulation, and laboratory experiments.

Topics include: conductors and insulators, resistors, capacitors, inductors, Ohm's law, series circuits parallel circuits, series-parallel circuits, voltage and current dividers, meters, Kirchhoff's laws, Thevenin and Norton theorems, batteries, magnetism, induction, alternating voltage and current, reactance, ac circuits, time constants, and resonance.

NOTES:

For details of topics covered in the high school variable course, please refer to appropriate advanced standing articulation agreement.

This variable course is designed to allow students with Advanced Standing credit for ETEC 1509 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (ETEC 1509) will be delivered concurrently with ETEC 1510.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

ETEC 1510 - AC/DC Electricity

This is an introductory course in Basic Electronics. This course is designed for students who have no previous experience in electronics and for those who need a review of basic electronic concepts. The primary goals of this course are to help individuals acquire a solid foundation in the basic electronic skills and to apply these skills through simulation and laboratory experiments. Topics include: conductors and insulators, resistors, capacitors, inductors, ohm's law, series circuits, parallel circuits, series-parallel circuits, voltage and current dividers, meters, kirchhoff's laws, thevenin and norton theorems, batteries, magnetism, induction, alternating voltage and current, reactance, ac circuits, time constants and resonance.

Prerequisites: None.

(8 C: 5 lect/pres, 3 lab, 0 other)

ETEC 1520 - Semiconductor Devices

This is a first course in semiconductor devices and their utilization in modern electronic circuitry. This course is designed for students who have a good working knowledge of basic electronics. The primary goals of this course are to help individuals acquire a solid foundation in using, analyzing, and troubleshooting semiconductor circuits. Individuals will apply these skills through simulation and laboratory experiments. Topics include: semiconductor theory, diodes, bipolar and field effect transistors, transistor biasing, ac models, voltage and power amplifiers, silicon controlled rectifiers, frequency analysis, operational amplifiers, feedback, active filters, comparators, oscillators, power supplies, operation of basic test equipment, handling procedures for semiconductor devices, and experimental verification of semiconductor device characteristics. (Prerequisite: ETEC 1901)

Prerequisites: None.

(8 C: 4 lect/pres, 4 lab, 0 other)

ETEC 2504 - Telecommunications

This course covers telecommunications fundamentals by introducing the student to the technical concepts, equipment, and test procedures involved with the generation and distribution of telecommunication signals; and the basic concepts that govern the operation of today's telecommunications systems.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ETEC 2508 - Telecommunications II

This course covers central office design, installation and maintenance. Topics include dialed number code routing translations, DS1 Digital Trunk Interfaces, POTS Lines, customer subscriber features and feature Interactions, traffic measurement principles, ATM switching principles, DSL, record keeping, and regular system backups. Power plants and grounding are also covered. The student will acquire a working knowledge of different types of central office equipment, and their installation and maintenance requirements. Individuals will apply these skills through problem solving and laboratory experiments.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

ETEC 2511 - Fluid Power

This course is an introductory course in Fluid Power. This course is designed for students who have no previous experience in fluid power or hydraulics. The primary goals of this course are to help individuals acquire a practical knowledge of fluid power and hydraulic components and systems and to apply these skills through problem solving, simulation, and laboratory experiments. Topics include: pressure, flow, properties of fluids, fluid conductors, seals, reservoirs, contamination control, actuators, directional control valves, pressure controls, flow controls, proportional and servo valves, pumps, motors, accessories, hydraulic circuits and systems.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

EETEC 2514 - Cabling and Termination

This course covers fundamental principles for cable splicing. Topics include cable construction, basics of transmissions, color coding, cable lay-ups and closures, and splicing of cables used in the telephone and cable television industries. The student will learn procedures in installing cable TV and telephone drop wire to customer homes; including proper grounding and grounding techniques, safety, connector installation, cable routing, methods of attachment, dwelling entry, and the types of drop cable and their specific uses are discussed. The student will acquire a solid foundation in the different types of cable used in the telecommunications industry, their specific applications, splicing, termination and safety. Individuals will apply these skills through problem solving and laboratory experiments.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

EETEC 2518 - RF Engineering Concepts

This course covers the fundamentals of radio frequency oscillators, amplitude modulation/demodulation, and AM/FM receiver circuitry, radio frequency amplifiers, transmitters, transmission lines, and antennas.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

EETEC 2520 - Fundamentals of Instrumentation

This is an introductory course in instrumentation. This course is designed for students who have no previous experience in instrumentation. The primary goals of this course are to help individuals acquire a practical working knowledge of process control instruments and systems, and to acquire the necessary skills to install and maintain these systems through simulation and laboratory experiments. Topics include: level, pressure, flow and temperature sensors, electronic and pneumatic instruments, signal conditioning, control and process diagrams, calibration of instruments, control components and systems.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

EETEC 2524 - Telecom Outside Plant Construction

This course covers basic construction of a pole line, aerial suspension strand, underground cable construction, locating of buried plant, and aerial plant cable construction for the telephone and cable television industries. The student will acquire a solid foundation in the layout, construction, and maintenance of a telecom outside plant. Individuals will apply these skills through problem solving and laboratory experiments.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

EETEC 2528 - Fiber Optics

This course covers fiber optics starting with transmission of light to installation and repair of fiber optic systems. A student will be able to analyze problems in a fiber optic system and make effective repairs including fiber optic slicing, termination, and fusing using appropriate test equipment.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

EETEC 2530 - Process Control Systems

This is an introductory course in instrumentation. This course is designed for students who have successfully completed the Fundamentals of Instrumentation course. The primary goals of this course are to help individuals acquire a more in-depth knowledge of process control systems, and to acquire the necessary skills to analyze these systems through simulation and laboratory experiments. Topics include: feedback and feed-forward control loops, cascade loops, PID controllers, ratio controllers, batch control, tuning control loops, analyzing and troubleshooting control systems.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

EETEC 2534 - Telecommunications Systems

In this course the student explores different types of telecommunication systems from the plain old telephone service to the new digital hybrids. The student will become familiar with design and installation of analog and digital systems as they pertain to the telecommunications world. The student will acquire a solid foundation in the installation and configuration of different telecommunication systems, both analog and digital, and how to operate a system containing both. Individuals will apply these skills through problem solving and laboratory experiments.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

EETEC 2536 - Broadband System Design and Analysis I

In this course the student will activate, test, and balance a cable television system using various types and brands of equipment. The student will become familiar with the equipment used in signal transportation, learn the techniques involved with balancing and troubleshooting various types and brands of line amplifiers using a variety of test equipment. The student will learn designing of a complete CATV system, feeder and trunk lines with proper location of all active and passive devices including fiber optic and coaxial cable (HFC systems). The student will acquire a solid foundation in the design, operation and maintenance of a Broadband distribution system. Individuals will apply these skills through problem solving and laboratory experiments.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

EETEC 2538 - Broadband System Design and Analysis II

This course covers designing a cable TV system with computer software and printing/plotting results of design and it covers equipment in a cable TV head end, including signal processors, encoding, combining signals, and identification of unacceptable video and sound qualities. The student will troubleshoot and repair said equipment as to manufacturer's specifications. The student will be introduced to the equipment used to analyze cable television system parameters; and learn the techniques involved in the operation and maintenance of various types and brands of test equipment. The student will acquire a solid foundation in cable TV design with software, including head end equipment operation and maintenance. Individuals will apply these skills through problem solving and laboratory experiments.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

EETEC 2540 - Automation

This is a fundamental course in automated control circuits, devices and systems. This course is designed for students who have a good working knowledge of basic electricity. A background in semiconductor and digital devices would be helpful but not necessary to be successful in this course. Students will acquire a working knowledge of automated circuits, systems and devices by building and testing actual control circuits, and programming programmable logic controllers. Topics include: contact and non-contact sensors, solenoids, relays and relay logic, AC/DC motors, timing devices, counters, encoders, servomechanisms, programmable controllers, robotics, computer-numeric controllers, ladder logic, and ladder diagrams.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

EETEC 2550 - Automation Project Lab

This course is a hands on course in automation. Students will design, build and test basic automated control circuits, select appropriate components, interpret system specifications, write, modify and debug programs for programmable logic controllers and troubleshoot and repair automatic control circuits and systems. Projects include: machine sequencing, elevator control, bottle filling system, material handling systems, robotic systems and motor control systems.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

ETEC 2552 - Structured Programming Logic for Control Systems

This course gives students a fundamental understanding of programming structures, procedural and object oriented programming, pseudocode and the use of flow charts. Students will use those structures to implement automated processes and control systems.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

ETEC 2562 - Instrumentation Flex Lab

This is a capstone course that allows students to expand their knowledge and skills in a specific area of interest. Students may work as an individual or as a member of a 2 person team. Students choose their project, perform the necessary research, design, build, test, demonstrate the working project and submit a written paper about the project.

This is a variable credit course, with 2-8 credits.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

FBMT 1112 - Foundations for Farm Business Management

This course is an overview of the Farm Business Management Program. The student will be introduced to goal setting, self and business assessment, recordkeeping, and business projects to provide the foundation for personal and business management progress. Current issues affecting business management are an integral part of the course.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 1121 - Preparation for Farm Business Analysis

This course will take the student through a step-by-step procedure to close out a complete year of farm business records. The course will emphasize tax planning, completing inputs to livestock and crop enterprises, and emphasize cash and liabilities accuracy.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 1122 - Implementing the System Management Plan

In this course the student will complete a farm business financial and interprise analysis. Sound financial record keeping is an ntegral component of this course.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 1131 - Managing and Modifying Farm System Data

This course will help the student refine their farm business data system and assist them in applying yar end procedures for farm business analysis. Students improve accuracy in the following: farm enterprise analysis, tax planning and filing, and cash and liabilities checks.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 1132 - Interpreting and Using Farm System Data

This course provides an opportunity for the student to view the farm business and its various components through a number of vehicles such as balance sheets, farm personal and managerial inventories, enterprise reports and historical data.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 1211 - Introduction to Farm Business Management

This course introduces basic farm business management concepts. Students will study the farm management planning cycle and develop an understanding of its relationship to: family and farm busines goal setting, cash and enterprise accounting principles, and tax planning.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 1213 - Managing a Farm System in a Global Economy

This course assists the students in achieving awareness of development in agricultural policies and practices throughout the world and assessing the impact of these policies and practices on the profitability and viability of their farm business.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 1223 - Using System Analysis in Total Farm Planning

This course enables study of concepts related to farm business analysis, and exploration of possible implications and/or solutions to these concepts. A systematic method to assess farm business strengths and weaknesses based on the analysis will be used.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 1233 - Application of Productive Enterprise Information

This course describes procedures for applying enterprise information provided by computerized analysis of farm business accounts.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2141 - Interpreting and Evaluation of Financial Data

This course continues to expand on preparation and evaluation of the farm business analysis. This course provides continued guidance and perfection of business record close out procedures, tax implications of management decisions, and continues to monitor farm business and family goals.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 2142 - Interpreting Trends in Business Planning

This course examines whole farm, enterprise, balance sheet, and inventory trends. Current analysis data is compared to historical data in making future farm business planning decisions. Financial ratios are used to indicate the farm financial structure.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 2151 - Strategies in Farm System Data Management

This course will help the student focus on long term strategies necessary to maintain and enhance the farm business and personal future financial goals. The student will complete the year by developing an accurate, usable business analysis.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 2152 - Integrating System Information for Financial Planning

This cours uses farm system information to develop a farm financial plan. Interpretation and analysis of the farm system data will enhance the reliability of the farm plan. The comprehensive farm plan will integrate historical trends, farm and personal goals, financial and enterprise performance of the farm business.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 2161 - Examination of the Context of Farm System Management

This course is designed to assist students in preparation of improved farm system management procedures. Students in this course will evaluate several years of an improved farm system analysis.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 2162 - Refining Farm System Management

This course is the culmination of activities designed to enable the student to develop an implement a comprehensive farm business strategic plan. The student will use the components of the Farm Business Management Program to develop and support a farm business strategic plan.

Prerequisites: None.

(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 2200 - Special Topics- General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2201 - Special Topics - General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2202 - Special Topics - General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2203 - Special Topics - General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2204 - Special Topics - General Farm Management

This course is designed for farmers and/or agribusiness people with little or no Internet experience. Topics will include: accessing the Internet, use of various search engines, Internet access providers, and exploration of agriculture topics and issues.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2205 - Special Topics - General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2206 - Special Topics - General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2207 - Special Topics - General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2208 - Special Topics - General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2209 - Special Topics - General Farm Management

This course covers special topics of interest in general farm management.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2210 - Special Topics-Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2211 - Special Topics - Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2212 - Special Topics - Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2213 - Special Topics - Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2214 - Special Topics - Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2215 - Special Topics - Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2216 - Special Topics - Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2217 - Special Topics - Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2218 - Special Topics - Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2219 - Special Topics-Marketing

This course covers special topics of interest in marketing.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2220 - Special Topics - Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2221 - Special Topics-Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2222 - Special Topics - Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2223 - Special Topics-Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2224 - Special Topics- Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2225 - Special Topics - Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2226 - Special Topics - Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2227 - Special Topics - Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2228 - Special Topics - Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2229 - Special Topics - Crops

This course covers special topics of interest in crops.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2230 - Special Topics - Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2231 - Special Topics-Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2232 - Special Topics-Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2233 - Milker Training School

The objective of this two-day milking school is to provide practical training for dairy farmers and/or dairy employees in the following:

the importance of milk quality, cow handling and behavior, proper milking machine operation and maintenance, effective implementation of mastitis control measures and guidelines for effective treatment, residue avoidance and record keeping, cow comfort and sanitation, effective post milking equipment clean-up, and employment skills.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2234 - Special Topics - Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2235 - Special Topics-Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2236 - Special Topics - Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2237 - Special Topics - Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2238 - Special Topics - Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2239 - Special Topics-Livestock

This course covers special topics of interest in livestock.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2243 - Using Financial Instruments in Farm System Management

This course integrates the application of various financial instruments used in acquiring capital for use in the business and investigates the way in which both earnings and financial progress can be measured.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2253 - System Plans and Projections

This course enables the combination of concepts for preparing farm systems plans and projections, and the interaction of possible implications and/or solutions of these concepts.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2263 - Evaluating Farm System Programs

This course develops an awareness of individuals and agencies, both public and private, which have expertise available to assist the farm operator to solve farm systems problems. It enables study and application of farm business evaluation concepts, and exploration of possible implications. Exact subject matter and time spent per topics will vary depending on student need, location, and time.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2300 - Computer Applications in Business Management

This course will discuss basic computer literacy, identify commonly used software, and demonstrate the uses of commonly used software.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2305 - Legal Issues in Business Management

This course will examine rental contracts, liability insurance, purchase agreements, and farm transfer issues.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2310 - Environmental Interactions in Agriculture

This course will examine a variety of environmental issues related to agriculture and suggested ways in which to address the issues.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2315 - Effective Time Management

This course provides instruction on developing time management skills, converting skills into habits, responding to multiple demands and addressing change.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2320 - Family and Business Relationships

This course explores the interaction of family members resulting from challenges during the operation of a family owned business. This will deal with communication and other issues related to multiple family businesses as well as multi-generational businesses.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2325 - Ethics in this Business of Agriculture

This course identifies and evaluates current issues relating to the ethics of business practices. Students review animal rights, proper chemical qualities, and general ethical practices.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2330 - Business Math Principles

This course applies basic mathematic calculations as they relate to business management. Topics included are: addition, subtraction, multiplication, division, percentages, decimals, fractions, volumes, area ratios and basic formulas.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2335 - Labor Economics and Management

This course will address the use of labor in agriculture, labor work agreements, hired labor tax issues, and the evaluation of labor usage in a business.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2340 - Rural Leadership and Communication

This course will improve the students oral, written and electronic communication skills. Basic principles relating to meetings, conduct, letter writing, public speaking, facsimile, e-mail and internet application use will be addressed.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2345 - CPR and First Aid

This course covers primary and secondary assessments, first responder roles and responsibilities, determining vital signs, treating emergencies, mouth to mouth breathing, CPR, controlling bleeding, treatment of shock and treating injuries in emergency and disaster situations.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 3100 - Fundamentals of Financial Mgmt. as it relates to Risk Mgmt.

This course is intended to have the student enhance their decision-making skills relating to business risk management. This course will have the student further investigate tools available to their business that would be effective in reducing potential risk for their operation. Emphasis will be placed on having the student research risk management options that will meet their business, family, and personal needs.

Prerequisites: None.

(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 3101 - Applied Financial Management as it Relates to Risk Management

This course is intended to have the student apply concepts in financial management that can be used in the development of a business risk management program. The student is to implement risk management tools that will assist in meeting their business, family and personal needs.

Prerequisites: None.

(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 3110 - Fundamentals of Financial Mgmt/Strategic Planning Emphasis

This course will enable students to identify the elements necessary to evaluate and create a strategic plan for the business. Determining uses for the plan today and tomorrow and developing a plan to locate those team members necessary for strategic plan creation.

Prerequisites: None.

(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 3111 - Applied Financial Mgmt./Strategic Planning Emphasis

This course will provide practical application of strategic planning skills. Application skills will be practiced upon and applied to the student's business and business plan.

Prerequisites: None.

(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 3120 - Fundamental of Financial Management/Business Plan Emphasis

This course will provide practical application of the business plan. Application skills will be practiced and applied as the student's business plan is prepared and implemented.

Prerequisites: None.

(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 3121 - Applications of Financial Management/Business Plans

This course will provide the necessary instruction to put together and implement a business plan for the farm business.

Prerequisites: None.

(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 3130 - Directed Study - Decision Making

This course will examine the individual, family and farm business decision making process with emphasis on upgrading and improving decision making resources, tools and skills. Particularly, this course will lead the student to critically analyze information, applications and implications of decision making as it relates to their own situation. Students will evaluate their own decision making process.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 3131 - Directed Study - Communications

This course will assist the student in further acquiring and developing a higher level of communications skills. Students will review and evaluate various communication methods and techniques in dealing with and relating to individuals in both the public and private sectors. Students will use this information in formulating an effective communication method and style. Additional course content may include student initiated or group activities.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 3132 - Directed Studies in Modern Agricultural Technology

This course will deal with experiencing modern agricultural technological changes and determining if they fit into an individual's farming operation.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 3133 - Directed Studies in Farm Business and/or Family Transition

This course will focus on the many methods of farm business and/or family transition problems confronted during transition, family and/or transition needs and concerns, how to plan for farm business and/or family transition, and actually implementing a farm business and/or family transition plan.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 3134 - Directed Study - Personnel Management

This course will organize skills for effective management of farm employees and agribusiness personnel through development of; handbooks, compensation/incentive packages, individual expectations/evaluations, and team meetings.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 3135 - Directed Study - Enterprise Alternatives

This course will assist those students wanting to make changes in their farm business through enterprise expansion, addition or enhancement. The course will develop a set of procedures for exploring and evaluating alternative choices.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

FFCR 1520 - Fire Fighting I

Students will be enabled to apply the fundamental skills and knowledge required to function as a Fire Fighter under direct supervision on the fire ground. Emphasis is placed on skills needed for fire suppression in a safe and effective manner in accordance with the National Fire Protection Association (NFPA) 1001 Standards.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

FFCR 1550 - Leadership for the Chief Fire Officer

Students will be enabled to apply the fundamental leadership skills and knowledge required to function as an entry level Chief Fire Officer. Emphasis will be placed on leadership styles, techniques and the unique challenges of leadership

utilizing a military structure in both volunteer and paid departments.

This course will be taught utilizing the "Chief Officers Training Curriculum, Leadership," written and administered through the UNITED STATES FIRE ADMINISTRATION and the UNITED STATES NATIONAL FIRE ACADEMY.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

FFCR 1552 - Human Resource Development

Students will be enabled to apply the fundamental skills and knowledge in the area of human resources required to function as an entry level Chief Fire Officer. Emphasis will be placed on workforce management, organizational environment, diversity and personnel support techniques within a military structure in both volunteer and paid departments.

This course will be taught utilizing the "Chief Officers Training Curriculum, Human Resource Development" written and administered through the UNITED STATES FIRE ADMINISTRATION and the UNITED STATES NATIONAL FIRE ACADEMY.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

FFCR 1554 - Community Risk Reduction

Students will be enabled to apply the fundamental skills and knowledge in the area of Community Risk Reduction required to function as an entry level Chief Fire Officer. Emphasis will be placed on developing and managing a risk reduction plan based on response areas or neighborhood-based risk reduction programs utilizing a systematic analysis of the target audience and the profile of their communities.

This course will be taught utilizing the "Chief Officers Training Curriculum, Community Risk Reduction" written and administered through the UNITED STATES FIRE ADMINISTRATION and the UNITED STATES NATIONAL FIRE ACADEMY.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

FFCR 1556 - Operations for the Chief Officer

Students will be enabled to apply the fundamental skills and knowledge in the area of operations required to function as an entry level Chief Fire Officer. Emphasis will be placed on developing skills and knowledge to effectively make strategic decisions when managing a complex incident.

This course will be taught utilizing the "Chief Officers Training Curriculum, Operations" written and administered through the UNITED STATES FIRE ADMINISTRATION and the UNITED STATES NATIONAL FIRE ACADEMY.

Prerequisites: None.

(5 C: 5 lect/pres, 0 lab, 0 other)

GBEH 1300 - Human Relations

In this course the students and instructor will analyze human relationships in social, institutional, and cultural contexts. They will also analyze the effects of attitudes, values, and beliefs on communication and behavior. Examination of the roots of privilege, oppression, and cultural change are also included.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

GBUS 1320 - Professional Development I

This course will help students develop team building skills, leadership skills, enhance their personal and professional confidence.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

GBUS 1324 - Professional Development II

This course will introduce students to total quality management, team building and networking skills. Students will explore their humanitarian responsibility, personal accountability and develop organizational and management skills.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

GBUS 1328 - Professional Development III

This course will help the student use individual and team skills in various meetings and community activities. The Spring or Fall Home Shows, Parade of Homes, and business tours would be included.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

GBUS 1340 - Principles of Quality/Team Building

This is an introductory class that provides students with an overview of the theory and evaluation of Total Quality Management, basic TQM skills and tools, and specific applications of TQM for classroom use where the students play an active role in the learning process.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

GCOM 1360 - Interpersonal and Group Communication

Students will develop interpersonal communication skills in different relationships and communication contexts. Principles and dynamics of small group communication will be applied in group projects and activities.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

GEOG 1300 - World Regional Geography

Meets MN Transfer Goals 5 and 8 - History/Social, Behavioral Sciences and Global Perspectives

A survey of the physical, cultural, economic and political features of the world's geographic regions. Identification of world's countries and major cities.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

GRAD 1200 - Macintosh Operating System

Students will develop skills necessary to work on the Macintosh platform. Topics will include managing folders and files, using the Apple menu, exploring the Internet using a browser, using e-mail and backing up files using the network.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

GRAD 1219 - Adobe Photoshop

Adobe Photoshop is the leading software tool used by the design community and prepress industry to create color corrections and special effects using photographic and computer generated images. Students will learn the functions of this application to create and process images for various outputs, including print media, multimedia, and web images. The basics of scanning will be covered. Design and color theory are taught as integral parts of this class. NOTES: For details of topics covered in the high school variable course, please refer to appropriate advanced standing articulation agreement. This variable course is designed to allow students with Advanced Standing credit for GRAD 1219 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (GRAD 1219) will be delivered concurrently with GRAD 1220.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

GRPH 1205 - QuarkXpress - Modified Course for Tech Prep

QuarkXPress is the dominant page layout program of the graphic arts industry. Students will learn how to use this powerful software to create pamphlets, advertisements, booklets, and just about any printed or digital document. Features include extensive text manipulation, photo and illustration control, color trapping, art and design capabilities, and preparation for output. A highly versatile program is valuable for beginners and professionals alike.

NOTES:

For details of topics covered in the high school variable course, please refer to appropriate Tech Prep articulation agreement.

This variable course is designed to allow students with Tech Prep college credit for GRPH 1205 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (GRPH 1205) will be delivered concurrently with GRPH 1206.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

GRPH 1206 - QuarkXpress

QuarkXpress is the dominant page layout program for the graphic arts industry. Students will learn how to use this powerful software to create pamphlets, advertisements, booklets, and just about any printed or digital document. Features include expansive text manipulation, photo and illustration control, color trapping, art and design capabilities, and preparation for output. A highly versatile program that is valuable for beginners and professionals alike.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

GRPH 1209 - Electronic Imaging - Modified Course for Tech Prep

In today's world of digital communication, the artboard, straight edge, and pencil have been replaced by the computer, scanner, and imagesetter. This course will give you the information you need in order to communicate with these tools.

Included are topics in color theory and application, fundamentals of reproduction, flatbed scanning, output procedures, and an in-depth analysis of the several related but distinct types of electronic resolution - the building blocks of digital imaging.

NOTES:

For details of topics covered in the high school variable course please refer to the appropriate Tech Prep articulation agreement.

This variable course is designed to allow students with Tech Prep college credit for GRPH 1209 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (GRPH 1209) will be delivered concurrently with GRPH 1210.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

GRPH 1210 - Electronic Imaging

In today's world of digital communication, the artboard, straight edge, and pencil have been replaced by the computer, scanner, and imagesetter. This course will give you the information you need in order to communicate with these tools.

Included are topics in color theory and application, fundamentals of reproduction, flatbed scanning, output procedures, and an in-depth analysis of the several related but distinct types of electronic resolution-the building blocks of digital imaging.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

GRPH 1215 - Adobe In-Design

Adobe In-Design is a powerful, design-oriented publishing tools that is quickly becoming a major force in the printing and publishing industries. It lets you integrate text and graphics into finished layouts, and produces files that may be printed to local or networked printers, taken to commercial service providers, or published to the World Wide Web.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

GRPH 1219 - Adobe Illustrator - Modified Course for Tech Prep

The student will perform skills in a vector based draw program. The course will cover an introduction to Adobe Illustrator as well as advanced information. Emphasis is on Macintosh equipment. Students will gain knowledge in the program through weekly assignments and lecture.

NOTES:

For details of topics covered in the high school variable course, please refer to the appropriate advanced standing articulation agreement.

This variable course is designed to allow students with Tech Prep college credit for GRPH 1219 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (GRPH 1219) will be delivered concurrently with GRPH 1220.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

GRPH 1220 - Adobe Illustrator

The student will perform skills in a vector based graphics program. The course will cover an introduction to Adobe Illustrator as well as advanced information. Emphasis is on skills acquisition in the software as well as output. Students will gain knowledge in the program through weekly assignments and lecture. (There are no prerequisites for the course, but Macintosh computer familiarity would be helpful).

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

GRPH 1224 - Adobe Photoshop - Modified Course for Tech Prep

Adobe Photoshop is the leading software tool used by the design community and prepress industry to create color corrections and special effects using photographic and computer generated images. Students will learn the functions of this application to create and process images for various outputs, including print media, multimedia, and web images. The basics of scanning will be covered. Design and color theory are taught as integral parts of this class.

NOTES:

For details of topics covered in the high school variable course, please refer to appropriate advanced standing articulation agreement.

This variable course is designed to allow students with ADvanced Standing credit for GRPH 1224 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (GRPH 1224) will be delivered concurrently with GRPH 1225.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

GRPH 1225 - Adobe Photoshop

Adobe Photoshop is the leading software tool used by the design community and prepress industry to create color corrections and special effects using photographic and computer generated images. Students will learn the functions of this application to create and process images for various outputs, including print media, multimedia, and web images. The basics of scanning will be covered. Design and color theory are taught as integral parts of this class.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

GRPH 1230 - Web Design Fundamentals

Web Site Fundamentals covers the creation and design of a web site. In this course students will learn basic technologies that go into the construction of web sites. This course is not intended to make the student a programmer, but to make them comfortable with a basic knowledge of HTML, web editors, and associated web design techniques.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

GRPH 1249 - Offset Press Operations I - Modified Course for Tech Prep

The student will work with several different duplicators with emphasis on set up, theory, operation, basic job planning, copy adjustment, cleanliness, care of equipment, and safety. The student also practices minor plate and press trouble shooting.

NOTES:

For details of topics covered in the high school variable course please refer to the appropriate Tech Prep College Credit articulation agreement.

This variable course is designed to allow students with Tech Prep College credit for GRPH 1249 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (GRPH 1249) will be delivered concurrently with GRPH 1250.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

GRPH 1250 - Offset Press Operation I

The student will work with several different duplicators with emphasis on set up, theory of operation, basic job planning, copy adjustment, cleanliness, care of equipment, and safety. The student also practices minor plate and press trouble shooting.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

GRPH 1252 - Offset Press Operation II

The student will refine basic press operation skills. This course will concentrate on close register and critical pressure adjustment, as well as maintenance. Four-color process will be produced on the latest up-to-date Heidelberg equipment.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

GRPH 1260 - Graphic Design for Printers

This course will introduce students to a methodical approach to problems of graphic design. Emphasis will be placed on the elements of design and development of graphic communication projects as they relate specifically to the printing industry.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

GRPH 1280 - Print Production

This course covers the production aspect of Graphic Arts. The production class is designed for advance students. In the class the student will work in a print shop setting. The object of the course is to take in coming work and flow it through a print environment. Emphasis will be on becoming more efficient and productive.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

GRPH 2212 - Advanced Production Techniques I

This course provides those students who have shown proficiency in the previous classes an opportunity to move beyond the standard curriculum and customize a program that will give them expanded experience in the field of their choice. Having gained an introduction to the many areas in the graphic arts industry over the preceding semesters, students can choose to advance in press operation, electronic publishing/electronic prepress, or a combination of all. Techniques and equipment used are dependent upon the individual student's needs.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

GRPH 2214 - Advanced Production Techniques II

This course provides those students who have shown proficiency in the previous classes an opportunity to move beyond the standard curriculum and customize a program that will give them expanded experience in the field of their choice. Having gained an introduction to the many areas in the graphic arts industry over the preceding semesters, students can choose to advance in press operation, electronic publishing/electronic prepress, or a combination of all. Techniques and equipment used are dependent upon the individual student's needs. A continuation of Advanced Production Techniques I.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

GRPH 2222 - Supervised Internship I

This course features a cooperative on-the-job education program for students interested in internships within the printing industry. Application of competencies gained from previous courses will be identified in an individual training plan to provide meaningful occupational experience in the career area of the student's choice.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

GRPH 2224 - Supervised Internship II

This course features a cooperative on-the-job education program for students interested in internships within the printing industry. Application of competencies gained from previous courses will be identified in an individual training plan to provide meaningful occupational experience in the career area of the student's choice. A continuation of Supervised Internship I.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

GSCM 0060 - Beginning ESL: Grammar, Speaking, Writing Reading

Designed for non-native English speakers who wish to develop basic language skills necessary for communication in written and spoken forms. Instruction in the course will promote overall English language proficiency, with an intensive focus on reading and writing. Additional work with an ESL tutor may be required.

Prerequisites: None.

(2 C: 2 lect/pres, 1 lab, -1 other)

GSCM 0065 - Intermediate ESL: Grammar, Speaking, Writing, Reading

Designed for non-native speakers who have demonstrated general fluency in reading and writing English, and need to develop clarity in using English for academic purposes. Instruction in the course will focus in reading and writing responses to texts, with an emphasis on grammar rules and their application. The course will also provide practice in stress, rhythm, and intonation patterns, and in troublesome consonant and vowel sounds. Additional hours in lab or with an ESL tutor may be recommended.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

GSCM 0070 - Advanced ESL: Grammar, Speaking, Writing, Reading

Designed for non-native English speakers who are enrolling in college-level courses with require moderate to have amounts of reading, writing, and note-taking. Students recommended to take this advanced course will have achieved the reading and writing aims of the Basic and Intermediate ESL courses, but still need to improve grammatical and lexical accuracy in a variety of writing tasks. Reading and writing assignments will be linked to assignments in content area courses.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

GSCM 0075 - English Skills Lab for non-Native Speakers

English skills lab is designed to provide non-native speakers of English with basic vocabulary, grammar, writing, reading and listening skills. Students meet with instructor to design a program and arrange meeting times best suited to their course of study.

This is a variable credit course, with 1-6 credits.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

GTEC 1300 - Introduction to Construction Technology

This course will enable the student to understand the influence of technology on construction. Emphasis will be on different kinds of construction and how they effect the environment. Technology of tool design will also be discussed.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

GTEC 1304 - The Automobile in America

Explore the history and future of the automobile and its impact on labor, culture, society, the environment, and the economy of the United States. Analyze the effect of the automobile on your present and future lifestyles.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

GTEC 1320 - Environmental Technology

This course is designed to stimulate an awareness of new technology and how it will bring about change. An examination of expanding population problems, land development, use of natural resources, building design and recycling will be addressed.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HART 1502 - Copper and Gas Piping

In this course students will learn to solder, braze, swage and flare copper tubing as used in the HART field. Students will also learn how to cut, debur, and thread gas piping for the HART field.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

HART 1506 - Schematics and Blue Print Reading

In this course students will study, draw and read wiring schematics so they can properly analyze electrical problems in furnaces and air conditioners. Students will also learn to read blueprints to properly size furnace and air conditioners for residential homes.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

HART 1510 - Sheetmetal

This course will enable you to use sheet metal hand tools, squaring sheer and brake to make simple sheetmetal fittings. Students will lay out and make many different sheetmetal projects in residential heating and air conditioning.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

HART 1514 - Forced Air Heating

In this course you will study different types of residential furnaces, gas and fuel oil. The function of each component and how they operate together to make the furnace safe and function properly to heat your home.

Prerequisites: None.

(5 C: 3 lect/pres, 2 lab, 0 other)

HART 1518 - Electrical Controls for Heating and A/C

This course will start out with the fundamentals of electricity and take you through the safety and operative controls in residential heating and a/c. You will learn how they operate, what they control, and what the controls are protecting and how they are protecting the unit, device or structure.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

HART 1522 - Installation of Heating and A/C

This course will enable you to install furnaces and A/C in residential houses. It also includes gas piping standard and two pound systems. Also the proper venting of standard and high efficiency furnaces. You will be able to correctly install evaporators and condensing units for central A/C.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

HART 1526 - Principles of Air Conditioning

In this course you will be introduced to refrigeration systems used in air conditioning. You will also learn the function of the four basic components of the a/c, evaporator, condensor, compressor and metering devices. Also charging, evacuating and reclaiming residential a/c systems.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

HART 1530 - Heat Pumps

In this course you will study fundamentals of heat pump as applied to both heating and a/c. Both air-to-air heat pump and ground source heat pumps and how each work.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

HART 1534 - Troubleshooting Heating and A/C

This course will enable you to diagnose malfunctions in residential heating and A/C systems by learning the proper troubleshooting techniques, repairing or replacing defective components.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

HART 1538 - HART Job Preparation

This course is designed to prepare students for job seeking skills necessary to complete a resume and job interviews. This course will also cover customer relation and service order documentation skills as it relates to the HVAC industry.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

HART 1540 - Internship - Residential

This course is designed to allow students to apply the knowledge and skills learned in the classroom and lab. Students will work for a residential heating and air conditioning company.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

HART 2502 - Commercial Refrigeration II

Students will do an in depth study of commercial refrigeration systems and refrigeration controls. Students will perform control adjustments and installation.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

HART 2506 - Commercial Refrigeration I

Students will study fundamental principles of commercial refrigeration. Students will study accessories and perform troubleshooting on commercial applications.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

HART 2510 - Commercial Electrical and Controls

Students will study the operation and troubleshooting of commercial electrical controls as they relate to commercial refrigeration, heating and air conditioning systems. Students will perform troubleshooting and installation of controls.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

HART 2514 - Compressor Operation and Troubleshooting

Students will study in-depth the operation and the troubleshooting skills for refrigeration and air conditioning compressors. Students will perform operational checks and teardown of compressors.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

HART 2518 - Commercial Troubleshooting

Students will use knowledge and tools to troubleshoot commercial refrigeration, air conditioning and heating equipment. Students will use refrigeration theory and electrical diagrams to troubleshoot equipment.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

HART 2522 - Commercial Air Conditioning

Students will service and install commercial air conditioning systems. Students will do an in-depth study of controls and types of air conditioning systems as they relate to the commercial field.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

HART 2526 - Commercial Heating and HVAC Systems

Students will use their skills and knowledge to troubleshoot, perform maintenance and install commercial heating and HVAC systems. Students will do an in-depth study of controls and design of commercial heating and HVAC systems.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

HART 2530 - Comm. Load Calculating

Students will properly select the correct refrigeration equipment to load demands. Students will also determine the proper piping size and accessories for the equipment selected.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

HART 2534 - Commercial HVAC Controls

Students will use their knowledge of commercial heating, air conditioning systems and ventilation to perform service, installation and maintenance on equipment. Students will study the design and controls of commercial HVAC equipment.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

HART 2540 - Internship - Internship

The student must have location of internship approved by instructor and have a completed internship agreement form signed by supervisor of internship and by instructor.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

HASL 1400 - American Sign Language I

An introduction to beginning ASL sign vocabulary. The student will learn more grammatical features and more-depth classifiers with emphasis on visual American Sign Language. This course promotes an increased understanding and appreciation of Deaf culture.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

HASL 1404 - American Sign Language II

Review and expansion of basic vocabulary and grammatical structure, conversational practice. Must be taken in sequence.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

HASL 1408 - American Sign Language III

Continuation of American Sign Language expansion of intermediate vocabulary, grammar and visual language with increased speed and clarity of fingerspelling and signing.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

HASL 1412 - American Sign Language IV

Intense study of intermediate + (or intermediate plus) vocabulary and ASL grammatical structures, in-depth descriptive classifiers, with few repetitions and students' self critique. Knowledge of political corrections signs. Primarily for intermediate sign language students.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

HLTH 1400 - Basic Nursing I

This course introduces concepts of basic human needs for a variety of populations, safe environment, emergency measures and basic nursing skills. Skills are performed in a supervised laboratory and clinical setting. The course is intended to prepare students for employment as Nursing Assistants, Home Health Aides/ or Homemakers. The Federal and State OBRA laws and MN Department of Health requirements are met in this course. This course also complies with requirements for a License A, Elderly Housing Services.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

HLTH 1404 - Home Health Aide/Homemaker

This course is intended to prepare Nursing Assistants as Home Health Aides and/or Homemakers. The Federal and State OBRA Laws and MN Department of Health requirements are met in this course.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1408 - Trained Medication Aide

In this course, students are introduced to concepts of drug therapy, and to safe administration of prescribed medications. Included in the course is an overview of metric, apothecary, and household abbreviations, with implications for use with medication administration. Knowledge of drug action related to body systems is emphasized, as well as observing effects of medications. Individual demonstration of oral, eye, ear, topical, and rectal administration is accomplished.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

HLTH 1424 - Patient Communications

This course is designed to prepare health care providers with the basic skills needed for patient communications in a health care setting.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1440 - Medical Terminology

This course will enable students to interpret medical abbreviations, and to define and pronounce medical terms. Students will accomplish this by memorizing word parts and medical abbreviations. Students will learn the rules for separating medical terms into their word parts. Students will listen to a tape of medical word pronunciations, and then will make their own tapes. Class format is independent study.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1444 - Introductory Anatomy and Physiology

This course will enable students to develop a basic understanding of the normal structure and functioning of the human body. Students will start by studying cells, tissues and membranes, then study the structure and functions of each of the organ systems, which include the integumentary, skeletal, muscular, nervous, urinary, circulatory, lymphatic, respiratory, reproductive, sensory, digestive, and endocrine systems. Students will also require team building, problem solving, communication and critical thinking skills through the group work and the assignments given.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

HLTH 1448 - Microbiology/Infection Control

The student will study scientific concepts related to the causes of disease, how disease is spread and methods for controlling its spread as well as how the body responds and protects itself from disease.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1460 - Nutrition

This course is an introduction to basic nutrition and its relationship to health.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1464 - Therapeutic Nutrition

This course relates nutritional concepts to various disease/disorders of clients, reinforcement of client instruction and applicable of the nursing process.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1468 - Essentials of Nutrition

This course is an introduction to the basic principles of nutrition. This course provides instruction on the principles of assessing, diagnosing, planning, implementing and evaluation total care of clients and helps the student contribute to the nutritional well-being of clients.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HLTH 1484 - Ethics for Health Careers

This course prepares health and human service students and graduates for situations they will face in their professional lives that have an ethical component. The students will learn basic ethical theory and concepts. This theory will be used as they apply practical approaches to identify and deal with common problems in their chosen fields.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

HPWT 2502 - Reverse Osmosis Chemistry

Reverse Osmosis (OR) Chemistry applies chemical concepts to water and membrane technologies. It relates atomic theory to water contaminants so as to develop a thorough understanding as to why particular contaminants behave the way they do. It includes the means by which those contaminants are measured or characterized. It then applies these principles to reverse osmosis membrane technology in order to recognize how the water characteristics affect the performance of the membrane.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

HPWT 2504 - Reverse Osmosis Principles

Reverse Osmosis (RO) principles develops an understanding of the components and issues involved in an operational RO system. It covers the issues involved in the mechanical configuration of an RO membrane system. It applies design variables, discusses monitoring variables, and demonstrates how to adjust variables in a working RO system. It also illustrates some of the important RO maintenance functions, as well as some critical RO performance concerns.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2506 - Reverse Osmosis (RO) Monitoring

Reverse Osmosis (RO) Monitoring provides the tools necessary for the detailed tracking of the performance of a reverse osmosis (RO) system. It includes common methods of analysis for key water contaminants. It develops an understanding of the RO operating and performance variables, including how they are calculated and applied. It completes with methods that can be used to break down and characterize RO system performance as a means of monitoring or of analyzing system problems.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2508 - Reverse Osmosis (RO) Cleaning

Reverse Osmosis (RO) Cleaning develops an understanding of the chemical nature of cleaning solutions so as to correctly apply them in maximizing RO membrane cleaning effectiveness. It explains how the different cleaning agents work in the removal of common membrane foulants and scale. It then offers methods for correctly cleaning an RO membrane system and evaluating the effectiveness of a cleaning.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2510 - Reverse Osmosis (RO) Pretreatment

Reverse Osmosis (RO) Pretreatment details the equipment requirements upstream of a reverse osmosis (RO) system so as to minimize the RO maintenance requirements and increase the longevity of the membrane elements. It begins with the treatment provided by many municipal water treatment facilities and expands this into the requirements more specific for RO systems. This covers media filtration for removal of suspended solids, acid and scale inhibitor injection, or softening, for control of scale formation, and the removal of biocides that might be incompatible with the RO membrane.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2512 - Reverse Osmosis (RO) Biological Control

Reverse Osmosis (RO) Biological Control investigates the nature of biological activity so as to better understand how it can be effectively controlled in a reverse osmosis (RO) system. It discusses the needs that bacteria have for their survival and how their reproduction can foul an RO system. It covers the different methods available for killing and controlling bacteria and how these methods can be applied to an RO system.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2514 - Reverse Osmosis (RO) System Design

Reverse Osmosis (RO) System Design applies water quality information to the design of a reverse osmosis (RO) system that is based on meeting the requirements of the membrane element manufacturers. It covers the options available when designing a new system, including design methods for reducing the fouling or scale formation potential of the system. It also includes methods for designing a two-pass RO system, for projecting RO permeate quality, and for estimating the RO system operating and capital equipment costs.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2516 - Reverse Osmosis (RO) System Analysis

Reverse Osmosis (RO) System Analysis provides methods for logically determining the likely cause of a problem in reverse osmosis (RO) performance. It includes methods for isolating the location of the problem within the RO system as a means of gaining insight into the problem. It includes common system performance problems as they relate to the location of the problem. It also covers methods for verifying the suspected problem.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2518 - Ion Exchange (IX) Principles

Ion Exchange (IX) Principles applies concepts of water chemistry and chemical equilibrium to the development of a detailed understanding of the ion exchange process. It covers the nature of ion exchange resins, and how they are used in single-bed, two-bed, and mixed-bed systems in the creation of high purity water. It includes information on how to monitor and optimize the performance of ion exchange systems.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2520 - Electrodialysis Reversal (EDR) and Electrodeionization (EDI)

Electrodialysis Reversal (EDR) and Electrodeionization (EDI) Principles relates concepts of ionic conductivity and electricity to electrochemistry, as it applies to electrodialysis reversal (EDR), and then builds on this knowledge to explain electrodeionization (EDI). It discusses how ion exchange membrane sheets and electricity can be used to move ions out of a feed water stream into a concentrate stream in the EDR process. Scale control is performed by switching electrode polarity and reversing the movement of ions. Ion exchange resin beads can be added within certain chambers of the device as a means of continuously achieving even higher purity effluent water in the EDI process.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2522 - Ion Exchange (IX) System Design

Ion Exchange (IX) System Design provides methods for designing ion exchange systems and predicting their performance. It covers how to relate incoming water quality to design variables, how to choose resin types, and size tanks. It also covers regeneration system design and flow rate calculations. It finishes with topics related to the application of ion exchange units to high purity water systems.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2524 - Ion Exchange (IX) System Analysis

Ion Exchange (IX) System Analysis provides methods for determining if there is a problem with the performance of an ion exchange bed and for finding out what the problem is. It discusses the symptoms of common ion exchange problems. It details how water and resin analyses can be used to monitor and identify problems. Finally, it discusses how to fix common problems and avoid their occurrence.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2526 - Deionized (DI) Water Principles

Deionized (DI) Water Principles develops an understanding of the nature of deionized (DI) water as a process chemical, how it is created, and how it is used. It includes a discussion of the various DI water requirements from different industries, and the methods used to achieve those qualities. It covers many of the challenges of DI water systems and the methods used to deal with those challenges.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2528 - Deionized (DI) Water System Design

Deionized (DI) Water System Design explains the options available when designing a water treatment system as they are affected by the feed water quality and the desired deionized (DI) water quality. It details with the roles played by different types of water treatment equipment in their contribution to the production of a high purity water. It covers the sizing of flow rates and equipment. It also discusses the design of reclaim DI water systems and distribution piping systems.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2530 - Deionized (DI) Water System Analysis

Deionized (DI) Water System Analysis stresses the use of scheduled and documented instrument calibration in combination with the establishment of a contaminant history throughout a deionized (DI) water system, which can later be used to isolate DI water-related problems. It relates analytical techniques to common DI water equipment problems, and explains how specialized techniques can be used to identify a contaminant. It includes a method of correlating water quality trends with other process changes and isolating the problem with its DI system origination.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HPWT 2532 - Deionized (DI) Water Maintenance

Deionized (DI) Water Maintenance describes how the various on-line, on-site and off-site analysis can be used to monitor the performance of a DI water system as a basis for determining its maintenance requirements. It explains the purpose and limitations of some common analytical techniques, and special concerns related to analyzing DI water. It covers the proper methods for changing our cartridge filters and verifying their integrity. It also covers methods for sanitizing piping systems.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

HUMN 1320 - Holocaust and Genocide Studies

Meets MN Transfer Goals 6 and 9 - Humanities and Ethical and Civic Responsibility

This course provides a broad introduction to Holocaust and contemporary genocide studies. Students will read, discuss, and analyze various types of Holocaust and other contemporary genocide literature, as well as, the relevant historical events and perspectives, which surround the Holocaust and other contemporary genocides. The contemporary genocides studied will vary.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

HUMN 1340 - Middle Eastern Cultures

Meets MN Transfer Goal Areas 6 and 8 - Humanities and Global Perspectives

This course will explore and examine a number of Middle Eastern cultures. It focuses on central characteristics, beliefs, and insights, which have shaped their values, practices, and aspirations over the centuries.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ICVT 1422 - Cardiovascular Instrumentation

A study of concepts that serve as the foundation for the cardiovascular technology field. Topics include basic electricity and electrical safety, physiological monitoring instrumentation, x-ray tubes and bio-effects of radiation.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

ICVT 1423 - Catheterization Lab Fundamentals I

This course focuses on the cath lab procedures, scrub and circulate, equipment set-up, hemodynamic monitoring, and the coronary angiography procedure itself.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

ICVT 1443 - Cardiovascular Clinic I

Introduction to the aspects of cardiac cath lab in a hospital or simulated clinical laboratory setting. Emphasis placed on instrumentation, entry-level scrub/circulate, and lab set-up.

Prerequisites: None.

(5 C: 0 lect/pres, 5 lab, 0 other)

ICVT 2426 - Catheterization Lab Fundamentals II

A continuation of Catheterization Lab Fundamentals I with emphasis on pharmacology, advanced cardiovascular diagnostic and therapeutic procedures, percutaneous coronary intervention procedures, and cardiac surgical procedures.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

ICVT 2446 - Cardiovascular Clinical II

Practical training with focus on completing and becoming proficient in all duties of the cardiovascular technologist in the cath lab, to include diagnostic and interventional procedures, in both scrub/circulate and hemodynamic monitoring capacities.

Prerequisites: None.

(5 C: 0 lect/pres, 5 lab, 0 other)

ICVT 2450 - Applied Clinical Internship

Advanced and intense internship in a hospital or clinic setting. Specific detailed learning objectives are developed for each course by the college facility. Students will broaden and perfect their skills through hands-on participation. Students will be able to carry out everyday duties of the technologist when their clinical experience is complete.

Prerequisites: None.

(13 C: 0 lect/pres, 0 lab, 13 other)

LSCE 1502 - Surveying Principles I

The student will study error analysis and measurements, random errors, survey standards and specifications. Focus will also be on state plane coordinate calculations, development of coordinate geometry, trigonometric solutions, geodetic surveying problems, positioning of corners per Public Land Survey System. Students will study historical development, description and land boundary elements related to platting, which includes, deed interpretation and boundary systems.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1506 - Advanced Survey

Students will study advanced distance, angle and elevation work, including traverse layout, topographic data collection, x-sections and profiles, horizontal and vertical curves and property line surveying and precise leveling. This course includes practical field applications including total station and data collector and data transfer.

Prerequisites: None.

(5 C: 1 lect/pres, 4 lab, 0 other)

LSCE 1510 - Civil Drafting Methods

This course is designed to develop the student's technical skills in map making and construction document drafting. Also to give an introduction to interpreting legal descriptions and exposure to the coordinate system, and basic concepts of the public land surveying system. Students will study and practice survey and civil engineering drafting techniques. Drafting work includes horizontal and vertical alignments with horizontal and vertical curves. Course will focus on hand drafting methods.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1514 - Civil CADD I

Students will develop a knowledge of system configuration, hardware operations and interactive graphics software ("AutoCADD" and "Softdesk"). The student will input drafting commands to develop civil/survey drawings, store data and produce digital drawings.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1518 - Materials, Estimating, and Specifications

Students will study and practice procedures for estimating quantities and costs as they relate to public works projects. Topics include concrete and asphalt estimating in the preliminary, final and as-built phases of construction. The student will be introduced to materials testing. Students will study construction materials, construction methods, inspection and quality control. The students will study standard contracts and specification documents.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1522 - Technical Computations I

Students will study percents, signed numbers, algebraic operation, equation manipulation, ratios, geometric principles, trigonometric functions, area and volume calculations and physics concepts.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1526 - Technical Computations II

Students will study the natural laws that govern the relationship between work, force, motion, energy and power. Students will apply this knowledge through practical lab experiments and problem solving. Students will perform the basic computations in the civil engineering/land surveying field. These include: volumes, bearings/azimuths, latitudes/departures, area traverse and various curve calculations. The student will also study elementary concepts involving coordinate geometry and route-survey methods.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

LSCE 1530 - Survey Fundamentals

Students will study basic surveying with practical applications in horizontal distance, angle and vertical measurement, introduction to total station/data collection, traverse angle and distance measurement methods. The student will begin using coordinate geometry. This course includes extensive fieldwork.

Prerequisites: None.

(5 C: 1 lect/pres, 4 lab, 0 other)

LSCE 2502 - Control and Digital Surveys

Students will focus on preliminary and final survey procedures in gathering information through total station and automated data collection procedures. Subjects include centerline profiles, cross sections, radio topography, advanced traversing, triangulation, resection, star shots, areas, volumes, section breakdown and subdivision surveys. Field projects will use total station and data collections procedures.

Prerequisites: None.

(5 C: 1 lect/pres, 4 lab, 0 other)

LSCE 2506 - Construction Design and Surveying Principles

Students will focus on construction survey techniques and systems used in construction projects. The student will use practical field techniques for staking profile, blue tops, slope and grade staking, sanitary and storm, curb and gutter, watermain, buildings and some aspects of platting. Emphasis will be on both Total Station with data collection and traditional methods.

Prerequisites: None.

(5 C: 1 lect/pres, 4 lab, 0 other)

LSCE 2510 - Surveying Principles II

Students will study Minnesota State Statutes, county and city ordinances relating to platting and surveying methods, along with techniques for record research. Emphasis will also be on writing of land descriptions and easements. Students will study professional duties of surveyor and civil engineer responsibilities and liabilities, tracing land boundaries, boundary establishment through riparian rights, deed descriptions, plats, survey evidence, metes and bounds and Public Land Survey System.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2514 - Civil CADD II

Students will focus on applications of "AutoCAD", "Land Development Desktop" and "TDS" Civil/Survey software as they relate to basic principles of coordinate geometry for drawing and design of civil/survey projects. Students will focus on mapping, digital terrain modeling, platting, detail drafting and design using CADD methods.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2518 - Utility Design I

Students will study basic fluid mechanics. Focus will be on fluid flow characteristics of gravity sanitary sewer and storm sewer systems. Students will be introduced to storm water hydrology, storm water management, and various wetland issues. Students will design storm sewer systems including piping, inlet structures, storm water facilities and site grading and will prepare plan and profile drawings.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2522 - Civil CADD III

Students will perform advanced applications with "AutoCAD", "Softdesk" and TDS civil/survey software. Includes advanced principles of coordinate geometry, digital terrain modeling, automated plan and profile, cross sections and earthwork design projects.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2526 - Subdivision Design

Students will focus on subdivision design. Topics include plat layout, grading and earthwork, hydrology, and storm water management. The student will also study wetland issues, existing land use factors, and zoning considerations. Minnesota State Statutes, county and city ordinances relating to platting, along with techniques for record research will also be discussed.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

LSCE 2530 - Utility Design II

Students will study basic fluid mechanics and flows in both gravity and pressure systems. Focus will be on flow characteristics in sanitary sewer systems and water supply systems. Students will design a water distribution system and become familiar with materials, valves, flow control devices, appurtenances and construction.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MACH 1501 - Machine Tool II - Modified Course for Tech Prep

This course will cover first level instruction in the setup and operation of common machine tool as well as the use of hand and precision tools. Machining of projects will begin with basic cutoff saw, lathe, milling machine and drill press setup and operation. Complimentary skills will be demonstrated in off-hand grinding and bench work operations. NOTES: For details of topics covered in the high school variable course please refer to appropriate advanced standing articulation agreement. This variable course is designed to allow students with Advanced Standing credit for MACH 1501 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (MACH 1501) will be delivered concurrently with MACH 1502.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

MACH 1503 - Machine Technology I

This course will address the operations of a drill press, pedestal grinder, vertical mill, lathe, and bandsaws. Machine safety, machine component identification, as well as turning, milling, sawing, bench, drilling and off-hand grinding projects are also included in the components listed above. The student will also learn the care and use of inspection and layout tools.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

MACH 1505 - Machine Tool Technology II - Modified Course for Tech Prep

This course is part of a Tech Prep articulation agreement. The students participating will be required to attend this class the full semester. This course will cover the operations of a drill press, pedestal grinder, milling machines, lathe, vertical, horizontal bandsaws and bench tools. Machine safety and machine component identification are also a part of the components listed above. The student will perform part layout, as well as milling, taper turning, boring, threading, drilling and proper hand tool use. The student will also learn the care and use of inspection and layout tools.

NOTES: For details of topics covered in the high school variable course please refer to the appropriate advanced standing articulation agreement.

This variable course is designed to allow students with Advanced Standing credit for MACH 1505 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (MACH 1505) will be delivered concurrently with MACH 1504.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

MACH 1506 - Machine Technology II

This course will cover additional skill development in the setup and operation of saws, milling machines, lathes and drill presses. More complex machining tasks will be included in mill, drill machining and lathe machining projects. Introductory open setup inspection and layout exercises will be performed in the inspection area. Additional inspection tools and equipment will be used as they relate to checking project dimensions.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

MACH 1507 - Machine Technology III

This course will address the operations of horizontal and vertical milling machines, lathe and surface and cylindrical grinders. Machine safety and machine component identification are also a part of the components listed above. The student will perform part layout, as well as slot and pocket milling, taper turning, boring, drilling and grinding projects. The students will also learn the care and use of different tooling used in the lathe, milling machines, surface grinders and cylindrical grinder.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

MACH 1509 - Machine Technology IV

This course is the final course in the Machine Tech series in learning manual machining skills. Upon completion of this course the student will become familiar with advanced setup and operations on the lathe, milling machine, drill press and grinding machines. Introductory lessons will be provided on the tool and cutter and monoset tool grinders. Several units of advanced inspection equipment will also be part of this course.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

MACH 1517 - Blueprint Reading I

This course will cover the basic principles of blueprint reading that will include three view drawings, the types of lines and view arrangements, dimensioning, types of tolerancing, surface textures, and classification of fits.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

MACH 1519 - Blueprint Reading II

The student will interpret intermediate level blueprints involving orthographic views, section views and cutting planes. Special views, datums, welding symbols and sketching are also emphasized.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

MACH 1525 - Geometric Dimensioning and Tolerancing

This course is designed to allow students to interpret the latest ANSI Y 14.5 drawing standard that applies to blueprint standards. Students will learn the symbols, rules and geometric controls shown on today's blueprints. Students will be given prints and exercises to enhance their skills in print reading. Job seeking and keeping information will also be provided for students.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

MACH 1528 - Jigs and Fixtures

This course is designed to familiarize the student with basic types and functions of jigs and fixtures used in metalworking industries. Various workholding types from simple soft jaws to modular workholding systems will be examined. Design principles, which explore simplicity and economy, are considerations, which are discussed in the course.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

MACH 1530 - CNC Fundamentals

This course is intended to give the student an introduction into the computer numerical control segment of machine tool technology. The student's time will be spent learning the fundamentals of CNC machines, programming aspects, coordinate systems, word address system, computer download routines and basic setups.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

MACH 2502 - Introduction to CNC Turning

This is a basic programming and CNC lathe operation course. The student will learn the basics of the word address system as applied to CNC turning centers. Programs will be written manually and with computer-assist (CAM) and proved out using simulation software prior to running on the CNC turning center. Students will machine their own parts and inspect for dimensional accuracy using appropriate precision tools.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MACH 2506 - Introduction to CNC Milling

Basic programming and milling course. Students will learn the CNC word address programming language. The primary activities of this course are to program, setup and operate a CNC milling machine. Programming will involve drilling and milling operations, using manual and computer-assist (CAM) methods. Students will input programs using manual data input or download through a personal computer. Programs will be input, saved and simulated on a personal computer prior to downloading into the CNC mill.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MACH 2510 - Cutting Tool Technology

This course will emphasize the identification and use of standard and special cutting tools. Conventional cutting tools will be examined as to their application in machining. Carbides, cermets, diamond and cubic boron carbide type cutting inserts will be examined as to their use in machining and manufacturing.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

MACH 2514 - Metallurgy

This course will examine various steels and non-steel metals and their mechanical properties. Other types of materials such as castings, forgings and powdered metal (P/M) materials will also be analyzed. Lab work will consist of performing a tensile test on a metal, hardness testing, and the heat-treat of a steel workpiece. Heat treat applications will also be an important segment of the course.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

MACH 2518 - Advanced CNC Milling

This course will emphasize the setup and operation of (CNC) machining centers to produce multiple and/or complex machined piece-parts. The programs will be written both manually and computer-assist and simulated on the computer prior to running on the machine. Program entry will be performed through downloading from the computer.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MACH 2523 - High Performance Manufacturing

This course is designed to help students understand the practical use of basic quality management as well as production tools and procedures. Students will be engaged in the use of various statistical process control charting and exercises which stress quality in the workplace. Corrective and preventive action techniques will be used in assessing non-conforming product. Information on the control and documentation of production will be stressed.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

MACH 2526 - Advanced CNC Turning

This course will emphasize the setup and operation of a (CNC) slant bed turning center with a Fanuc control. Students will be required to perform setups and program complex shaped piece-parts using internal and external tools. The programs will be written both manually and computer-assist (CAM) and simulated on the computer prior to running on the machine. Program entry will be performed through downloading from the computer.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MACH 2530 - 3D Milling

This course will emphasize the setup and operation of computerized (CNC) machining centers to produce three-dimensional shaped piece-parts. The projects will be programmed using manual and computer-assist techniques. Three-dimensional programs using sub-programming will also be addressed. The machining in three axes will be performed on metal parts and mold shapes.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

MACH 2534 - Production Machining

This course will emphasize the setup and operation of conventional and computerized machine tools to produce a small batch of machined piece-parts to print. Process plans will be written for part manufacture to simulate industrial methods in production of repetitive work-pieces. The use of production tooling and gauging will be stressed to ensure conformity of small batch parts. Coordinate measuring machine use will be emphasized to inspect finished parts.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

MACH 2538 - Tool Making/Wire-Feed EDM CNC

This course will emphasize various tasks associated with the building of special tools, dies and fixtures. Components will be built using conventional machine tools as well as Ram-type and Wire-Feed CNC Electrical Discharge Machines. Manual and computer-assist programming of the wire-feed EDM CNC will be a key element of the CNC operation.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

MACH 2544 - CNC/CAM Capstone

Students will engage in advanced machining activities encompassing all areas of CNC and CAM. Course focus will include: 4th axis programming and part development on machining centers; drawing solid models using CAM systems; utilizing the drawings to develop .stl files, and building the shape using a 3D printer.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

MATH 0380 - Basic Math Skills

This course is designed to help students upgrade their skills in addition, subtraction, multiplication and division of whole numbers, decimal numbers and fractions as well as ratios and proportions, percents, basic geometric formulas and the metric system. Students will also acquire skills in pre-algebra; signed numbers, powers, and solving simple equations. This course will emphasize solving and applications of these skills.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

MATH 1300 - College Algebra

Meets MN Transfer Goal 4 - Mathematical/Logical Reasoning

This course covers topics typically addressed in a college algebra course. The course is designed for students who have good elementary and applied algebra skills. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills of college algebra and to show how college algebra can be used to model and solve authentic real-world problems.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

MATH 1320 - College Trigonometry

Meets MN Transfer Goal 4 - Mathematical/Logical Reasoning

This course covers topics typically addressed in a college trigonometry course. The course is designed for students who have good algebra skills and need to understand trigonometric functions and their applications. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills of college trigonometry and to show how college trigonometry can be used to model and solve authentic real-world problems.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

MATH 1330 - Cultural Mathematics

Meets MN Transfer Goal 4 - Mathematical/Logical Reasoning

This course is an investigation into the nature of mathematics and the application of mathematics to varied disciplines including the arts and sciences across cultures. Students will experience mathematics as a creative and evolving discipline. Topics include critical thinking, sets, logic, number systems, algebra, graphs, functions, linear equations, inequalities, metric system, geometry, probability, and statistics. Emphasis will be placed on applications in these topic areas.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

MATH 1445 - Introduction to Statistics

Meets MN Transfer Goal 4 - Mathematical/Logical Reasoning

This course is primarily for business, science, liberal arts, psychology, and education majors. Topics studied include descriptive measures for empirical data, theory of probability, probability distributions, the sampling distributions of statistics from large and small samples, estimation theory, hypothesis testing, correlation, and regression.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

MHTT 1502 - Diesel Engine I

In this introductory course, students learn theory design to operation of a diesel engine and fuel system. Working in the lab in groups of two, students will disassemble, inspect and reassemble a running light duty diesel engine. After completion of this course students will be prepared to advance to Diesel II.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

MHTT 1506 - Mobil Hydraulics

In addition to power steering, the application of hydraulics on trucks is widespread, such as on sanitation, snowplows, agriculture, and construction trucks. In this course students study the design and operation of pumps, valves, cylinders, motors, and other hydraulic components on these trucks. The student will service, test, and repair hydraulic systems used on trucks.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

MHTT 1508 - Truck Computer Systems

Students will study an overview of the computer systems used on trucks. The emphasis will be on the study of input devices, ECM operation, and output devices. Students will identify components, test their operation, retrieve and program data, in accordance with manufacturer's procedures.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

MHTT 1510 - Truck Power Train

The truck power train makes it possible to deliver engine power to the vehicle wheels. This course covers theory and operation of all drive system components including manual transmissions, clutches, drive lines and differentials. Other studies include component troubleshooting, repair operations, and preventive maintenance practices.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

MHTT 1514 - Truck Brake Systems

Proper brake system operation is vital to safe utilization of any vehicle used on public roadways. This course covers air and hydraulic brake system theory and operation including actuation and foundation system assemblies. Other studies include component troubleshooting, repair operations, and preventive maintenance practices.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

MHTT 1518 - Truck Steering/Suspension

Understanding and maintaining truck steering and suspension systems is necessary to achieve peak tire life, fuel economy, and safe vehicle operation. Studies include steering and suspension system theory of operation, repair procedures, and preventive maintenance operation.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 1522 - Electrical II

Through this course the electrical theory learned in Electrical I is applied to the vehicle by the study of the starting and charging systems. Upon the completion of this course students will be able to troubleshoot and repair starting and charging systems on light, medium, and heavy trucks.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

MHTT 1526 - Truck Maintenance

The goal of low cost efficient truck operation is to maintain the trucks in a manner that minimized repair and downtime and ensures safe vehicle operations for the driver. This goal is the emphasis for this course. Following the recommendations of the OEM maintenance manuals, the student will perform truck maintenance in the lab.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 1530 - Welding

In the trucking industry there is often a need for technicians to have basic welding knowledge and skills. Students are introduced to Shield Metal Arc Welding (SMAW), gas metal arc welding (GMAW), plasma cutting, and oxygen acetylene cutting, heating, welding (OAW). Working in the lab on exercises and projects, students will practice these welding processes safely.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 1534 - Body Repair

In the trucking industry, it is sometimes important for technicians to perform basic truck repair. In this elective course students will have the opportunity to study and practice safety, body hardware, glass replacement, fiberglassing, and painting.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 2502 - Diesel II

With the knowledge and experience gained in Diesel I, students practice engine rebuilding skills on medium to heavy duty diesel engines in the lab. Emphasis is placed on understanding the theory and operation of different fuel systems and tune up procedures.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

MHTT 2506 - Diesel III

In this final course of the Diesel Engines/Fuel Systems series, students study and work on electronic computer driven engines. Through the knowledge and skills gained in this and previous diesel engine courses, students will be able to program engine computers, diagnose engine failures, and repair engines.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

MHTT 2514 - Gasoline Engines

In this elective course students have an opportunity to study gasoline engine systems while rebuilding their own gasoline engine in the lab. Emphasis is placed on different fuel and ignition systems.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 2518 - Automatic Transmissions

The popularity of the transmission in the trucking industry continues to grow. This elective course gives students the opportunity to study the theory and operation in the classroom. Then, experience hands on skills in the lab by practicing the rebuilding of an operational Allison automatic transmission.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 2522 - Electrical III

This advanced course involves lighting, instrumentation, accessories, and ABS electrical systems on medium and heavy trucks and trailers. Emphasis is placed on using wiring diagrams and digital multimeters to troubleshoot electrical failures and performing industry approved electrical repair procedures.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 2526 - Truck Maintenance II

Proper vehicle maintenance is critical for economic security and competitiveness in any vehicle maintenance operation. This course covers preventive maintenance program design and implementation. Other studies include D.O.T. (Department of Transportation) vehicle inspection procedures, extending vehicle service file, failure analysis, troubleshooting, and repair techniques.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

MHTT 2530 - Truck Heating and AC Systems

Proper operation of Heating and AC ventilation systems is important for driver comfort and safe vehicle operation. This course covers theory and heater AC and ventilation systems. Other studies include system troubleshooting, repair operations, and preventive maintenance practices.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

MHTT 2534 - Transport Refrigeration

Many truck technicians choose careers in which knowledge and skills in transport refrigeration system are needed. The theory and skills are achieved in lecture and through working in the lab on truck and trailer refrigeration units. Emphasis is on maintenance and troubleshooting of electrical and refrigeration systems.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 2536 - Truck Systems Troubleshooting

Basic skills acquired by the student in previous courses shall be used and developed into advanced troubleshooting skills needed in various aspects of the transportation industry. Studies include, electrical system diagnosis and troubleshooting, mechanical system diagnosis and troubleshooting, and proper manufacturer service manual and information utilization.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT 2538 - Supervised Internship

Students will work in a sponsoring Medium/Heavy truck service facility. The work will be full time, approximately 40 hours per week. The tasks will be consistent with previous course work.

This is a variable credit course, with credits 1-7.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

MHTT 2546 - Truck Preventive Maintenance and Troubleshooting

Basic skills acquired by the student in previous courses shall be used and developed into advanced troubleshooting and preventive maintenance skills necessary to operate a truck fleet or perform shop operations in the transportation industry. Studies shall include mechanical and electrical system diagnosis and troubleshooting procedures. Identifying and practicing mechanical and electrical system preventive maintenance operations. Customer/shop communication processes shall also be studied.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

MHTT 2875 - Special Topics

The transportation industry includes mass transit systems, materials transportation, road construction, agriculture, and mining operations. This course objective is to build tailor made course studies to include specific needs of students and industry.

Prerequisites: None.

(C: 0 lect/pres, 0.5 lab, -0.5 other)

PHYS 1300 - General Physics

Meets MN Transfer Goal 3 - Natural Sciences

This is an introductory course in Physics and its applications. This course is designed for students who have no previous experience in physics. However, a good working knowledge of algebra is assumed. The primary goals of this course are to help individuals acquire a solid foundation in the basic theory and application of classical physics and to apply these skills through problem solving, simulation, and laboratory experiments. Topics include: linear and rotational motion, vectors, forces and equilibrium, work and energy, momentum, properties of solids, liquids and gases, heat and thermodynamics, waves and sound.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

PHYS 1302 - Physics Principles and Problem Solving

This course is designed for students who are enrolled in General Physics (PHYS1101) and have no previous experience in physics. The primary goals of this course are to help individuals acquire a solid foundation in the basic theory and application of classical physics through additional explanations and problem solving. Topics include: linear and rotational motion, vectors, forces and equilibrium, work and energy, momentum, properties of solids, liquids and gases, heat and thermodynamics, waves and sound.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

PITT 1219 - Adobe Illustrator

The student will perform skills in a vector based draw program. The course will cover an introduction to Adobe Illustrator as well as advanced information. Emphasis is on Macintosh equipment. Students will gain knowledge in the program through weekly assignments and lecture.

This is a variable credit course, with 1-2 credits.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

PLBG 1502 - Piping Procedures I

Students will study plastic piping, which involves the joining of drainage, waste and vent, water supply and distribution lines. Students will become familiar with the different types of copper pipe, fittings and tubing. Safe methods of handling and installing piping in accordance with Minnesota State Plumbing Code and general industry accepted standards will be emphasized.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

PLBG 1506 - Plumbing Calculations

This course will apply mathematics to plumbing calculations in developed lengths of pipe, fitting allowances, offsets, areas, volumes, diameters, weights and pressures. Students will also use formulas common to the industry.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

PLBG 1510 - Minnesota State Plumbing Code I

Students will study the Minnesota Plumbing Code, which covers the laws, rules, and regulations of plumbing installed in Minnesota.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

PLBG 1514 - Minnesota State Plumbing Code II

Students will study the Minnesota Plumbing Code which covers the laws, rules and regulations of plumbing installed in Minnesota including plumbing principles, materials, traps and fixtures, water supply and drainage, waste and vent systems used in construction, repair and remodeling of buildings.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

PLBG 1518 - Blueprint Reading and Estimating

The student will learn to read building plans and pipe diagrams, interpret floor plans, elevation views, draw isometrics and sketch detailed work drawings. Student will develop skills in estimating plumbing cost for new installations and remodels and prepare projects using industry developed estimating procedures. Estimates include material, fixtures and labor costs with profit and overhead calculations.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

PLBG 1522 - Water Supply and Sewage Disposal

Students will study water quality, protection from contamination, private wells, pumping equipment, public water treatment plants and distribution systems. Students will also study installation of water supply, fixtures and appliances. Students will study construction design of domestic sewage disposal systems. Public wastewater treatment plants are also studied.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

PLBG 1526 - Plumbing Fixture Installation

The students will learn the standard installation procedures of common plumbing fixtures and appliances, which comply with Minnesota Plumbing Code requirements to assure long lasting trouble free operation.

Prerequisites: None.

(4 C: 1 lect/pres, 3 lab, 0 other)

PLBG 1530 - Piping Procedures II

Students will study the assembly of Cast Iron hub and no-hub soil and waste pipe and fittings. Students will join Cast Iron hub type neoprene and fabricate projects in no hub pipe. Special waste piping including enfield, enfusion, glass, bituminized fiber and welded pipe will be discussed. Students will fabricate steel piping projects using the fundamentals of cutting, threading, grooving of piping, identify fittings and apply sealants to piping.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

PLBG 1534 - Hydronic Heating/Rigging

Students will become familiar with hot water and low pressure steam heating system, identify boiler controls, piping materials and system design. Students will develop skills in knot tying, operating hand powered lifting devices, lifting loads with ropes, slings, cable and chains using hand signals common to the construction trades.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

PLBG 1538 - Plumbing Internship

Students will work in a sponsoring plumbing-related business applying knowledge, concepts and skills learned in the classroom.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

PLBG 1542 - Career Planning/Customer Relations

The student will write a telephone script, fill out a job application, complete an employer ready cover letter and resume. Students will write short, intermediate and long term personal and professional goals. Students will study the fundamentals of good customer relations and apply them in their daily working lives. Student will participate in discussions with guest prospective employers.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

PLTW 1500 - Introduction to Engineering Design

This course covers fundamental principles of the engineering design and development process. Topics include planning and developing, recording, modeling, product analysis and marketing. The student will learn procedures in these areas, developing their own ideas in a lab environment, and presenting their ideas.

Specific emphasis is given in drawing and developing through the use of pencil sketching and computer software.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

PLTW 1502 - Principle of Engineering

This course covers fundamental principles and processes of engineering. Topics include definition and types of engineering, the design process, engineering systems, engineering for reliability, and the documentation process used in engineering fields. The student will learn procedures in these areas, developing their own ideas in a lab environment, and presenting their ideas. Specific labs in material testing, statics, and statistics will be utilized. The student will acquire a fundamental approach in the design, development and engineering process. Individuals will apply these skills through problem solving and laboratory experiments.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

PRSG 1400 - Basic Nursing II

This course will enable you to integrate more complex nursing theories and procedures as a sequel to Basic Nursing I. The nursing process is introduced in preparation for nursing theory courses and application in clinical courses.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

PRSG 1404 - Medication Administration

Students in this course build on fundamentals provided in the Trained Medication Assistance course. Theory and skills related to calculating dosages, parenteral administration, as well as intravenous monitoring/fluid balance are addressed.

Prerequisites: Appropriate Accuplacer Score.

(2 C: 2 lect/pres, 0 lab, 0 other)

PRSG 1405 - Medication Administration for Nursing

In this course students are introduced to the concept of drug therapy and the safe administration of prescribed medications; theory and skills related to calculating dosages; IV monitoring and fluid balance; the use of metric and household abbreviations and the implications with medication administration; knowledge of drug action related to body systems and observing effects of medication. Individual demonstration of the following skills: oral, eye, ear, inhalant, topical, and rectal medications. Also demonstration of heparin injections, intradermal injections, insulin injections, intramuscular injections and Z-track injections. IV set-up, lock conversion and discontinuing an IV.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

PRSG 1408 - Practical Nursing Perspective

This course integrates topics and skills that relate to the graduate's role. The course synthesizes learning that has occurred in prior Practical Nursing Theory and lab courses. You are encouraged to develop autonomy and assist the transitional process from student to beginning practitioner. Additionally, this course illustrates employer-employee and consumer relations along with successful completion of a service learning project.

Prerequisites: None.

(1 C: 0 lect/pres, 0.5 lab, 0.5 other)

PRSG 1410 - Nursing Foundations

This course provides the student with the knowledge and skills called for in most first aid situations, prevention measures and safety principles; critical thinking as used in the nursing process; communicable disease prevention; the introduction of basic nutrition and its relationship to health, and the ability to analyze and evaluate conditions and nursing interventions for pain and sleep.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

PRSG 1420 - Adult Nursing I

This course will enable you to analyze conditions that affect endocrine, respiratory, cardiovascular systems and oncology. It includes the pathology, symptoms, treatment and nursing intervention of acute and chronic disorders. The aging client's needs will also be addressed. You will utilize the nursing process approach.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 1426 - Adult Nursing II

This course will enable you to analyze conditions that affect surgery, the digestive, reproductive, urinary, neurosensory, integumentary, and musculoskeletal systems. This course includes medical terminology, pathology, signs and symptoms, treatment and nursing interventions of acute and chronic disorders. The nursing process will be utilized. Theory and practice from previous course work will be incorporated into classes and evaluations.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 1440 - Maternal Child/Obstetrics Pediatrics

This course introduces concepts of antepartum, nursing, principles of labor, delivery, postpartum and newborn nursing care. In addition, this course teaches the physiological and psychological response of children to illness. Nursing care is reflected in home, hospital and community settings. This course utilized a family centered approach using the nursing process.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 1444 - Psycho-Social Nursing

This course offers you the opportunity to build on your understanding of human behavior and assists in developing skills in the care of clients with psychiatric and social problems. This course includes the study of mental/emotional illness, substance abuse and social problems, emphasizing nursing management in health care settings.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

PRSG 1460 - Clinical Lab I

This course will offer you the opportunity to implement the nursing process in acute and long term nursing care settings. The cares of selected medical, oncology, obstetrics, and pediatric settings implement the cares and skills learned in prior practical nursing theory and lab courses.

Prerequisites: None.

(7 C: 0 lect/pres, 7 lab, 0 other)

PRSG 1464 - Clinical Lab II

This course will offer you the opportunity to implement the nursing process in acute, long term, obstetrics and pediatric nursing care settings. The care of selected clients in orthopedic, neurological, surgical, obstetrics and pediatric settings implement the cares and skills learned in prior Practical Nursing theory and lab courses.

This is variable credit course, with 1-5 credits.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

PRSG 1480 - State Board Examination Review

This course will present an overview of test taking techniques and provide a format for a systematic review of information contained in the State Board Examination.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

PSYC 1300 - Introduction to Psychology

Meets MN Transfer Goal 5 - History/Social, Behavioral Sciences

Survey of contemporary scientific psychology. Includes: biological bases of behavior, cognitive mechanisms, learning and behavioral adaption, development, social influences, personality, disorders and treatment.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

PSYC 1304 - Life Span Developmental Psychology

Meets MN Transfer Goal 5 - History/Social, Behavioral Sciences

Life Span Psychology is both intriguing and biographic because each of us is constantly developing. The course examines human biosocial, cognitive, and psychosocial development in diverse contexts from "Womb to Tomb". It includes coverage of scientific discoveries and theories; critical analysis of evidence supporting or contradicting those theories; basic concepts and terminology; integration of personal experience and developmental theory and research; and related current public policy and diversity issues.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

PSYC 1310 - Psychology of Women

Meets MN Transfer Goal 5 - History/Social, Behavioral Sciences and MN Transfer Goal 9 - Ethical and Civic Responsibility

Psychology of Women will critically explore the topic of women's psychology in a Sociocultural, historical, global and multi-cultural context. It will focus on many facets of women's lives and the sociocultural impact. The class will compare feminist theories and research with other theories that are sex biased.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

READ 0300 - Reading and Vocabulary

This course will focus on basic reading comprehension and vocabulary development. Students will explore reading and vocabulary through a variety of materials, including novels, magazines, newspapers, Internet, and technical resources. Students will increase their general vocabulary, and will explore technical terminology unique to their interests. This course is developmental and does not fulfill a general studies requirement.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

READ 0304 - Reading Strategies

Expands students' ability to successfully use reading strategies for achievement in college courses. Course material will focus on textbooks and other types of reading materials prevalent in the technical college. This course is developmental and does not fulfill a general studies requirement.

Prerequisites: Appropriate Accuplacer Score.

(2 C: 2 lect/pres, 0 lab, 0 other)

SAMG 1199 - Principles of Marketing - Modified Course for Tech Prep

This course is an introduction to the marketing process. Discussion includes selecting target markets, creating short and long-term goals, identifying customer wants and needs, providing customer satisfaction, and developing the marketing mix to appeal to targets. Students will apply topics covered to create marketing plan presentations for designated products.

NOTES: for details of topics covered in the high school variable course please refer to the appropriate Tech Prep College Credit agreement. This variable course is designed to allow students with Tech Prep College Credit for SAMG 1199 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (SAMG1199) will be delivered concurrently with SAMG 1200.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

SAMG 1200 - Principles of Marketing

This is an overview of basic marketing principles and practices. This course includes discussion on the marketing mix, identifying customer needs and wants, determining target markets, and creating appropriate products, services and programs to serve these markets.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SAMG 1210 - Customer Service/Sales Techniques

This course covers a fundamental customer service and sales approach that can be used as a foundation for a future in customer service and sales. The content covers the importance of a positive attitude, listening, communication styles and skills, the basic steps of quality service and the basic steps of the sale.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 1215 - Principles of Management

This introductory course gives students an overview of the management process, tracking the historical aspects through to current management principles and practices. The course explores the management functions of planning, organizing, leading, and controlling, and focuses on trends in quality improvement, team building and leadership skills.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SAMG 1220 - Sales Promotion/Advertising

The course covers the fundamentals of sales promotion, the types of promotional tools available, and effective use of those tools. The course also focuses on advertising including: the various types of retail advertising options, the parts of the advertisement, and the creation of a promotion plan as a part of class work.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SAMG 1224 - Business Ethics and Law - Modified Course for Tech Prep

This course involves an explanation of ethical issues as they relate to business and general law. Topics include the legal system in the United States, the function, organization, and work of the federal and state court systems, and criminal and civil law. Important areas of business law are covered including contracts, sales, and consumer protection.

NOTES:

For details of topics covered in the high school variable course please refer to appropriate Tech Prep College Credit agreement.

This variable course is designed to allow students with Tech Prep College Credit for SAMG 1224 earned in high school, to complete the remaining course requirements at SCTC. This SCTC course (BUSM 1224) will be delivered concurrently with BUSM 1225.

Prerequisites: None.

(C: 3 lect/pres, 0 lab, -3 other)

SAMG 1225 - Business Ethics and Law

This course involves an explanation of ethical issues as they relate to business and general law. Topics include the legal system in the United States, the function, organization, and work of the federal and state court systems, and criminal and civil law. Important areas of business law are covered including contracts, sales, and consumer protection.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SAMG 1235 - Supervised Occupational Experience

This course is designed to provide the student with a purposeful occupational experience in the sales and marketing industry. Since each Supervised Occupational Experience is an individualized experience, a training plan is specifically created for each student in conjunction with the training station the student is assigned to. This can be offered as a cooperative arrangement, an internship arrangement or other appropriate work experience arrangement.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

SAMG 1240 - Professional Self Development

This course focuses on the importance of the professional organization and community service as a part of the career picture. The course allows students to develop self-confidence, practice leadership and management skills while involved in a professional organization.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

SAMG 1245 - Sales and Marketing Math

This course covers the application of mathematics functions to the solution of business marketing and management problems and how they relate to the effective methods of improving the profitability of the business. Explanation of business procedures, terminology and documents within the mathematical environment are provided to aid in student understanding and application.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 1250 - Fundamentals of Sales Accounting

The course includes basic accounting fundamentals, along with the examination of profit and loss statements, calculations, and formulas and how they relate to the effective operations of a business in relationship to a sales organization. Analysis of the importance and relatedness of decisions within the sales process will be tied to management decision making, along with interpreting financial operating statements and methods to improve the profitability of the business within case analysis.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 2245 - Marketing Management

This course is designed to provide the student with marketing management concepts. Students examine how companies design and implement competitive strategies using the marketing mix tools.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SAMG 2255 - Applied Sales Strategies/Telemarketing

This course takes the fundamentals of sales and builds upon them. The course focuses on sales language, verbal visualization, mental visualization, listening skills, customer follow up and service, prospecting, and using telephone skills to enhance sales success.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 2260 - Management Computer Applications

The focus on this course is the interpretation of accounting and financial records using the computer. Reports, projections and systems will also be studied along with Power Point, and Excel.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 2270 - Human Resource Management

This course focuses on Human Resource Management Issues. The course covers the techniques and legal aspects of recruiting, hiring, firing, promotion, documentation, evaluation, and other areas essential to the personnel function. The course also provides training in job seeking.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 2276 - Marketing Research

This course will focus on the fundamentals of marketing research, research methods, market surveys, analyzing data, and reporting.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 2280 - Sales Management

This course is designed to present basic principles of sales management. This course will help the student to understand the organization and functions of managing a selling force. Coverage includes information on budgeting, setting sales goals, leading a sales force, team building, team conflict, and measuring sales force performance in the field.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 2285 - Entrepreneurship/Small Business Management

This course is designed for prospective small business owners or operators. It is designed to increase their knowledge of the economic and business principles upon which sound small business management is based. Curriculum is built around the basic areas of entrepreneurship/small business management: management, planning, marketing, promotion, financial management, and human resource management.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

SMGT 1601 - Personal Portfolio Design

This course will guide students through the creation of an individualized degree plan for the Supervisory Management AS degree program. It is designed to be taken as the first course in the SMGT classes. Students will assess previous education, prior learning from work and life experiences and develop a portfolio of prior learning to be submitted for committee review. Students will be exposed to the accelerated learning methodology and learn strategies which will make them successful in future courses.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

SMGT 1602 - Supervision Fundamentals

This course will focus on the practical application of supervisory management principles and concepts. Emphasis is placed on understanding and demonstrating management techniques that can be applied to the everyday practice of supervision. The course addresses basic supervisory skills, styles, and functions, understand human resource issues as they relate to supervision and discuss ways to enhance productivity. Practical application of supervision concepts and activities are provided to assist participants in the workplace. This course may include workplace learning.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT 1604 - Effective Communication

This course is designed for students to learn and demonstrate interpersonal skills in workplace situations and to provide students with the skills necessary for supervisors to effectively and accurately document performance and communicate with employees using a variety of written formats. Students will identify and demonstrate skills specific to supervisory responsibilities, such as providing feedback, collaborating with peers, dealing with conflict, gaining support from others, and expressing ideas effectively. It will emphasize the importance of defining the who, what, why, where, when and how in written communications to employees that clearly communicates an understanding of important information. Students will learn how to write performance feedback evaluations, document a safety or discipline incident, give precise directions, or prepare a formal report.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT 1606 - Managing Change and Conflict

This course provides students with tools and techniques to keep pace with the rapid and dramatic changes in the workplace today. In order to survive supervisors must be prepared to anticipate and benefit from change in their work and personal lives. Students will learn to become a change leader by effectively identifying and overcoming resistance to change by creating a work environment where change is expected and viewed as positive. This course also covers techniques for resolving conflict and negotiating collaborative solutions in workplace settings. Emphasis will be placed on selecting and applying conflict resolution and negotiation strategies that are appropriate for a given situation. Students will learn to effectively confront in its early stages and to negotiate solutions beneficial to all persons involved.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT 1608 - Personal Leadership

This course will provide students with the tools and strategies to create an increased level of personal productivity from which they can more effectively solve problems and develop strong personal and professional relationships. Students will more effectively manage priorities and make use of time, learn to set goals, develop daily and weekly action plans, handle interruptions, delegate, and determine the relative effectiveness of traditional time management tools. This course teaches skills that are necessary for supervisors to achieve objectives. Students will recognize and effectively manage stress in the workplace. Emphasis will be on identifying the sources of stress, understanding the physiological and psychological aspects of stress, and on creating positive ways to reduce stress and minimize the potential for workplace burnout.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT 1701 - Creativity and Work Teams

This course is designed to educate students about work teams. Students will learn strategies for team leadership and development. Principles of what it takes to build a successful team along with the stages of team building will be covered. Focus will be placed on participative leadership, drawing on the knowledge and expertise of individuals and teams within an organization, yielding higher participation, productivity and satisfaction. Students will learn to find fresh insight and new perspectives for positively impacting their leadership role at work. This course also teaches students how to develop more creative and innovative solutions to difficult and complex problems. Students will learn to find fresh insight and new perspectives for positively impacting their leadership role at work.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT 1702 - Business Ethics and Diversity

This course will provide students with strategies and skills to effectively deal with ethical and diversity issues and how to select the best employees. Key areas include sexual harassment, workplace violence, employee theft, and customer relationships. Managers will utilize diversity in regard to culture, race, gender, age and ability for greater effectiveness and employee satisfaction. Focus will be on eliminating existing barriers affecting equal access, professional growth, and mobility for every employee.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT 1704 - Employment Law and Selection

This course allows students to examine workplace issues impacting supervisory responsibilities such as employee hiring decisions, discrimination, unemployment compensation, workers' compensation, Fair Labor Standards Act, employee safety and health, workplace harassment, documentation, and termination. This course will also provide students with the strategies and skills to effectively recruit, interview, and select the best person from a field of qualified candidates. Methods and techniques will be presented to insure legal, objective and fair employee selection.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT 1706 - Employee Training and Coaching

This course provides student with the skills and strategies necessary to assess training needs, design and prepare a training plan, deliver a training session, and assess transfer of the training. Students will learn the skills necessary to coach, mentor, tutor, counsel, and confront performance in order to help employees become more committed to performance objectives and increase productivity. Students will practice setting, communicating, and coaching to performance expectations.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT 1708 - Performance Management

This course covers techniques for improving employee performance. Students will learn procedures for setting performance standards, measuring results, and discussing performance. Students will also learn skills necessary for conducting an effective performance review including how to plan for a performance review meeting, how to develop a performance improvement plan, how to provide for periodic progress reviews and how to practice interim coaching skills.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT 1799 - Supervisory Management Field Project

This course is designed to allow students enrolled in the Supervisory Management AAS Degree Program the opportunity to design and implement a field application project. The field project must be approved by the advisor. Student outcomes of the field project will be designed by the student to enhance their workplace skills and must be directly related to course content in the Supervisory Management AAS Degree Program. Field projects can account for a maximum of 6 (semester) technical elective credits for the Supervisory Management AAS Degree.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

SMGT 1800 - Providing Quality Customer Service

This course is designed for students to learn and demonstrate customer service skills in workplace situations. Organizational effectiveness and customer satisfaction will be improved by learning a process of assessing customer needs and empowering others to be responsive to those needs. Emphasis will be placed on creating a culture supportive of making customer focused decisions and motivating others to service excellence. Students will learn to use tools of measurement to assess customer needs and levels of satisfaction to better serve internal and external customers.

Prerequisites: None.

(2 C: 0 lect/pres, 1 lab, 1 other)

SMGT 1802 - Occupational Safety

This course will provide students with regulations set by OSHA, MPCA, and DOT for maintaining worker safety and rules; compliance in the workplace. Supervisory responsibility for safety training, reporting, communication, industrial hygiene, motivation, and enforcement of policies will be emphasized. Other areas of importance include workers' compensation cost control, accident investigation techniques, and policy and program development.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT 2600 - Supervisory Leadership Field Study

This course will focus on the practical application of recently learned supervisory management principles and concepts through application of their most previous course work to the workplace. The advisor must approve the field project. Student outcomes of the field project will be designed by the student to enhance their workplace skills and must be directly related to course content in the Interpersonal Communication Certificate. This course is intended to be taken after the completion of other courses in the certificate.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

SMGT 2700 - Organizational Development Field Study

This course will focus on the practical application of recently learned supervisory management principles and concepts through application of their most previous course work to the workplace. The advisor must approve the field project. Student outcomes of the field project will be designed by the student to enhance their workplace skills and must be directly related to course content in the Human Relations Certificate. This course is intended to be taken after the completion of other courses in the certificate.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

SMGT 2800 - Quality and Productivity Field Study

This course will focus on the practical application of recently learned supervisory management principles and concepts through application of their most previous course work to the workplace. The advisor must approve the field project. Student outcomes of the field project will be designed by the student to enhance their workplace skills and must be directly related to course content in the Productivity Certificate. This course is intended to be taken after the completion of other courses in the certificate.

Prerequisites: None.

(2 C: 0 lect/pres, 0 lab, 2 other)

SMGT 2802 - Project and Meeting Management

This course provides an overview of methods used when doing Project Management on either large or small projects. The participants will review the tools and procedures for designing, scheduling, and controlling projects in operations and management with emphasis on human needs in project management. This course is designed to teach students how to plan, prepare, organize, conduct, and evaluate effective meetings. It will cover tools and techniques to be able to lead and facilitate productive, limited, decision-making, or more complex project-oriented meetings.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT 2804 - Problem Solving and Quality Tools

Students will learn principles and use tools for quality and continuous improvement. Emphasis will be on assessing the supervisor's role and responsibilities related to quality including identifying customer needs, applying tools and techniques for improving systems and processes, developing a quality training plan for work group members, and enhancing work group commitment to quality. This course provides participants with the skills and resources to define and resolve organizational problems and make effective decisions. Students will learn techniques to improve creativity, group participation and gaining approval and support for successful implementation of solutions. Individual and group decision making is explored.

Prerequisites: None.

(4 C: 4 lect/pres, 0 lab, 0 other)

SMGT 2806 - Accounting for Non-Financial Managers

This course is specially designed to provide students with the management planning and control methods necessary for supervisors. These skills are essential for supervisors to be able to understand the role of budgeting in management decision making and use good management planning and control techniques.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT 2808 - Leadership Development

This course is an introduction to several concepts of leadership. Participants will identify leadership qualities, explore the relationship between leadership and management, and look at the dynamics of value systems. In addition to mechanics and styles of leadership, the moral and ethical considerations of leadership will also be discussed. Leadership will be approached from the aspect of follower empowerment. This course will focus on developing the skills to support and lead others.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SPEC 2850 - Special Topics

This course is designed by the student and instructor to meet specialized needs for the individuals program requirements. This course will be used by students needed to demonstrate achievement of specific knowledge for use in completion of program graduation requirements.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

SURG 1400 - Medical Microbiology

This course will enable you to recognize how you can prevent the spread of disease and promote wound healing. You will study the structure and function of microorganisms, the various diseases caused by pathogenic microorganisms, and the methods of transmission of disease. Various methods of sterilization and disinfection will be studied. You will classify wound types and study the wound healing process in conjunction with the body's defenses against disease. You will also learn to protect yourself by studying the concept of standard precautions.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SURG 1404 - Surgical Pharmacology

This course will enable you to assist in the preparation of drugs used in the operating room. You will study the uses, routes of administration, equipment needed and possible side effects of these drugs. The metric and apothecary systems of measure will be studied. You will convert standard time to military time, do temperature conversions, and study how to prepare a solution. Emphasis will be placed on the legal and safety aspects of drug administration.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

SURG 1420 - Operating Room Techniques

This course will enable students to recognize the surgical technologist as an essential part of the medical team providing surgical care to patients in an operating room setting. Students will study the total operating room environment, which includes preoperative, intraoperative and postoperative care. Emphasis will be placed on safety and the principles of aseptic technique.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

SURG 1424 - Operating Room Techniques Lab

This course will enable students to perform fundamental operating room skills, to identify instruments and to prepare supplies necessary for surgical case management. Included will be a basic knowledge of Electricity, Physics and Robotics. Students will accomplish this by having the opportunity to observe, practice and demonstrate these skills in a lab setting. Emphasis will be placed on demonstrating the principles of aseptic technique as they apply to skills inherent in the role of the surgical technologist.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

SURG 1442 - Surgical Procedures I

This course will enable students to understand various types of surgical procedures. Students will accomplish this by studying surgical anatomy, abnormalities, and the preoperative, intraoperative, and postoperative processes as they relate to each type of surgery. Students will relate the knowledge learned in previous theory courses to specific surgical procedures. The types of cases to be studied will include laparotomies, hernia repairs, and surgeries performed on the reproductive, urinary, digestive, skeletal, muscular, endocrine, sensory, respiratory and nervous system organs. This course will also enable students to seek employment. Students will write a letter of application and a resume and follow-up letter. Students will practice for an interview.

Prerequisites: None.

(6 C: 6 lect/pres, 0 lab, 0 other)

SURG 1443 - Surgical Procedures II

This course will enable students to understand various types of surgical procedures. Students will accomplish this by studying surgical anatomy, abnormalities, and the preoperative, intraoperative, and postoperative processes as they relate to each type of surgery. Students will relate the knowledge learned in previous theory courses to specific surgical procedures. The types of cases to be studied will include surgeries performed in Oral/Maxillofacial and Plastic/Reconstructive specialties.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

SURG 1462 - Operating Room Clinical Lab I

This course will start you on the road to becoming a functional member of the surgical team in the capacity of a surgical technologist. The student will implement skills learned in prior surgical technology theory and lab courses. The student will be scrubbing for a variety of surgical procedures and assisting the circulating nurse. The student will also be working with central processing, unit support, and instrument room personnel. The complexity of duties will increase as the semester progresses. During this semester, the student will have two rotations at area health care institutions. The student must pass the first rotation in order to continue on the 2nd rotation.

Prerequisites: None.

(14 C: 0 lect/pres, 14 lab, 0 other)

SURG 1463 - O.R. Clinical Lab II

This course will enable students to be a functional member of the surgical team in the capacity of a surgical technologist. During this 3-week rotation, students will become independent practitioners by performing all of the duties of a surgical technologist in the cases they are assigned to scrub. Students will sharpen the skills learned in prior surgical technology theory and lab courses. The students will complete any experience with the central processing, unit support, and instrument room personnel that was not available to them in SURG 1462.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

TECH 1500 - Applied Algebra

This is an introductory algebra course. The course is designed for students who have no previous experience in algebra and for those who need a review of basic algebraic concepts. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills of algebra and to show how algebra can model and solve authentic real-world problems.

Prerequisites: None.

(3 C: 0 lect/pres, 0 lab, 3 other)

TECH 1522 - Manufacturing Math

This course will focus on the practical applications of applied geometry and trigonometry. Students will be involved in problem solving as it relates to industrial manufacturing and trade applications.

Prerequisites: None.

(4 C: 3 lect/pres, 1 lab, 0 other)

TECH 1530 - Computer Applications

This is an introductory course in computer applications. This course is designed for students who have no previous computer experience or for those who need a review of basic computer applications. The primary goals of this course are to help individuals acquire a hands-on working knowledge of current personal computer applications including, word-processing, spreadsheet, database, presentation, and internet browser software.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

TECH 1540 - Technical Communications

Students are introduced to the correct procedures for verbal and written communication in the technical field including and presenting technical data and working in a team environment.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

TECH 1550 - Basic CADD

This is a fundamental course in using computer aided drafting software to create basic drawings. This course is designed for students who have no previous experience in drafting or using computers. Topics include: file management, two-dimensional drawings, symbols, libraries, electrical and schematic drawings.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

TECH 1552 - Basic Metal Joining and Fabrication

Time will be spent in the lab developing skills using the Oxy-Fuel cutting processes, Plasma cutting, basic oxy-acetylene torch use, SMAW and GMAW and the GTAW processes. Welds will be made in various positions. An important part of this class will be the safety concerns of each of the processes listed. For the Machine Tool students it will be expected they complete the required welds and demonstrate a level of proficiency with each process as required by the Machine Tool industry. CADD students enrolled in this same course will be held to a different standard. They will not be required to meet a high level of proficiency, but will be required to complete the required number of welds to gain an understanding of the process and how it may be applied.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

TECH 1554 - Basic Electric Circuits

This course gives students a fundamental understanding of electrical circuits, components, test equipment, and troubleshooting techniques. Students will develop skills in reading electrical prints, using a volt-ohm meter, ammeter, connecting and testing common electrical components: such as switches, relays, solenoids, and motors.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

TECH 1556 - Basic Manual - Automated Machining

This course is intended to give the student an introduction into the machining-metalworking world. The student's time will be spent in the lab developing skills in manual machining techniques, using various metals and materials, inspection and measurement of machined features as well as an overview of Computer Numerical Control (CNC) machining and programming. An important part of this class will be the safety concerns of each of the areas being taught. The content of the course will vary somewhat for welding, CADD and electronic students. The electronics students will be given a higher level of automated machining experiences that the welding and CADD students.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

TRAN 1502 - General Service

This course covers the correct procedures for servicing vehicles, shop safety and use of service manuals and bulletins. Automotive tools, equipment and minor service and repairs will be emphasized.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

TRAN 1504 - Electricity and Electronic Principles

In this course the student will learn the basics of electricity and electronics. The student will study the sources of electricity, circuits, magnetism, resistance, voltage and amperage. Students will learn about diodes, transistors and solid state devices. Lab work will give the students hands on experience with digital meters, power supplies and oscilloscopes.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

TRAN 1516 - Scan Tool Data Acquisition

Students will study how to acquire and store data from various automotive computer systems using factory and aftermarket scan tools. Students should be able to describe automotive computer operation and perform service in accordance with manufacturer's procedures.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

TRAN 1518 - Transportation Hazardous Materials

Students enrolled in this class will learn how to identify and to handle hazardous materials found in the transportation industry. Studies include shop safety, haz-mat identification, haz-mat source identification, storage and handling of haz-mat, personal and environmental effects of haz-mat, emergency procedures involving haz-mat, and pollution prevention techniques.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

TRAN 1520 - Workplace Perceptions and Expectations

The workplace is filled with expectations of the employee, employer, and customers. This course will explore issues concerning safety, performance, and workplace ethics. Students completing this course will develop skills to perform successfully in the transportation industry.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

TRAN 2514 - Basic Air Conditioning

This course covers the principles of air conditioning systems, the various types of systems, diagnosis of malfunctions and proper legal procedures for handling refrigerants. Students will learn to test and repair automotive or truck systems. Hands on experience will include evacuating, replacing of defective components, charging and performance testing air conditioning systems.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

USCV 1400 - Cardiovascular Anatomy and Physiology

A study of the anatomy, physiology, and structural relationships of the human heart and vascular system. Focus on Hemodynamics, electrocardiography, embryological development of the heart and fetal circulation.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

USCV 1422 - Ultrasound Physics

A study of the physical principles and mathematical equations required to understand diagnostic ultrasound. Course includes parameters of sound waves, pulsed and continuous wave principles, laws of reflection and refraction and the role of piezoelectricity in the production and processing of ultrasound.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

USCV 1440 - Introduction to Clinics

Topics address patient scheduling, patient preparation, patient histories, and physical signs. Lecture and simulated laboratory experience prepares the student to perform patient care utilizing critical thinking and clinical skills.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

USCV 2405 - Cardiovascular Pathology

An in-depth study of the pathologies of the cardiac and vascular systems, their physiologic symptoms and outcomes. This course includes discussion of acquired diseases and congenital heart disease.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

WELD 1502 - Welding for Work and Leisure

This course covers basic welding procedures using arc welding and oxy-fuel equipment. One of the major topics of discussion will be safety in the use of this equipment. Time will be spent in the shop completing welds in various positions with different processes and electrodes. The processes to be covered in this class will be stick electrode (SMAW) Oxy-Acetylene welding, cutting and brazing along with a short introduction into wirefeed welding. Students in this course will be from other programs where welding may be a useful tool. However it will be stressed that in many situations it is most advisable to have a skilled welder do jobs that will involve personal safety. Knowing your limitations is of the utmost importance.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

WELD 1507 - Arc Welding Processes I - Lec

In the Arc Welding Processes I (lecture) course, we will cover the safety issues connected with the arc welding process and the types of power sources used in arc welding. Current selection and the applications will also be covered. Electrodes and the AWS electrode code will be defined. Electrode selection and application will be covered. The use of welding codes and how they apply will also be covered along with welding certification guidelines.

An introduction into Gas Metal Arc Welding will be incorporated into this class covering the safety aspects of the process.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1509 - Shielded Metal Arc Welding - Modified Course for Tech Prep

This course covers the SMAW welding process, formerly known as the stick-welding process. Using this process, high quality welds can be made rapidly with excellent uniformity. A minimum amount of equipment is required and the process can be very portable often using engine driven power supplies. The courses cover the knowledge, skills, and safety principles for the SMAW process. Welding will be performed on plain carbon steel products in the flat, horizontal, and vertical positions. A special emphasis will be placed on the E-6010 and E-7018 electrodes. NOTES: For details of topics covered in the high school variable course please refer to the appropriate advanced standing articulation agreement. This variable course is designed to allow students with Advanced Standing credit for WELD 1509 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (WELD 1509) will be delivered concurrently with WELD 1510.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

WELD 1511 - AWP I (lab)

In Arc Welding Processes I (lab), time will be spent in the lab developing skills using the SMAW and GMAW processes. Welds will be made in the flat, horizontal and vertical positions using the SMAW process. The GMAW process will use the flat and vertical down positions. With the SMAW process various types of electrodes will be used. The short arc method of transfer will be used with the GMAW process. Welding tests will be done in accordance with the AWS welding code. Welds will be completed on plate and an introduction to pipe welding will also be included.

Prerequisites: None.

(4 C: 0 lect/pres, 4 lab, 0 other)

WELD 1514 - Oxy-Fuel Welding and Brazing -Lec

This course covers the use of oxy-fuel welding, brazing and equipment. A very important part of this course will be discussing safety as related to oxy-fuel equipment. Also covered will be set-up and other flame applications.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WELD 1518 - Oxy-Fuel Welding and Brazing Lab

This course covers oxy-fuel welding and brazing operations and equipment. The student will be working with the equipment required to gas weld and braze in all positions. Other equipment used will be spray powder torches and heating tips. The student will be required to demonstrate the safe use of the equipment.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1523 - Metallurgy

This course covers the study of metals and how to weld them. Physical and mechanical properties of carbon steels as they apply to welding will be covered. The numerical code for the classification of steel and aluminum will be discussed. Terms dealing with metallurgy will be an important part of the course. Some time will be spent doing hardness testing and identifying metals.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1524 - Related Math for the Welding Profession

The welding profession requires a good working knowledge of math concepts using whole numbers, fractions, decimals and the metric system. In many situations the welder will be required to convert from one method of measure to another. Knowing how to make these conversions can make the job easier.

In other instances the welder will be required to calculate the weight and cost of material to fabricate a tank then calculate the capacity, which may be needed in cubic feet, gallons or liters.

To accurately layout and fabricate parts the welder will need some knowledge of geometric construction.

One of the tools used in this math class will be a calculator. How to use the functions of the calculator will be covered.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WELD 1528 - Blueprint Reading I

This course covers why blueprints are such an important part of the welding and fabrication industry. As an introduction to blueprints the types of lines, drawings and views will be discussed. How views are arranged and the importance of developing an understanding of the relationship of one view to another.

If one does not have a good understanding of lines and views it becomes more increasingly difficult to deal with more complex blueprints.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1533 - Blueprint Reading II

This course covers the use of blueprints in industry dealing with applications in structural steel, and sheet metal fabrication. In this course the use of metric measure will be discussed.

The American Welding Society weld symbols and their use and applications will be covered. The various components of the symbols and types of weld joints will be discussed.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1534 - Cutting Processes

This course covers the use of cutting equipment used in the metal fabrication industry. Equipment included will be machine flame cutting equipment, plasma cutting and mechanical cutting processes which will include sawing and shearing.

Prerequisites: None.

(2 C: 1 lect/pres, 1 lab, 0 other)

WELD 1539 - AWP II (lecture)

The Arc Welding Processes II (lecture) will cover the Gas Metal Arc Welding (GMAW) process in depth. The course will be covered in five major groups: Power Sources, Shielding Gases, Methods of Transfer, Electrodes, Wirefeeders and Torches. Each one of these topics will be covered in detail. The course will also deal with various wire types, flux core, metal core, aluminum and stainless steel. The applications for these various wires will be discussed. The completion of Shielded Metal Arc Welding will also be a part of this course. This will include the overhead position and the completion of the guided bend test. Students may elect to take a certification test.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1543 - AWP II (lab)

In the Arc Welding Processes II (lab) course, time will be spent in the lab developing skills using the GMAW process. In the beginning solid wire will be used with the short arc method of transfer. The use of solid wire with spray arc and pulse spray will also be covered. Welding will be done in all positions. Students will also set up equipment for various applications. Upon completion of the required projects with solid wire, the students will then begin using flux core wire. Both gas shielded and gasless will be used in all positions. The students will also be given the opportunity to use various shielding gases. The welding of aluminum and stainless steel will be covered. The students will also complete welds in the overhead position using the SMAW process with various electrodes. Upon completion of the required welds the students may choose to take the AWS Structural certification test, using the processes covered in this course.

Prerequisites: None.

(5 C: 0 lect/pres, 5 lab, 0 other)

WELD 1546 - Gas Tungsten Arc Welding - Lecture

This course covers the safety hazards and applications for Gas Tungsten Arc Welding (Heli-Arc) in the welding industry. Material covered in the classroom will be power source setup, current types, current selection, shielding gases and torch types. Various procedures will be discussed for welding different metals and problems that may be encountered.

Applications for the process in the piping industry. The use of back purging will be discussed and its applications. Safety when using the process and the handling of high pressure cylinders will also be covered.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

WELD 1550 - Gas Tungsten Arc Welding - Lab

Safety when using the GTAW process and the handling of high pressure cylinders will be covered. The setup and operation of the equipment will be covered in the lab. Welding of mild steel, stainless steel and aluminum will be covered in the lab along with the proper preparation and correct selection of electrodes. This welding process is one of the more demanding and requires good hand and eye coordination.

Prerequisites: None.

(3 C: 0 lect/pres, 3 lab, 0 other)

WELD 1554 - Fabrication Equipment I

This course covers equipment used in the metal fabrication industry, for the forming and shaping of metals. A wide variety of equipment will be used during this course and several projects will be fabricated. Types of equipment will include shear, ironworker, hydraulic brake, pan and finger brake, track torches, electronic tracer and plasma cutting equipment. Also included in this course will be layout procedures for various applications.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1558 - Fabrication/Layout II

This course covers the use of forming equipment used in the metal working industry along with the safety aspects of using this equipment. Several different types of layouts will be done, along with the actual forming of parts. Also covered in this course will be the process of searching out the various types of shops when seeking employment. Students will also develop a resume and letter of application.

Prerequisites: None.

(2 C: 0 lect/pres, 2 lab, 0 other)

WELD 1562 - Welding Skill Development and/or Certification

This course will allow the student an opportunity to refresh or upgrade skills with one or more welding processes. Or to learn skills in a process new to them.

Or the student may have a need to obtain welding certification. They may be familiar with the welding process but need preparation to take the welding test. After visiting with the student and determining their needs the credit level can be determined. During this advising session the process required and the welding code to be tested can be determined. If upgrading skills is the main goal then the level of skill can be discussed and the appropriate time lines and schedule can be developed. If taking a welding certification test is the goal the student will be given the opportunity to make several test welds to prepare for the test. After this has been done the student will then be able to make practice welds and bend them to check for weld quality. Once the test is started it will be done according to the code. There will be no grinding unless it is part of the weld procedure being tested to. It will be up to the student to pay for all shipping and testing charges. This is a variable credit course, with 1-3 credits.

Prerequisites: None.

(C: 0 lect/pres, 0 lab, 0 other)

WETT 1502 - Basic Laboratory Skills

Students will learn basic testing skills, weighing and sampling techniques in order to evaluate the effectiveness and efficiency of water and wastewater treatment processing. Course also includes: laboratory safety, the identification, care, and use of laboratory equipment.

Prerequisites: None.

(1 C: 0 lect/pres, 1 lab, 0 other)

WETT 1506 - Introduction to Water/Wastewater technology

Students will gain an understanding and develop skills, knowledge, and attitude necessary to be successful in the water and wastewater treatment program.

Student will study water and wastewater terminology, identify operator duties, identify different treatment processes, identify sources of water and define water characteristics. Students will also learn the effect of people on public waterways and what treatment processes have been designed to limit these effects. This course will distinctly define the differences between water and wastewater treatment facilities.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

WETT 1510 - Water/Wastewater Treatment Calibrations

Students will review basic arithmetic and metric conversions. Calculations will relate to water and wastewater treatment using word problems to solve for: volumes, areas, flows and weights.

Prerequisites: None.

(2 C: 2 lect/pres, 0 lab, 0 other)

WETT 1514 - Source Water Treatment and Development

Students will study the treatment of development of both ground and surface water sources. Areas studied will include: well construction and development, pump types and applications, ground and surface water protection, pretreatment of surface water, and water filtration.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

WETT 1518 - Water Plant Operation I

This course assists students to identify and gain knowledge and demonstrate the skills and tasks used in the treatment of raw water and drinking water. The tasks and skills reflect tests and operations that are practices in water treatment plants and are based on biological and chemical concepts. The tests are in correlation with Public Health and Environmental Protection Agency Standards.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

WETT 1522 - Water Plant Operation II

This course correlates and uses synthesis to assist the student to gain knowledge and experience in advanced raw water and drinking water testing. The tests presented are based on knowledge obtained in previous courses. All sampling and testing are evaluated using Public Health and Environmental Protection Agency Standards.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

WETT 1526 - Water Distribution Systems

Students will be exposed to all operational design and maintenance characteristics of water distribution systems. This will include storage facilities, pump stations, distribution piping, valves, and fittings and associated hydraulics. The course will include a 40-hour internship at a water treatment facility.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

WETT 1530 - Understanding OSHA Safety Regulations in the Water Industry

Students will study the intent of the OSHA regulations as they pertain to the safety of the individual in the water industry. Students will obtain an understanding of the development of OSHA. Students will also construct a facility safety and health manual based on the knowledge obtained in the classroom and information gathered through research and observation at a local utility.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

WETT 1534 - Wastewater Plant Operation I

This course will assist students in understanding preliminary, primary and secondary operation and process control at a wastewater treatment facility. The concept of rotating biological contactors and trickling filter operations and maintenance will be presented as the secondary processes. Students will be presented with the opportunity to demonstrate control strategies, safety practices, ability to solve mechanical, flow and pollution problems. The lab component in this class will address specific analytical methods directly associated with the treatment processes involved.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

WETT 1538 - Wastewater Plant Operations II

Students will gain an understanding and develop skills, knowledge, and attitude necessary to be successful with controlling processes that occur in Activated Sludge, Stabilization Pond and Septic systems. The student will identify problems that occur in each of these processes and develop skills necessary to troubleshoot and solve the problems. The laboratory component presented in this course will require a synthesis of prior theory and practice.

Prerequisites: None.

(4 C: 2 lect/pres, 2 lab, 0 other)

WETT 1542 - Wastewater Laboratory Procedures

Students will receive the opportunity to observe, perform and demonstrate their abilities with a wide variety of water and wastewater tests commonly performed at a water and/or wastewater treatment facility. Students will interact with other students while performing sampling, preservation and handling of samples as well as when running on analysis. Students will be working in a variety of groups and sharing ideas and skills necessary and expected throughout the industry in performing standardized tests. Students will be required to generate lab reports and complete standard regulatory forms with their data generated from their lab results.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

WETT 1546 - Collection and Disinfection Systems Operation

This course will prepare students for the operation and maintenance of wastewater collections systems and disinfection methods employed in water and wastewater treatment systems. The installation and maintenance of the equipment required by these systems will be explored. Disinfection by chlorination will be the main focus of the disinfection methods discussed. Calculations of chemical dosages and the safety practices involved with handling chemicals will also be included in the study of collection and disinfection systems. Lab analysis and interpretation of lab data will be demonstrated and practiced to ensure comprehension and understanding of these systems.

Prerequisites: None.

(3 C: 2 lect/pres, 1 lab, 0 other)

WETT 1550 - Strategic Enhancement for Success

This course is designed to synthesize all courses in the Water Environment Technologies program. The process of synthesis will assist students in passing their state "class D" certification examination and to complete an internship in cooperating water and wastewater treatment facilities. Students will also complete the process of researching and applying for employment, using a variety of methods learned in the water and wastewater industry.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

WETT 1554 - Automated Control Systems

Students will comprehend basic electrical concepts used to analyze electrical consumption and assist in environmental protection through consumption reduction. Students will also develop an understanding of the motors and control panels used in the operation of water and wastewater treatment processes. The operation of various types of instrumentation, monitoring equipment and other control devices will be understood and utilized by the students.

Prerequisites: None.

(3 C: 1 lect/pres, 2 lab, 0 other)

WETT 1558 - Understanding the EPA Part 503 Biosolids Rule

This course is designed to assist students with the interpretation and understanding of the rules and regulations set forth by the federal and state agencies relating to biosolids. Students will study the comprehensive requirements for the management and disposal of biosolids generated during the process of treating municipal wastewater. This course will also help prepare students in obtaining a type IV biosolids operator's license upon meeting the state and federal requirements for biosolids application.

Prerequisites: None.

(3 C: 3 lect/pres, 0 lab, 0 other)

WETT 1562 - Backflow Prevention and Control

This course will train the small water system operator to identify areas where backflow prevention is required. The course will also include what the different types of backflow devices are available and the proper application of such devices. Operators will also learn about the potential health concerns related to cross connections and understand the terminology of this subject.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1564 - Applying Water Operator Math Skills

This course is designed to train the small water system operator the basic math skills in order to properly operate and maintain a public water system. Procedures that will be covered will include area volume, quantity and velocity calculations, chemical additions and dosage calculations. Formula selection and calculator usage will also be included.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1566 - Disinfection II, Gas Chlorinators

In this course small system operators will learn the purpose of disinfection processes. Topics that will be covered in this class will include: chemistry of chlorination, chlorine safety requirements, and calculations of dosage. The focus of this course will be on gas chlorination and chlorinators. Students will be required to identify, repair and maintain all components in a gas chlorination system and to recognize associated problems with a failed or failing system. Also, students are expected to learn the standards set forth by the AWWA for materials, installation and application of chlorine facilities.

Prerequisites: None.

(1.50 C: 1 lect/pres, 0.5 lab, 0 other)

WETT 1568 - Fire Hydrants and Water Meters

In this course small water system operators will learn to effectively operate and maintain fire hydrants and water meters. Areas to be included in this course will include, proper hydrant flushing techniques, hydrant maintenance, code requirements, differentiating between hydrant types and evaluation of hydrant conditions. Other subject areas will include planning and inspection of construction projects, winter operation and readiness, and pumping of wet barrel hydrants. Water meter component will include disassembly and reassembly of residential and compound water meters, identification of meter parts and common failures of water meters. Students are expected to distinguish between several types and models of water meters and associated components. Students will study how a meter register works and explain the concept behind magnetic metering. Remote meter reading applications will be explored.

Prerequisites: None.

(1.50 C: 1 lect/pres, 0.5 lab, 0 other)

WETT 1570 - Fluoridation

This course is designed for small system operators enabling them to understand the purpose, the methods, the maintenance, and the monitoring required to operate a fluoride feed system. The course covers a brief history of fluoridation. Techniques that can be used for system setup and calibration. Calculations required to dilute liquid fluoride. MDH reporting requirements to include process and frequency of reports. Operation and maintenance of chemical feed pumps will be included. Module will also include methods available to analyze fluoride concentrations in public water supplies.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1572 - Water Testing for Small Systems

This course will train the small water system operator on how to use laboratory analysis to assist in the operation of a water utility. Operators will learn the proper techniques required to perform water analysis and to apply the results to day-to-day operations. The course is designed to provide the operators with adequate time to develop and perfect the skills to obtain useful data. Procedures that will be covered will include but are not limited to total and fecal coliform analysis, pH, iron and manganese, water hardness, and fluoride concentrations.

Prerequisites: None.

(1.50 C: 1 lect/pres, 0.5 lab, 0 other)

WETT 1576 - Disinfection I, Hypochlorinators

This course is designed to provide small water system operators with the knowledge and skills required to operate water facilities chlorination systems using liquid solutions as hypochlorite. The content will include preparation of various strength chlorine solutions, feed equipment and processes used in the hypochlorite feed system, application and monitoring points and proper installation of such facilities. Safe handling and personal protection equipment when dealing with hypochlorite solutions will be emphasized. Disinfection analysis and calculations of dosages are also likely. Other small systems disinfection methodologies may be incorporated into this course to meet the needs of communities in rural areas.

Prerequisites: None.

(1.50 C: 1 lect/pres, 0.5 lab, 0 other)

WETT 1578 - Pump Operation and Maintenance

This course is designed to enable small water system operators to understand the theory and operation of water pumps. The course will include the operation and maintenance requirements for Centrifugal and positive displacement pumps used in utilities today. Topics will include packing and mechanical seal replacement, shaft alignment, parts identification, horsepower and total head calculations, and pump curve reading and application. Class will include hands-on maintenance activities of pumps in laboratory setting using system simulations.

Prerequisites: None.

(1.50 C: 1 lect/pres, 0.5 lab, 0 other)

WETT 1580 - Water Communications Network

The purpose of this course is to provide small water system operators with the knowledge and skills required to develop and maintain a functional record keeping and reporting system. Primary areas of coverage will include records and reports that are required by the MN Department of Health. Information will also be provided on documentation requirements of EPA and the Safe Drinking Water Act regulations. The course will assist the operators in developing a method to develop records in order to effectively operate and maintain the public water system in their charge to include items such as routine and preventative maintenance. This course will provide assistance with report writing to enhance the communications process.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1582 - Water System Corrosion Control

This course is designed to train the small water system operator on the importance of corrosion control in water treatment facilities and distribution systems. Key topics that will be covered and discussed are, use of chemicals, chemical application points, and chemical feed systems. One of the objectives is to be able to identify and recognize a systems need to manage corrosion of the system and recognize the steps to prevent excessive corrosion from occurring.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1584 - Water Hydraulics

This course is designed to assist operators in applying theories to operations of water a system in relation to the physical effects water has on/in a water system. The affects of head, pressure and force will be explored in both dynamic and static water systems. Head losses, including friction, velocity and total dynamic head will be evaluated. The importance of pressures and pressure losses will be emphasized throughout the course. The concept and effects of water hammer in a water adversely affect a water systems operation and the use of pressure gauges and booster pumps will be demonstrated to replicate what occurs on a daily basis in water systems. Calculations relating to elevation differences and friction losses will be emphasized.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1586 - Water Treatment Plant Security

This course is designed to heighten the small water system operator's awareness on security. Water system security coincides with public confidence. The course will expose the operator on techniques used to evaluate the water system and how to implement security measures. Operators will develop an evaluation model for their facility and identify areas that lack required security measures. Templates and models of successful security templates will be provided.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1588 - Source Water (wells)

This course is designed for small system operators beginning a career as a water operator and for current operators to upgrade their skills and abilities relating to water treatment operator duties. The course covers basic knowledge and understanding of source waters and wells, how they are constructed, protected, monitored and maintained to provide for a constant, safe supply of water for consumers. Students are required to participate in discussions involving the course topics and hands-on exercises developed specifically to enhance the skills and understanding of water system operators. Students will also be able to identify the components of a well system and calculate the production of the well based on actual measurements taken in the field. Students will begin to develop the necessary attitude and values as have become expected by professionals and peers in this industry.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1590 - Pump Operation and Maintenance II (Centrifugal)

This course is designed to enable small water system operators to understand the theory and operation of water pumps. The course will include the operation and maintenance requirements for centrifugal and other chemical and water pumps used in utilities today. Topics will include repair and maintenance, parts identification, total head calculations, adjustment and controls, applications and calibration procedures. Class will include hands-on maintenance activities of pumps in laboratory setting using system simulations.

Prerequisites: None.

(1.50 C: 1 lect/pres, 0.5 lab, 0 other)

WETT 1592 - Water Filtration

This course is designed to train small water system operators to understand the theory and design of water filtration. Information will be presented on both gravity and pressure filtration systems. Topics will include determining when and how to backwash what parameters to monitor and how they can be implemented into filter operation. The course will also include information on aeration and chemical additions used with filtration systems.

Prerequisites: None.

(1.50 C: 1 lect/pres, 0.5 lab, 0 other)

WETT 1594 - Water Exam Preparation

This course is designed to assist operators in preparing for State of Minnesota licensure (upper level). Students will be supplied with materials necessary to study and practice for their exams. Content for each licensure level will be provided.

This course will provide training with math skills, Regulations, maintenance, process control and operation knowledge as well as distribution system components and other pertinent components in water treatment systems. Students will be required to complete a variety of tests addressing content covered in the course and reference materials. Materials and tests will be provided in electronic and manual/paper formats.

Prerequisites: None.

(1 C: 1 lect/pres, 0 lab, 0 other)

WMST 1300 - Introduction to Women's Studies

Meets MN Transfer Goals 2 and 7 - Critical Thinking and Human Diversity

This course will investigate women's lives, their experiences, contributions, and culture, and the surrounding social structures and societal values, all from the perspective of women. This is an interdisciplinary course that is based on theoretical framework and approaches from a number of disciplines. We will be looking at the patriarchal system that produces and maintains unequal social relationships, and institutional exploitation, both political and economic.

Prerequisites: Appropriate Accuplacer Score.

(3 C: 3 lect/pres, 0 lab, 0 other)

ADMINISTRATION, FACULTY, AND STAFF

Abel, Greta (gabel@sctc.edu)..... (320) 308-5480
Personnel Aide Sr.

CERT, Saint Cloud Technical College
Diploma, Saint Cloud Technical College

Akerman, Patricia (pakerman@sctc.edu) (320) 308-5966
Librarian

BA, College Of Saint Scholastica
MED, College Of Saint Scholastica

Alex, James (jallex@sctc.edu)..... (320) 308-6528
Part-time Temp Auto Instructor

Diploma, Saint Cloud Technical College

Anderson, James (janderson@sctc.edu) (320) 308-5013
Accounting Instructor

BS, Saint Cloud State University
MSC, Saint Cloud State University

Anderson, Roseanne (randerson@sctc.edu) .. (320) 308-0978
Administrative Assistant

Andresen, Stanley (landresen@sctc.edu)..... (320) 308-6012
Computer Science Instructor

AAS, Saint Cloud Technical College

Andrews, Carolyn (candrews@sctc.edu)..... (320) 308-5084
Nursing Assistant Instructor

BS, College Of St Francis
Diploma, Saint Anthony College Of Nursing
MS, Univ Of Minn All Campuses

Andrist, Paula (pandrist@sctc.edu) (320) 308-5028
Account Clerk

AA, Willmar Cmty College

Antony, Richard (rantony@sctc.edu)..... (320) 308-5012
Civil Engineering Instructor

BS, Saint Cloud State University
CERT, Saint Cloud Technical College

Banerjee, Madhumita (mbanerjee@sctc.edu) (320) 308-6153
Academic Coordinator, TRIO 50%

Bauer, Jacqueline (jbauer@sctc.edu)..... (320) 308-5486
Placement Coord/Recruiter

Baugh, Anita (abaugh@sctc.edu)..... (320) 308-5936
Director, Financial Aid

BS, Indiana State University
MS, Southwest Minnesota State University

Beaver, Robert (rbeaver@sctc.edu) (320) 308-5927
Recruiter

BA, Saint Cloud State University
MA, College Of Saint Scholastica

Berg, Judy (jjacobsonberg@sctc.edu)..... (320) 308-5096
Counselor

BS, Saint Cloud State University
MS, Saint Cloud State University

Bernett, Theresa (tbernett@sctc.edu)..... (320) 308-5403
Administrative Assistant

Bjork, John (jbjork@sctc.edu)..... (320) 308-5757
Carpentry Lab Assistant

BA, Minnesota State University Moorhead

Borgert, Catherine (cborgert@sctc.edu) (320) 308-0973
General Education Instructor

BS, Saint Cloud State University
MS, Saint Cloud State University

Braun, Michele (mbraun@sctc.edu) (320) 308-5668
Director of Alumni & Mktg

AAS, Saint Cloud Technical College
AAS, Saint Cloud Technical College
BS, Saint Cloud State University

Broker-Relph, Margaret (pbrokerrelph@sctc.edu)
..... (320) 308-5052

PT Dental Asst Instructor
AAS, Saint Cloud Technical College
BS, Saint Cloud State University

Brovold, Ryan (rbrovold@sctc.edu) (320) 308-5081
 Computer Science Instructor
 BA, Bemidji State University
 MS, Bemidji State University

Brunn, Susan (sbrunn@sctc.edu)..... (320) 308-6493
 Administrative Assistant, door15
 AAS, Saint Cloud Technical College

Burklund, Bradley (bburklund@sctc.edu)..... (320) 308-5033
 Farm Mgmt Instructor
 BS, Univ Of Wisc All Campuses
 MED, Univ Of Minn All Campuses

Burnett-Pick, Susan (sburnettpick@sctc.edu)
 (320) 308-5485
 Administrative Assistant

Butkowski, Kim (kbutkowski@sctc.edu) (320) 308-5563
 PT Dental Assist Instructor
 CERT, Saint Cloud State University

Carkhuff, Lois (lcarkhuff@sctc.edu) (320) 308-6598
 Registration Assistant
 AAS, Saint Cloud Technical College

Casavant, Penny (pcasavant@sctc.edu)..... (320) 308-5980
 Executive Director
 BS, Minnesota State University Moorhead

Cimenski, Steve (scimenski@sctc.edu) (320) 308-5036
 Automotives Instructor
 Diploma, Saint Cloud Technical College

Dahl, John (jdahl@sctc.edu)..... (320) 308-5012
 Civil Engineering Instructor
 BEN, Univ Of Minn All Campuses

Denne-Morgan, Diane (dmorgan@sctc.edu)
 (320) 308-6522
 Customized Training Rep
 BA, Concordia University, St Paul
 Diploma, Rasmussen College-St Cloud Campus

DeRung, Dale (dderung@sctc.edu) (320) 308-5047
 Auto Body Instructor
 Diploma, Willmar Cmty College

Dickinson, Timothy (tdickinson@sctc.edu)... (320) 308-5049
 Director
 BA, Concordia University, St Paul

Doetkott, Renee (rdoetkott@sctc.edu)..... (320) 308-6032
 PT Nursing Instructor
 BS, Minnesota State University, Mankato
 Diploma, St Cloud School Of Nursing

Dombrovski, Mary (mdombrovski@sctc.edu)(320) 308-5063
 Accounting Instructor
 AAS, Saint Cloud Technical College
 BS, University Of Wisconsin-Platteville

Douglas, Mary (mdouglas@sctc.edu)..... (320) 308-5935
 Practical Nursing Instructor
 BA, Gustavus Adolphus College
 MS, Capella University

Durant, Roger..... (320) 308-3382
 Maintenance Worker

Eizenhoefer, Karen (keizenhoefer@sctc.edu)
 (320) 308-5946
 Account Clerk

Ekern, James (jekern@sctc.edu)..... (320) 308-5086
 Architectural Instructor
 BA, Winona State University
 MS, University Of Wisconsin-Stout

Elness, Jodi (jelness@sctc.edu) (320) 308-5087
 Director
 BS, Saint Cloud State University
 MA, College Of Saint Scholastica

Fabel, Randy (rfabel@sctc.edu)..... (320) 308-6048
 Carpentry Instructor
 BS, Saint Cloud State University
 MSED, Southwest Minnesota State University

Fabian, Sandra (sfabian@sctc.edu)..... (320) 308-5908
 Director
 BA, Concordia University, St Paul
 MA, St Marys University

Feddema, Lana (lfeddema@sctc.edu)..... (320) 308-1595
 Registrar
 Diploma, Saint Cloud Technical College

Felling, Mona (mfelling@sctc.edu)..... (320) 308-5025
Computer Science Instructor
AAS, Saint Cloud Technical College

Fiereck, Jeri (jfiereck@sctc.edu) (320) 308-5479
Administrative Assistant

Flatley, Thomas..... (320) 308-3382
Maintenance Worker

Foseid, Joseph..... (320) 308-3382
Maintenance Worker
Diploma, Saint Cloud Technical College

Friedl, Thomas (320) 308-3382
Maintenance Worker

Friedrich, Kathleen (kfriedrich@sctc.edu) (320) 308-5066
Associate Dean, Center
BS, College of St Catherine

Fritz, Rose (rfritz@sctc.edu)..... (320) 308-6470
Payroll/AR Clerk
CEC, Rasmussen College-St Cloud Campus

Gilbride, Kathleen (kgilbride@sctc.edu)..... (320) 308-5940
AAS, Saint Cloud Technical College
BS, Winona State University
MS, Minnesota St Univ System

Goenner, Katheryn (kgoenner@sctc.edu)..... (320) 308-5091
Customer Svcs Spec Intermediate

Goodwin, Sandie (sgoodwin@sctc.edu)..... (320) 308-5028
Account Clerk, Bookstore
Diploma, Saint Cloud Technical College

Green-Quayle, Laurie (lgreenquayle@sctc.edu)
..... (320) 308-5921
Surg Tech Instructor
CERT, Anoka-Hennepin Technical College

Gross, Donald (dgross@sctc.edu)..... (320) 308-5094
Electrical Instructor
CEC, Saint Cloud Technical College

Gruber, Iris (igruber@sctc.edu) (320) 308-5090
Administrative Assistant

Gruber, Terrance (tgruber@sctc.edu)..... (320) 308-5070
Counselor
BS, Saint Cloud State University
MSED, Drake University

Gunderson, Jeffrey (jgunderson@sctc.edu)... (320) 308-0971
Sonography Instructor
BS, Univ Of Iowa Col Of Med
CEC, Univ Of Iowa Col Of Med
CEC, United Hosp Grd Frk Clin Prog Rad-T

Haley, Karen (khaley@sctc.edu) (320) 308-5951
Central Services Specialist
BS, Metropolitan State University

Hall, Joan (jhall@sctc.edu)..... (320) 308-5565
Administrative Assistant

Haller, John (jhaller@sctc.edu)..... (320) 308-5922
Student Activities Coord.
BA, Saint Cloud State University
MA, University Of Missouri-Kansas City

Hallermann, Jeffery (jhallermann@sctc.edu) (320) 308-5918
CADD Instructor
CERT, Saint Cloud Technical College
Diploma, Saint Cloud Technical College

Harris, Sharon (sharris@sctc.edu) (320) 308-3709
Accounts Payable Clerk

Haugen, Ronald (rhaugen@sctc.edu) (320) 308-5063
Accounting Instructor
BS, Minnesota State University Moorhead

Heim, Gilbert (320) 308-3382
Lead Maintenance Worker

Helens, Joyce (jhelens@sctc.edu)..... (320) 308-5017
President, St. Cloud Technical College
BA, St. Martin's College
MA, Portland State University

Hendrickson, Lois (lhendrickson@sctc.edu) . (320) 308-5080
Counselor
BS, Univ Of Minn All Campuses
MS, Saint Cloud State University

Henkemeyer, Barbara (bhenkemeyer@sctc.edu)(320) 308-5906
Dean, Health & Human Services
AAS, Minnesota State University, Mankato
BS, Minnesota State University, Mankato
MSC, Saint Cloud State University

Hensel, Stephanie (shensel@sctc.edu)..... (320) 308-5068
Admin Support Instructor
AA, Minnesota State University Moorhead
BS, Minnesota State University Moorhead
MS, Saint Cloud State University

Heurung, Blake (320) 308-3382
Maintenance Worker

Hiemenz, Karen (khiemenz@sctc.edu) (320) 308-5017
Administrative Assistant
Diploma, Saint Cloud Technical College

Hinnenkamp, Ruth (rhinnenkamp@sctc.edu) (320) 308-5957
Accounting Technician
AAS, Saint Cloud Technical College

Hirdler, June (jhirdler@sctc.edu)..... (320) 308-5011
Administrative Assistant

Hixson, James (jhixson@sctc.edu) (320) 308-5670
Computer Science Instructor
AAS, Saint Cloud Technical College
BS, Univ Of Minn All Campuses

Hnatko, Alan (ahnatko@sctc.edu) (320) 308-5072
General Education Instructor
BA, University Of Minnesota-Duluth
MS, Saint Cloud State University

Hollenhorst, Mark (mhollenhorst@sctc.edu) (320) 308-5120
Accounting Instructor
BA, Saint Johns University-New York

Holstad, Deborah (dholstad@sctc.edu) (320) 308-3227
Human Resources Director
BA, Saint Cloud State University

Hooper, Janice (jhooper@sctc.edu) (320) 308-5015
Practical Nursing Instructor
AAS, Hibbing Community College
BS, New York University

Hotz, Geraldine (ghotz@sctc.edu)..... (320) 308-5065
Admin Support Instructor
AAS, Fergus Falls Community College
BES, Saint Cloud State University

Huls, Janet..... (320) 308-5064
Food Service Worker

Hunt, Janice (jhunt@sctc.edu) (320) 308-5923
Account Clerk

Iten, Nan (niten@sctc.edu) (320) 308-5085
Sales & Mgmt Instructor
BS, Cardinal Stritch College
MA, St Marys University

Jahnke, Robin (rjahnke@sctc.edu) (320) 308-0975
General Education Instructor
BS, Univ Of Wisc All Campuses
MS, Univ Of Wisc All Campuses

Jamshidi, Kambiz (kjamshidi@sctc.edu)..... (320) 308-6031
Speech Instructor
BS, Northern Michigan University
MA, Minnesota State University, Mankato

Janku, Michael (320) 308-5037
College Lab Assistant

Jensen, Mary (mjensen@sctc.edu)..... (320) 308-6077
Administrative Assistant
Diploma, Saint Cloud Technical College

Jochum, Jilleen..... (320) 308-6471
Accounting Officer

Joerger, Paul (pjoerger@sctc.edu) (320) 308-5925
Farm Business Mgmt Instructor
BS, North Dakota State University Main Campus
MS, North Dakota State University Main Campus

Johnson, David (djohnson@sctc.edu)..... (320) 308-5044
CADD Instructor
CERT, Faribault Technical College

Johnson, Jed (jjohnson@sctc.edu)..... (320) 308-5975
Architectural Instructor
Diploma, Saint Cloud Technical College

Jones, Kelly (kjones@sctc.edu)..... (320) 308-5564
Speech Instructor
BA, North Dakota State University Main Campus
MA, North Dakota State University Main Campus

Joseph, Thomas (tjoseph@sctc.edu)..... (320) 308-6642
Sales & Mgmt Instructor
BS, University Of Notre Dame
MS, Saint Cloud State University

Julien, Jean-Pierre (jjulien@sctc.edu) (320) 308-6644
Echocardiography Instructor
MD, Univ Of Zaragoza

Kantor, Cindy (ckantor@sctc.edu) (320) 308-6641
Administrative Assistant
AAS, Saint Cloud Technical College
CERT, Saint Cloud Technical College

Kasimor, Mary (mkasimor@sctc.edu)..... (320) 308-5099
General Education Instructor
BA, Saint Cloud State University
MA, Saint Cloud State University
MS, Saint Cloud State University

Kearin, Patrick (pkearin@sctc.edu)..... (320) 308-5025
General Education Instructor
BS, Dakota State University
MS, Saint Cloud State University

Kelley-Bowman, Cheryl (ckelleybowman@sctc.edu)
..... (320) 308-5548
Cust Train Rep, door15
BA, College Of Saint Benedict

Kidder, Randall (rkidder@sctc.edu) (320) 308-5916
Heat & Air Instructor
Diploma, Northwest Technical College-Moorhead

Kinzer, Kathleen (kkinzer@sctc.edu)..... (320) 308-5068
Admin Support Instructor
BS, Winona State University
MS, Winona State University

Kippley, Margaret (320) 308-5179
Practical Nursing Instructor
BS, Saint Cloud State University
MS, Univ Of Minn All Campuses

Kircher, Brian (bkircher@sctc.edu)..... (320) 308-0901
Electrical Instructor
Diploma, Saint Cloud Technical College

Kline, John (jkline@sctc.edu)..... (320) 308-5411
Med/Hvy Truck Instructor
Diploma, Saint Cloud Technical College

Kloos, Lori (lkloos@sctc.edu) (320) 308-5026
Vice President
BS, Minnesota State University Moorhead

Klug, Gerianne (gklug@sctc.edu) (320) 308-1591
General Education Instructor
BA, Saint Cloud State University
MS, Saint Cloud State University

Kotschevar, Linda (320) 308-5028
Central Svcs Admin Specialist
BA, Saint Cloud State University

Kraipowich, Jennifer (jkraipowich@sctc.edu)(320) 308-6491
Academic Coordinator-TRIO
BS, Saint Cloud State University
MS, Saint Cloud State University

Kramer, Bradley (bkramer@sctc.edu) (320) 308-5010
General Education Instructor
BA, Saint Cloud State University
MFA, Minnesota State University Moorhead

Kremers, Donald (dkremers@sctc.edu)..... (320) 308-1542
Building Maint. Supervisor

Kreps, Bradley (bkreps@sctc.edu) (320) 308-6455
Carpentry Instructor
BS, Minnesota State University Moorhead

Kuebler, Ervin (320) 308-3382
Electrician

LaNave, Kevin (klanave@sctc.edu) (320) 308-6456
 Tech Prep Service Coordinator
 BA, Saint Johns University-New York

Larson, James (jlarson@sctc.edu) (320) 308-5481
 Architectural Instructor
 AAS, North Dakota State Univ

Laudenbach, Lori (llaudenbach@sctc.edu) ... (320) 308-5919
 Dental Clinic Assistant
 Diploma, Willmar Cmty College

LeBlanc, Mary (mleblanc@sctc.edu) (320) 308-5051
 Dental Hygiene Instructor
 AA, University Of South Dakota
 BS, University Of South Dakota

Lehn, Michael (mlehn@sctc.edu) (320) 308-5984
 Automotives Instructor
 BS, Saint Cloud State University
 CERT, Saint Cloud Technical College

Leonard, Donivan (dleonard@sctc.edu) (320) 308-5094
 Electrical Instructor
 CERT, Northwest Technical College-Wadena

Leuthard, Penny (pleuthard@sctc.edu) (320) 308-0979
 Advertising Instructor
 Diploma, Minnesota State University Moorhead

Leyk, Mary (mleyk@sctc.edu) (320) 308-5482
 Customized Training Rep
 AAS, Hennepin Technical College

Lindt, Carol (clindt@sctc.edu) (320) 308-5031
 Dental Lab Assistant

Lorenz, David (dlorenz@sctc.mn.us) (320) 308-6024
 Carpentry Instructor
 BS, Saint Cloud State University

Lourey, Diane (dlourey@sctc.edu) (320) 308-6155
 General Education Instructor
 BS, Saint Cloud State University
 MS, Saint Cloud State University

Lundblad, Julie (jlundblad@sctc.edu) (320) 308-5076
 General Education Instructor
 BA, Crown College Of Cosmetology
 BS, Bemidji State University
 MA, Bemidji State University

Mackereth, Kimberly (kmackereth@sctc.edu)
 (320) 308-1541
 Customer Svcs Specialist Int
 AAS, Saint Cloud Technical College

Maguire, Daniel (dmaguire@sctc.edu) (320) 308-5934
 Computer Science Instructor
 AAS, Saint Cloud Technical College

Mannie, Patricia (pmannie@sctc.edu) (320) 308-5410
 Dental Hygiene Instructor
 BS, Old Dominion University
 MS, Saint Cloud State University

McClintock, David (dmccclintock@sctc.edu)
 (320) 308-5032
 Info System Specialist
 AAS, Saint Cloud Technical College

McGuire, Patrick (pmcguire@sctc.edu) (320) 308-6010
 Cardiovascular Tech Instructor
 AA, National University
 AAS, Regent College
 BS, National University
 Diploma, Saint Cloud Technical College
 UKN, Health Careers Academy

McGuire, Jeanne (jmcguire@sctc.edu) (320) 308-5034
 Child & Adult Care Instructor
 BA, College of St Catherine
 MA, St Thomas College

Mergen, Robert (bmergen@sctc.edu) (320) 308-5902
 Electrical Instructor
 BS, Saint Cloud State University

Mishow, Jerold (320) 308-3382
 Maintenance Worker

Missaghi, Soheyl (smissaghi@sctc.edu) (320) 308-5409
 General Education Instructor
 BA, Saint Cloud State University
 MA, Saint Cloud State University

Mitzel, Molly (mmitzel@sctc.edu)..... (320) 308-5941
Administrative Assistant

Mockenhaupt, Debbie (dmockenhaupt@sctc.edu)
..... (320) 308-5937
Curriculum Assistant

Montreux, Marilyn (mmontreux@sctc.edu) .. (320) 308-5903
Admin Support Instructor
MBA, St Thomas College

Morgan, Steven (smorgan@sctc.edu) (320) 308-1593
Automotives Instructor
BS, Saint Cloud State University
CERT, Saint Cloud Technical College

Nichelson, Mark (mnichelson@sctc.edu) (320) 308-5916
Heat & Air Instructor
AAS, University Of South Dakota
BSE, Dakota State College

O'Keefe, Thomas (tokeefe@sctc.edu) (320) 308-6154
Sales & Mgmt Instructor
MBA, St Thomas College

Oliver, Sharon (soliver@sctc.edu) (320) 308-5920
Reading & Study Skills Inst
MA, Eastern Michigan University

Onken, Karen (konken@sctc.edu) (320) 308-5572
Supervisor
AAS, Pine Technical College

Opatz-Osgood, Clare (cosgood@sctc.edu) (320) 308-0120
General Education Instructor
MA, Northern Illinois University

Palm, Jeff (jpalm@sctc.edu) (320) 308-5924
Advertising Instructor
BA, Concordia College
MA, North Dakota State Univ

Parker, Jonathan (jparker@sctc.edu) (320) 308-5030
Vice President
BA, Texas Christian University
MED, Texas Christian University

Parry, Marge (mparry@sctc.edu) (320) 308-5028
Bookstore Manager
AAS, Saint Cloud Technical College

Peterson, Rita (rpeterson@sctc.edu) (320) 308-5031
Dental Assisting Instructor
BS, Univ Of Minn All Campuses

Peterson, Bruce (bpeterson@sctc.edu) (320) 308-6639
Dean of Trades & Industry
BS, Bemidji State University

Petters, Carol (cpetters@sctc.edu) (320) 308-5060
LPN Lab Assistant

Provost, Marcia (mprovost@sctc.edu) (320) 308-5478
Financial Aid Assistant
Diploma, Anoka-Hennepin Technical College

Raeker, Alcuin (araeker@sctc.edu) (320) 308-5902
Electrical Instructor
BS, Saint Cloud State University
Diploma, Saint Cloud Technical College

Ramanathan, Gajendranathan (gramanathan@sctc.edu)
..... (320) 308-6594
Accounting Instructor
AB, Univ Of Toledo Cmty Tech College
BBA, Univ Of Toledo Cmty Tech College
MBA, Univ Of Toledo Cmty Tech College

Rausch, Jason (jrausch@sctc.edu) (320) 308-5669
Webmaster
AAS, Alexandria Technical College

Rauschendorfer, Charles (crauschendorfer@sctc.edu)
..... (320) 308-5901
Automotives Instructor
BACH, Saint Cloud State University
CEC, National Institute Of Careers

Redmond, Keith (kredmond@sctc.edu) (320) 308-5952
WET Instructor
AAS, Vermilion Community College

Rehnke, Gary (grehnke@sctc.edu) (320) 308-5995
MIS - Tech II
Diploma, Anoka-Hennepin Technical College

Reich, Terry..... (320) 654-5097
Maintenance Worker

Reigstad, Gregory (greigstad@sctc.edu) (320) 308-0977
Director
BA, Univ Of Minn All Campuses
MA, Minnesota State University, Mankato

Rhodes, Anne (apiercerhodes@sctc.edu)..... (320) 308-5046
Interpreter
AAS, Saint Paul College

Richardson, Jan..... (320) 308-5178
Practical Nursing Instructor
BA, College Of Saint Scholastica

Rieber, Larry (lrieber@sctc.edu) (320) 308-5954
Fire Training Coordinator
AAS, Alexandria Technical College

Roberts, Michael (mroberts@sctc.edu) (320) 308-5059
Plumbing Instructor
BSC, Minnesota State University, Mankato

Roeker, Darla (droeker@sctc.edu)..... (320) 308-6471
Senior Accounting Officer
Diploma, Willmar Cmty College

Roiger, Deborah (droiger@sctc.edu) (320) 308-5050
General Education Instructor
BS, Saint Cloud State University
MA, St Marys University

Ruuska, David (druuska@sctc.edu)..... (320) 308-5088
Machine Tool Instructor
BS, Northern Michigan University

Sadoski, David (dsadoski@sctc.edu)..... (320) 308-5029
Computer Science Instructor
AAS, Saint Cloud State University
BES, Saint Cloud State University

Salner, Anna (asalner@sctc.edu) (320) 308-5993
Personnel Officer
AAS, Rasmussen Business College

Salzbrun, Tammy (320) 308-5037
Food Service Worker

Sassor, Denita (dsassor@sctc.edu) (320) 308-6076
Auto College Lab Assistant
Diploma, Century College

Schaaf, Roxanne (rschaaf@sctc.edu)..... (320) 308-6022
Assistant Director
Diploma, Saint Cloud Technical College

Scheffler, Eldon (escheffler@sctc.edu)..... (320) 308-5978
Advertising Instructor
CERT, Saint Cloud Technical College

Schewe, GERALYN (320) 308-6009
Retail/S&M Instructor

Schirmers, Daniel (dschirmers@sctc.edu)..... (320) 308-0901
Electrical Instructor
Diploma, Saint Cloud Technical College
Diploma, Saint Cloud Technical College

Schlicht, Susan (sschlicht@sctc.edu)..... (320) 308-5956
Child & Adult Care Instructor
BS, Saint Cloud State University
EDD, Univ Of Minn All Campuses
MS, Saint Cloud State University

Schmainda, Kaye (kschmainda@sctc.edu) (320) 308-5945
Math Instructor
BA, Concordia College

Schmidtbauer, Beverly (bschmidtbauer@sctc.edu)
..... (320) 308-5406
Customer Services Specialist, Senior

Schmitz, Chad (cschmitz@sctc.edu) (320) 308-5074
Management Analyst
BS, Saint Cloud State University

Schramel, Jamie (320) 308-3382
Maintenance Worker

Schroeder, Phillip (pschroeder@sctc.edu)..... (320) 308-5580
Dean of Student Services
BA, Univ Of North Dakota All Campuses
MLS, Univ Of Minn All Campuses
Schug, Patricia (pschug@sctc.edu)..... (320) 308-5926
Administrative Asst., Placement
Diploma, Saint Cloud Technical College

Shand, Rebecca (rshand@sctc.edu)..... (320) 308-0970
 Sales & Mgmt Instructor
 BS, Univ Of Minn All Campuses
 MED, Univ Of Minn All Campuses

Shermock, Carolina (cshermock@sctc.edu).. (320) 308-5040
 Administrative Assistant, door15
 Diploma, Duluth Community College Center

Simpson, Timothy (tsimpson@sctc.edu) (320) 308-5537
 Anatomy & Physiology Instructor
 BA, Saint Cloud State University
 MD, Univ Of Minn All Campuses

Sjoberg, Joy (jsjoberg@sctc.edu) (320) 308-0974
 General Education Instructor
 BS, Saint Cloud State University
 MA, Saint Cloud State University

Spain, William (bspain@sctc.edu)..... (320) 308-5952
 WET Instructor
 BES, Saint Cloud State University

Stangler, Mary (mstangler@sctc.edu)..... (320) 308-5945
 Math Instructor
 BA, College Of Saint Benedict

Stanley, Jan (jstanley@sctc.edu)..... (320) 308-5035
 General Education Instructor
 BA, Mt Mary Col
 MA, Univ Of Minn All Campuses

Starks, Larry (lstarks@sctc.edu)..... (320) 308-5405
 Paramedicine Instructor
 AA, Augustana College

Stellmach, Pamela (pstellmach@sctc.edu) (320) 308-3700
 Practical Nursing Instructor
 AAS, Saint Cloud Technical College
 BS, Saint Cloud State University
 Diploma, St Cloud School Of Nursing

Storkamp, Stephen (sstorkamp@sctc.edu) (320) 308-5944
 Print & Image Instructor
 BES, Saint Cloud State University
 CERT, Saint Cloud Technical College

Sundet, Juanita (jsundet@sctc.edu) (320) 308-5056
 Administrative Assistant, door15

Tasto, Arnold (atasto@sctc.edu) (320) 308-5915
 Med/Hvy Truck Instructor
 BS, Saint Cloud State University
 CERT, Ridgewater College-A Community and
 Technical College

Tholl, Mary (mtholl@sctc.edu) (320) 308-5067
 Enrollment Management Clerk
 CERT, Saint Cloud Technical College

Thomas, James (jthomas@sctc.edu)..... (320) 308-5037
 Culinary Arts Instructor
 CERT, Saint Cloud Technical College

Thompson, Leroy (lthompson@sctc.edu)..... (320) 308-5047
 Auto Body Instructor
 AAS, Saint Cloud State University
 BS, Saint Cloud State University
 MS, Saint Cloud State University

Town-Gunderson, Jessica (jtowngunderson@sctc.edu)
 (320) 308-5073
 Sales & Mgmt Instructor
 BS, Saint Cloud State University

Trutwin, Patrick (320) 308-3382
 Maintenance Worker

Van Hove, Thomas (tvanhove@sctc.edu)..... (320) 308-5991
 EMS Instructor

VanReese, Lisa (lvanreese@sctc.edu) (320) 308-6521
 Registration Assistant
 Diploma, Saint Cloud Technical College

Vennes, William (bvennes@sctc.edu)..... (320) 308-5992
 Architectural Instructor
 BS, North Dakota State Univ
 MS, Saint Cloud State University

Voigt, Sandra (320) 308-5037
 Food Service Worker

Vossen, Kimberly (kvossen@sctc.edu)..... (320) 308-6011
 Information Specialist I
 AAS, Saint Cloud Technical College
 Diploma, Saint Cloud Technical College

Weseloh, Harold (hweseloh@sctc.edu) (320) 308-5974
General Education Instructor
BA, Saint Cloud State University
MA, Saint Cloud State University

Weyer, Roger (rweyer@sctc.edu) (320) 308-5082
Carpentry Instructor
BES, Saint Cloud State University
CERT, Saint Cloud Technical College

Whipple, Steven (swhipple@sctc.edu) (320) 308-5953
Dean of General Education
BA, Southwest Minnesota State University
MA, University Of North Carolina At Greensboro

Wiethoff, Janice (jwiethoff@sctc.edu) (320) 308-5000
Customer Service Specialist
AA, Minneapolis Community and Technical College
CERT, Minneapolis Community and Technical College

Wiethoff, Robert (rwiethoff@sctc.edu) (320) 308-6445
Computer College Lab Assistant
Diploma, Hennepin Technical College
Diploma, Saint Cloud Technical College

Wilinski, Jeannette (jwilinski@sctc.edu) (320) 308-0059
Sales & Mgmt Instructor
AAS, Saint Cloud Technical College
BA, Metropolitan State University

Willis, Jebb (jwillis@sctc.edu) (320) 308-6507
Finance and Credit Instructor
BS, Saint Cloud State University
MAST, Univ Of Minn All Campuses

Wilson, Terry (twilson@sctc.edu) (320) 308-5921
Surgical Technology Instructor
BS, Saint Cloud State University
MA, St Marys University

Windschitl, Gary (gwindschitl@sctc.edu) (320) 308-6158
Safety & Health Officer 1

Wittowski, Barbara (bwittowski@sctc.edu) .. (320) 308-6599
Administrative Asstant

Wolbersen, Anthony (awolbersen@sctc.edu)
..... (320) 308-6597
Machine Tool Instructor
BS, Minnesota State University Moorhead

Wolters, Kimberly (kwolters@sctc.edu) (320) 308-5069
Financial Aid Assistant

Wright, Kimberly (kwright@sctc.edu) (320) 308-6640
Dental Hygiene College Lab Assistant
Diploma, Saint Cloud Technical College

Wysoski, Diane (dwysoski@sctc.edu) (320) 308-5045
Vice President, door15
BA, Concordia University

Young, Roger (ryoung@sctc.edu) (320) 308-5955
Electronics Instructor
BS, Saint Cloud State University

Zanardi, Anita (320) 308-5064
Food Service Cook
AA, Hibbing Community College

Zimmerman, Joyce (jzimmerman@sctc.edu)
..... (320) 308-5064
Food Service Supervisor

SCTC FOUNDATION BOARD OF DIRECTORS

BOARD MEMBERS

Linda Eich-DesJardins, President
Eich Motor Company

John McDowall, Vice President
McDowall Company

Roxanne Wilson, Secretary
St. Cloud Hospital - Centra Care Health System

Leonard Wohlman, Treasurer
American Heritage National Bank

Tim Keller, Past President
Bremer Bank

Rich Feneis, At-Large
Logo Signs of America

Duane Schultz, At-Large
Winkelman Building Corporation

Robert Sexton, At-Large
Retired Komo Machine

Ray Bernardy
California Closets

Lee Boraas
Retired SCTC Faculty

Sandy Brenny
Brenny Custom Cabinets

John Brownson
Unique Screen Media

Beth Falconer
SpeedDee Delivery Service

Jeff Gau
Marco Business Products

Karin Klicker
Klicker Connection

Larry Pearson
Midwest Vision Centers

Bernadette Perryman
C&L Distributing

Denise Rosin
Wells Fargo

Chris Shorba, Financial Advisor
Kern, DeWenter, Viere Ltd

Scott Hamak, Legal Advisor
Rinke-Noonan

ADMINISTRATOR, FACULTY & STAFF LIAISONS

Lana Feddema
Registrar

Terry Gruber
Counselor

Ron Haugen
Accounting Faculty

Dave Johnson
Mechanical Design Technology Faculty

Randy Kidder
Heating, A/C, & Refrigeration Faculty

Mike Lehn
Automotives Faculty

Jonathan Parker
Vice President of Academic & Student Affairs

Diane Wysoski
Vice President door15/Customized Training & Development

FOUNDATION STAFF

Joyce Helens
St. Cloud Technical College President

Penny Casavant
Director of Institutional Advancement

Michele Braun
Director of Marketing & Alumni Relations

Karen Hiemenz
Assistant to President

Brenda Keller
Foundation Accountant

GLOSSARY

Academic Advisor

An academic advisor is a faculty member assigned to advise a student and act as a resource.

Admissions and Counseling

The Office of Admissions provides assistance in the enrollment process. Counseling is provided by trained professionals that adhere to the “Ethical Standards for School Counselors.” Counselors facilitate academic, career, and personal student success.

Associate of Arts (AA)

An Associate of Arts degree may be awarded after the successful completion of a liberal arts and sciences curriculum designed to constitute the first two years of a baccalaureate degree. An associate in Arts degree shall include the entire Minnesota Transfer Curriculum.

Associate of Applied Science (AAS)

An Associate of Applied Science degree may be awarded for successful completion of a program of 60 to 72 semester credits. An AAS degree may be designed to transfer to a related baccalaureate major. The degree shall include a minimum of 25 percent of the total credits in general education.

Associate of Science (AS)

An Associate of Science degree may be awarded after the successful completion of a program in a designated field or area which transfers to a baccalaureate major in a related scientific, technical, or non-liberal arts professional field. The degree shall include a minimum of 30 semester credits in general education credits.

Audit

Students participate in a course but are not required to take exams or quizzes. Students do not receive grades or credit for audited courses.

Bachelor’s Degree

A degree awarded by a state college or university after the successful completion of a program of 120 to 128 semester credits.

Catalog

A booklet published by the College that includes information about curricula, courses, and other important information.

Certificate

A certificate may be awarded after the successful completion of a specialized program of study. A certificate shall include 9 to 30 semester credits.

Class Schedule

A listing of all classes that will be offered during a semester, including days and times of class meetings, names of

instructors or to be announced (TBA), rooms, and other registration information.

College Readiness Courses

Courses that prepare students to succeed at the college level. These credits do not count toward graduation.

Concurrent Registration

Registration in two classes at the same time.

Core Studies

Courses that count toward graduation in more than one related program and contain content common to two or more majors.

Credit

A unit of measure normally associated with specific courses and experiential learning activities.

Curriculum

The content and competency level of each credit course as approved by the Curriculum Committee lead by faculty members.

Department

The organizational unit established by the College. For example, Transportation Technology.

Degree

An award given to students that have successfully completed a specified number of collegiate level credit courses and experiences.

Diploma

A diploma may be awarded after the successful completion of a program intended to provide students with employment skills. A diploma shall include 30 to 72 semester credits. At least one-third of the credits shall be taught by the faculty recommending the awarding of the diploma.

Drop

Students are allowed to drop (cancel) courses without penalty during the first five days of the semester. Financial aid benefits may also be curtailed because a course is dropped.

Electives

Courses students select from an academic area. The number of electives varies according to programs. Electives may be suggested by program advisors.

Extracurricular

Activities, clubs, or organizations students join and participate in above and beyond academic courses.

Faculty

Instructors employed by the College who meet the standards and requirements for employment.

Fees

Costs required in addition to tuition.

Final Exams

Exams held during examination week at the end of each semester. Instructors may also schedule periodic exams or mid-term exams throughout the semester.

Financial Aid

Some forms of financial aid are gifts, but others are loans that must be repaid with interest, or work study. To determine eligibility for any sort of aid, see the Financial Aid office.

Full-time Student

Students are considered full-time if enrolled for a minimum of 12 credits per semester.

General Education

Courses that are outside a field of study that may be part of the Minnesota Transfer Curriculum. Students must complete 25% of semester credits in general education to satisfy the requirements for the Associate of Applied Science Degree.

General Studies

Semester credits (6-9) outside a field of study offered at a technical college to meet the requirements for the Diploma of Occupational Proficiency. General Studies courses do not fulfill the Minnesota Transfer Curriculum.

Glossary

A list of words and their definitions.

GPA Values

Values given to letter grades so that grade point averages may be computed. The following values are used at St. Cloud Technical College: "A", 4.0; "B", 3.0; "C", 2.0; "D", 1.0; and "F", 0.0.

Grade Point Average (GPA)

An arithmetic mean of grade points earned ranging from 0.0 to 4.0.

Hour

A unit of time measurement defined as 50 minutes that designates the time spent in classroom or laboratory for a course.

Incomplete Grade

A grade given when student performance dictates success in the course, but all course requirements are completed. Needs faculty approval. An incomplete grade is changed to "F" when the assignments are not completed within the specified time.

Internship

An arrangement that permits students to work at a job site and receive college credit.

Laboratory Credit

Usually involves hands-on activities. One lab credit equals 36 hours of student effort.

Lecture

A verbal presentation of course content.

Lecture Credit

One lecture credit equals 36 hours of student effort.

Letter Grade

A grade such as "A", "B", "C" that designates the quality of work. Letter grades have the following meanings: "A", superior; "B" very good; "C", average; "D", passing; "F", failing; "P", pass, but no grade points; "AD", audit for no credit or grade.

Matriculate

To apply for a degree program, to be accepted in that program, and to enroll in classes.

Number Grade

A grade such as 91, 85, and 68 that designates the quality of work students do; usually a percentage of total points.

Orientation

A period of time or a series of events planned to help new students adjust satisfactorily to college life.

Part-time Student

A student enrolled for fewer than 12 credits per semester.

Prerequisite

A requirement of a specific course that must be completed before the course can be taken.

President

The chief administrative officer appointed by the Chancellor of the Minnesota State Colleges and Universities system to be responsible for the management and day-to-day operations of the college in accordance with policies set forth by the Board of Trustees and in compliance with Minnesota state law governing higher education.

Probation

Notice that a student is not making satisfactory academic progress. Without improvement probation is followed by suspension.

Progress Report

A report issued to students mid-semester to inform them of their academic standing and need for improvement.

Registrar

The person responsible for registering students in courses and for maintaining their academic records and transcripts.

Registration

A specified period of time during which students may register for courses.

Section

A number given to each class offered in a single subject matter.

Semester System

A system dividing the academic year into two parts of approximately 16 week segments.

Supervised Occupational Experience (SOE)

Work experience that students may or may not be paid for to perform work for an employer that is related to their field of study. Faculty supervise these experiences.

Syllabus

A course syllabus is a document that contains the elements of the corresponding course outline and standards for evaluation of student learning and may contain additional information which reflects the creative work of the faculty member. Each student enrolled in a course shall receive a course syllabus.

Tech Prep

A program designed to provide the competencies high school students need to move into technical programs that transfer to the technical college for advanced placement.

Technical Studies

Technical courses that contain specialized program content necessary to become competent in a technical field.

Term

A period of study in a college that usually ends with the administration of final examinations. A term may be a semester or summer session.

Textbook

A book that summarizes information about the subject matter of a college course.

Transcript

Official record of courses taken, grades received, and grade point average. Transcripts are maintained by the registrar.

Transfer Credit

The number of courses that a new college accepts from a college previously attended and counts toward a degree, diploma or certificate.

Tuition

The amount charged per credit for college courses.

Tutor

A person who gives individual instruction to students, either in or outside the classroom.

Withdrawal Grade (W)

A grade given so that students may drop courses when they have good reasons for doing so. Usually "W" grades do not lower grade point averages when they are requested within specific time limits and students are doing passing work at the time of withdrawal.