General Catalog
2009–2010

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

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

Upon printing of this catalog, all previous issues are revoked.

General Information

College Overview
As a highly recognized institution of technology and applied science, St. Cloud Technical College (SCTC) is one of the fastest growing two-year colleges within the Minnesota State Colleges and Universities system. Located in an urban area with a population of approximately 68,000, just one hour north of the Minneapolis/St. Paul metro area, SCTC is the second largest higher education institution in the St. Cloud area.
St. Cloud Technical College was founded in 1948 as a vocational-technical institute and was part of the local school district. In 1966, the College moved from the high school to its present location on Northway Drive. The North Central Association of Colleges and Schools accredited the college in 1985. In 1995, the college became a member of the newly-formed Minnesota State Colleges and Universities system.
SCTC offers certificate, diplomas and degrees that can be completed in two years or less in more than 90 career majors. The College serves over 12,000 students per year with 80% of the student population drawn from the five-county central MN area. Committed to *placing you first,* the college's primary goal is to prepare students for a rewarding career. Over the last decade 97% of SCTC graduates have found employment in their area of study.

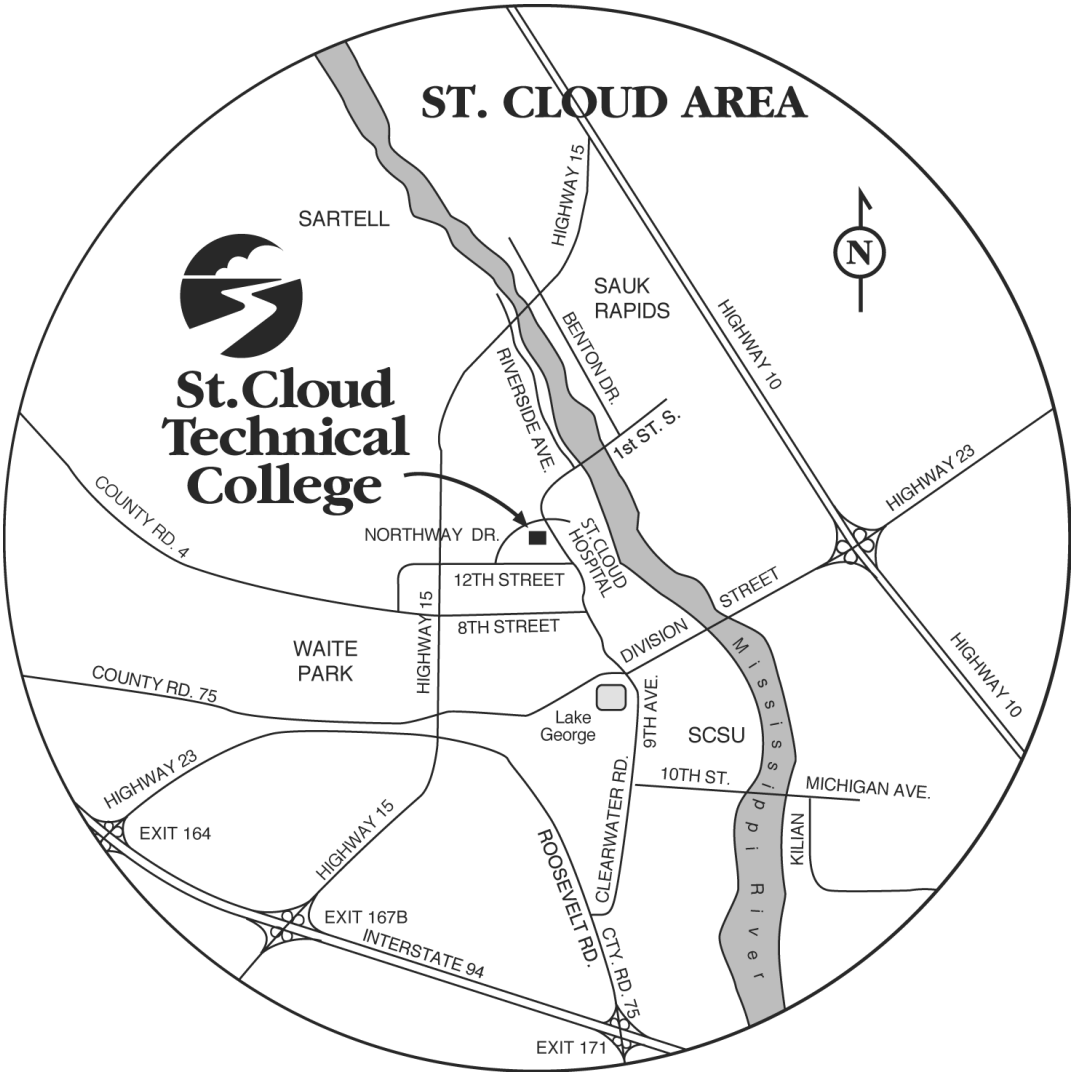
Mission
St. Cloud Technical College prepares students for life-long learning by providing relevant technical education and training for developing necessary knowledge, skills, and attitudes to obtain, maintain or advance in a career.

Vision
St. Cloud Technical College is the college of choice for quality education focused on high-skilled employment and life-long learning.

Core Values
- Student success through collaboration and cooperation
- A friendly, respectful, enthusiastic, safe, and diverse atmosphere
- Student-centered from prospect through alumni
- Staff development and success
- A team oriented environment
- Relationships with industry and the community
- Quality and continuous improvement
- Innovation, creativity, and flexibility
- Contextual and technologically driven learning

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 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 in office 1-402, or by telephone at 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 office 1-410V, or by telephone at 320-308-5096, or 320-308-5988 (ITY).

This publication is available in accessible formats upon request by calling Judy Jacobson-Berg at 320-308-5096. TTY users please call MN Relay Service at 711 to contact the college.



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

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

Driving Directions:

- From the east 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. Campus will be on your left.
- 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 which becomes Northway Drive. Follow Northway Drive to our campus. Campus will be on your right.
- From Highway 15, take 12th Street East which becomes Northway Drive. Follow Northway Drive to our campus. Campus will be on your right.
- From Highway 10, take Golden Spike Road WEst (2nd Str. N.). Take a right at Northway Drive. Campus will be on your left.

Table of Contents

General Information . . . 3
Accreditations . . . 6
Admissions
- Admissions Policy . . . 7
- Admissions Procedures . . . 7
- Non-Degree Seeking Student Admission . . . 7
- Transfer Student Admission . . . 8
- High School Options:
  - Articulated Credit Admission Procedures . . . 8
  - Discovery Academy . . . 8
  - Post Secondary Enrollment (PSEO) . . . 8
- Immunization Policy . . . 9
- Minnesota State Residency . . . 9
- Security and Crime Reporting . . . 10

Academic Policies
- Ability to Benefit Policy . . . 11
- Academic Advising . . . 11
- Academic Foregiveness . . . 11
- Academic Integrity . . . 11
- Auditing Classes . . . 11
- College Readiness Assessment . . . 11
- Course by Arrangement . . . 12
- Credit by Exam (Test Out) . . . 12
- Credit for Prior Experiential Learning . . . 12
- Credit Load . . . 12
- Declaration of a Major . . . 12
- Grading System . . . 13
- Grade Point Average . . . 13
- Incomplete . . . 13
- Internships, Practicums and Clinicals . . . 13
- Program Completion Options . . . 13
  - Minnesota Transfer Curriculum . . . 14
- Program Open Enrollment . . . 14
- Repetition of Courses . . . 15
- Satisfactory Academic Progress . . . 15
- Service Learning . . . 15

Student Services
- Academic Achievement Center . . . 16
- Career Services . . . 16
- Child Care . . . 16
- Counseling . . . 16
- Diversity Services . . . 16
- ELL Services . . . 17
- Housing . . . 17
- Learning Resource Center . . . 17
- Student Identification Card . . . 17
- Student Life/Sports/Recreation . . . 17
- Student Rights, Responsibilities, and Conduct 17
- Student Support Services . . . 17
- Students with Disabilities . . . 18
- Veterans Resource Center . . . 18

Financial Aid
- Steps to Receive Financial Aid . . . 19
- Disbursement . . . 19
- Types of Financial Aid . . . 19
- Grants . . . 19
- Loans . . . 19
- Veterans Assistance . . . 19
- Enrollment Status . . . 20

Records and Registration
- Registration & Student Records . . . 21
- Registration Sessions . . . 21
- Data Practices Policy . . . 21

Business Services
- Access/Parking Fee and Parking Regulations . . . 23
- PSEO Student Parking . . . 23
- Parking Violations . . . 23
- Health Service Fee . . . 24
- MSCSA Fee . . . 24
- Refunds, Drops, Withdrawals, Waivers, MnSCU Policy 5.12 . . . 24
- Senior Citizen Fee . . . 24
- Student Activity Fee . . . 25
- Technology Fee . . . 25
- Transcript Fee . . . 25
- Tuition and Fee Policy . . . 25
- Tuition Deferment . . . 25
- Tuition Payment . . . 25

Customized Training and Education Center . . . 26
Program Majors . . . 27
MnTransfer Curriculum Courses . . . 113
General Education Courses . . . 115
General Studies/Developmental Courses . . . 116
Course Descriptions . . . 117
Administration, Faculty, and Staff . . . 174
SCTC Foundation Board of Directors . . . 184
Glossary . . . 183

Accreditations

St. Cloud Technical College is accredited by
The Higher Learning Commission of the North Central Association of College and Schools
30 North LaSalle Street, Suite 2400
Chicago, IL 60602
www.ncahigherlearningcommission.org

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.
- **Cardiovascular Technology** 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: megivegivern@caahep.org, http://www.caahep.org.
- **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 teach First Responder and Emergency Medical Technician-Basic and an approved program for the American Heart Association and National Safety Council courses.
- **Nursing Assistant** 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** 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** 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: megivegivern@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: (3120) 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, 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 pre-requisites 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 been admitted to the College are exempt from the $20 application fee.

Interviews, aptitude tests, and interest inventories may be scheduled if additional information is needed.

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. Applicants denied acceptance have the right to appeal the decision to the Vice President of Student Services.

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 or on-line at www.sctc.edu.
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.

Non-Degree Seeking 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 8 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 8 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

Articulated college credit Student Admission Procedures (Tech Prep)

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.

Acceptance of Articulated College Credit Certificates

Articulated college credit 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. Articulated college credit courses will be noted in summary in the transfer section of the students' transcript.

Acceptance of Articulation Agreements Non-Member Districts

St. Cloud Technical College will consider accepting articulated college credit from other Minnesota articulated college credit 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 with the results of the review.

Discovery Academy

Discovery Academy is an opportunity for high school students to take 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 2009-10 include:

Health:
Emergency Medical Services I and II
Automotive:
Engine Performance
Steering and Suspension
Brakes
Electrical/Electronic Systems
Information Technology:
Structured Programming Logic
Exploring Computers
IT Essentials
Java Language I
Pre-engineering:
Principles of Engineering
Digital Electronics
Introduction to Engineering Design
Welding:
Oxy Fuel Welding and Brazing
Math for Professional Welders
Blue Print Reading
Arc Welding
Construction:
Construction Tools, Equipment & Machines
Blueprint Reading & Estimating
Construction Principles
Exterior/Interior Finishing
Cabinet Building and Estimating

If you would like more information about these courses, where they are offered, and how to apply, please contact: Sandy Fabian, Associate Dean, Academic & Innovative Partnerships 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, 2009, and for Spring Semester, November 30, 2009. 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 minimum scores on the ACCUPLACER test to be considered for acceptance to St. Cloud Technical College.

	CPT Score	Percentile
Reading Comprehension	55	18
Arithmetic	34	25

Students must pass the two areas and may retest only once. There is a $10 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. Some courses may be blocked from PSEO student enrollment.

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 Books

The costs of books and tuition will be covered by the PSEO program. PSEO students are not charged fees for the use of books. However, the books are the property of the college and must be returned to the college book store by the last day of final week each semester or the student will be required to make payment for the books. PSEO students withdrawing from the college should return their books immediately. Books will be available to PSEO students three business days prior to the start of the semester. PSEO students will need their class schedule to obtain their books in the college book store.

PSEO Parking

PSEO students are personally responsible to pay a $3 per credit fee to park on campus. The parking fee is due by the beginning of each semester; paid at the Business Office. A parking permit will then be issued at the time of payment. PSEO students electing not to park on campus may have the parking fee waived by stopping by the Business Office. Failure to pay the parking fee by the beginning of the semester will result in the assessment of a late fee.

PSEO Academic Requirements

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 will not be allowed to register for subsequent terms.

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.

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.

Academic Advising

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

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 Appeal Committee.

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 students meet the criteria listed above, Records and Registration will make the following changes to the student's academic transcript: 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.

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.

Academic Integrity

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.

Auditing Classes

Students who wish to attend the class sessions of a course, but do not wish to receive credit, must register for audit. 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. Students will not receive credit for a course which was audited unless the course is retaken for credit.

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 30 days of acceptance. Failure to take the assessment within this time frame may result in cancellation. A letter and brochure about the test will be mailed at the time the student is accepted to the college. College readiness courses will be required of students earning scores below the minimum standards in Reading Comprehension 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	78	62
Arithmetic	*scores set by major*	
Elementary Algebra	*Varies by Course*	
College Level Math		

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

- Completed 12 or more college level quarter credits, or 8 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 $10 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 $10 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.

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.

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 a counselor and their academic advisor.

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

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.

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
"NC" = 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.

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.

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

Graduation Requirements

The college Graduation Requirements Policy governs the awarding of certificates, diplomas and degrees and is based in part on MnSCU policy 3.17 Degrees, Diplomas and Certificates. Students seeking to graduate from St. Cloud Technical College must:

- Satisfactorily complete the required curriculum.
- Earn at least 15 or 1/3 of the technical credits (whichever is less) at St. Cloud Technical College if they are diploma or certificate students. Students must earn 20 or more technical credits at St. Cloud Technical College for AAS or AS degrees.
- Maintain a minimum cumulative grade point average of 2.0.
- Satisfy all general and specific requirements of the college including fulfillment of all financial obligations.
- Complete an Application for Graduation Form at least one (1) term prior to the anticipated date of graduation. Forms are available in the Office of Records and Registration.
- Satisfy all requirements per institutional agreement with SCSU where applicable.
- Petition exceptions to technical program graduation requirements by officially requesting course substitution using an Academic Policy Appeal form. Forms are available in the Office of Records and Registration. The Academic Policy Review Committee meets monthly to review appeals.
- Participate in exit counseling if a student loan recipient.

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.

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.

Program Completion Options

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

Certificate

Student may choose to complete a Certificate. This is the most basic program option and requires successful completion of the fewest number of credits. It will allow students to gain a skill that may lead to employment.

Diploma

A Diploma is a comprehensive program with extensive technical coursework to help develop job skills that will lead directly to employment. Students will choose a specific area of study and will complete their education in one or two years. The curriculum also includes general studies and general education 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 in Applied Science Degree (A.A.S.)

An Associate in Applied Science degree allows students to take not only program specific courses, but their degree will also include at least 15 credits of transferable general education courses. The general education credits may transfer to a four-year college or university. St. Cloud Technical College has articulation agreements with a variety of colleges and universities that will improve transferability upon completion of the degree. All AAS degrees will take at least two years to complete.

Associate in Science (A.S.)

An Associate in Science degree may be awarded after the successfully completing the Business Management program. The Child and Adult Care and Education program also offers the option of earning an Associate in Science Degree in Early Childhood Education. This degree option combines technical education with at least 30 general education credits. Students may also have the option to continue their education by transferring into Southwest State University and earn their Bachelor of Applied Science Degree.

Associate in Arts (A.A.)

Collaboration between the St. Cloud Technical College and Anoka-Ramsey Community College allows students to complete an Associate in Arts degree on the SCTC campus. While enrolled in this program, students will complete the Minnesota Transfer Curriculum which consists of their lower division general education coursework. After completion of the 2 year general education program students have the option of continuing their education at a MnSCU University and earn their baccalaureate degree. For a complete list of transfer universities visit: www.mnscu.edu or www.sctc.edu/transfer.

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 Business 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.

Bachelor of Science Degree (B.S.) in Early Childhood Education

A special arrangement with Southwest Minnesota State University (SMSU) makes it possible for students to complete a BS Degree in Early Childhood Education on the SCTC campus. This degree allows the student to obtain a teacher license for the ages of Birth to Grade 3. This program is available to students who have successfully completed the AS Degree or AAS Degree in the Child and Adult Care and Education (CACE) Program. All classes are currently held one night per week. 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/.

MN Transfer Curriculum (MNTC) requirements:

(1) complete the requirements in each of the ten goal areas, and (2) complete a total of 40 credits in MnTC courses listed in the ten goal areas below. A minimum of 20 credits applied towards completion of the MnTC must be taken at SCTC. This may be reduced to 12 credits for students transferring in at least 8 semester credits from another MnSCU college or university or from the U of M. A minimum 2.0 GPA must be earned for the 40 credits of MNTC. The courses listed here may change. The list will be updated periodically as new courses are added.

Requirements:

GOAL 1: Communications
One course required from written - ENGL 1302
One course required from oral - CMST 1320, 2300 OR 2310
Elective courses: CMST 2301, 2302, ENGL 1301, 2302, 2310

GOAL 2: Critical Thinking
One course (three credits) required, choose from: - CRTK 1300, CMST 2301, COMM 1330, PHIL 1340, WMST 1300

GOAL 3: Natural Sciences:
Two courses (7 credits) required from two different disciplines; one must include a laboratory experience (identified with*) Choose from: ASTR 1300, BLGY 1305*, 1315, 1320, 1351*, 2310*, 2320*, 2330*, CHEM 1340*, 1341*, EASC 1310, PHYS 1300*

GOAL 4: Mathematical/Logical Reasoning
One course (three credits) required, choose from: MATH 1300, 1320, 1330, 1350, PHIL 1340

GOAL 5: History and Social/Behavioral Sciences
Three courses (nine credits) required from three different disciplines, must include DVRS 1304. Choose two additional courses from: ANTH 1300, 2300, ECON 1320, 1330, GEOG 1300, POLS 1304, PSYC 1300, 1304, 1310, 2310, SOCI 1310, 1320, 1350, 1360, 2305, SSCI 1300

GOAL 6: Humanities/Fine Arts
Three courses (nine credits) required from three different disciplines, choose from: ART 1320, ENGL 1321, 1322, 1330, 1340, 1341, 1342, 1345, HUMN 1300, 1320, 1340, 2350, 2352, MUSC 1320, 1340, 1350, 1360, PHIL 1320, 1360, THTR 1310, 1360

GOAL 7: Human Diversity
Two courses (six credits) required, must include DVRS 1304
Choose additional course from: DVRS 2301, ENGL 1340, 1345, GERO 1300, PSYC 1310, WMST 1300

GOAL 8: Global Perspective
One course (three credits) required, choose from: ANTH 1300, 2300, ENGL 1342, GEOG 1300, HASL 1408, 1412, HUMN 1340, PHIL 1360, SPAN 1310, 1320

GOAL 9: Ethical and Civic Responsibility
One course (three credits) required, choose from: COMM 1330, ECON 1310, HUMN 1320, PHIL 1320, POLS 1304, SOCI 1360

GOAL 10: People and the Environment
One course (three credits) required BLGY 1305, 1315, SOCI 2305

MNTC Electives: (If needed to reach 40 credits) - Select from any of the above.

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.

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.

Satisfactory Academic Progress

Students will be expected to maintain a cumulative grade point average (GPA) of 2.0 and complete a minimum of 67% of all attempted credits. Any student who does not maintain the cumulative 2.0 GPA academic requirement, or who does not meet the 67% completion requirement will, at the end of the term, be placed on academic probation (Students remain on probation until these standards are met, or until they meet the criteria for academic suspension listed below). The student must meet with a counselor and their program academic advisor to set up a plan which emphasizes the assistance available through the college to help the student.

1. A student who has been placed on probation and fails to maintain a 2.0 GPA the following term or does not meet the 67% completion rate of all attempted credits, will be suspended from the college for a period of one regular semester (excluding summer).
2. A student who has been suspended must remain out of the college for a period of one semester before being readmitted on probation.
3. A student readmitted after suspension must maintain a term GPA of at least 2.0 and a term completion rate of at least 67%. The student will remain on probation until his or her cumulative GPA is 2.0 or above and cumulative completion rate is 67% or above.
4. A student suspended for the second time must remain out of the college for a period of one full academic year.

Note: It is possible to be in good academic standing at the college, and yet not be in good academic standing in certain programs which require a GPA higher than 2.0. Some programs of study have program handbooks (e.g. Practical Nursing) that outline additional or more rigorous academic program requirements.

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.

Student Services

Academic Achievement Center (AACE)

The Academic Achievement Center offers free tutoring help for students in academic courses. You can find us in room 1-112. Services in AACE include tutoring, course software, and study skill tips for the academic environment. Generally, our hours are Mon.-Thurs. 8-4; Fri. 8-2. Other times may be arranged by appointment.

Tutoring for math and writing are on a walk-in basis. Other courses may have tutors and the hours are listed on a tutor bulletin board inside AACE. Tutoring generally consists of one to four students working with a tutor. Students in small groups have the advantage of learning from one another. Tutors help you find ways to successfully learn course material by clarifying textbook assignments, discussing ideas and reviewing practice problems. Tutors explain and model, but do not complete assignments for you.

Students seeking tutoring help come prepared with the assignment information from the instructor or course resources. Students bring the necessary books or notes and can show their attempts with the assignment. An open, listening attitude for assistance creates a better learning experience.

Recommended sites:
Math
www.purplemath.com/modules/index.htm
www.algebrahelp.com

Writing
http://owl.english.purdue.edu/handouts/general/index.html
www.geocities.com/booksonme/writehand.html

Study Skills/Test Taking Tips
www.studygs.net
www.howtostudy.org/resources.php

Career Services

St. Cloud Technical College provides free job placement assistance to all students and graduates. While the primary responsibility of employment rests with the individual, the Career Center provides active support in helping both students and graduates initiate their careers. The Career Center, located in room 1-433, provides a variety of reference materials, job and employer information, PCs with internet access, a fax and telephone for job seekers' use.

The professionally staffed office provides student support by:

1. Assisting students with part-time, full-time and internship employment opportunities.
2. Assisting with personal, career-related needs including job seeking skills, mock interviews, labor market information, relocation assistance, job development, and cover letter/resume development.
3. Employer development to maximize employment opportunities for students.
4. Planning and facilitating events that enhance career opportunities for students, such as on-campus interviews, employer visits, and hosting an annual job fair for SCTC student and graduates.
5. Following up on graduates to obtain placement data to meet state reporting requirements and provide consumer information to prospective students, legislators, high school counselors, and other interested people.

For additional information and/or to review placement data summaries by major and listings of SCTC graduates' past employers call 320-308-5926 or go to www.sctc.edu/placement.

Child Care

On-campus child care is available for students. Parents must enroll their children before they are allowed to attend. 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 may be reached through the Admissions Office at (320) 308-5089.

Diversity Services/Mosaic

St. Cloud Technical College's diversity services and MOSAIC programs offer academic, cultural and support services for students and student organizations. Services such as mentoring, text book loan program, study skills workshops, and scholarships provide an environment where all students can succeed. The goal is to attract, support, retain and celebrate all of our students and the communities from which they come, and to ensure a welcoming climate for teaching and learning. Contact Admissions for more information: 320/308-5089.

ELL Services

SCTC employs an ELL coach/coordinator to work with students whose native language is not English. The staff assists students in the admissions and registration process, provides tutoring assistance in the Academic Achievement Center and Writing Center, teaches college-readiness courses for non-native speakers, and is a general resource to any student new to American higher education. Information on ELL services is available through the Admissions Office at 320-308-5980.

Housing

The Admissions Office provides a housing list to help students locate living quarters such as apartments, dorm rooms and single family dwellings. St. Cloud State University and St. Cloud Technical College also have a cooperative agreement to provide residences halls for SCTC students. Students receive many of the services and benefits of SCSU's residential life program, including meal plans, social programs, and access to a variety of SCSU facilities. Residential life opportunities are limited to first-come, first-serve. Contact the Admissions Office (320/308-5089) for more information as soon as you are accepted to St. Cloud Technical College. St. Cloud State University Residence Halls are also an option for SCTC students. Contact Admissions at (320/308-5089) for housing information.

Learning Resource Center

The St. Cloud Technical College library facilities provides study tables, quiet study areas, computers, wireless internet connections, an integrated library system (using Aleph software), and electronic, paper, and audiovisual collections holdings. The library has a large collection of e-books, subscriptions to journal and periodical databases accessible to students on or off-campus and uses interlibrary loan to provide rapid access to materials not held in the library collection. The library operates a service desk for your research needs during all open hours. To access library databases and library hours go to http://www.sctc.edu/library/.

Student Identification Card

The SCTC Campus Card Office (room 1-331A) dispenses student IDs. Student ID cards serve a dual purpose. Used for "Cyclone Cash", your SCTC ID card comes with a stored-value account which you may use to make purchases throughout the campus.

As your official student ID, it's also your access to Learning Resources Center material, Student Health Services, off-campus recreational facilities, and a variety of other products and services that offer student discounts.

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 the YMCA. Additional information on student life can be found in 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 government. 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. 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 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, and on-line at www.sctc.edu/handbook. It is important for students to familiarize themselves with it.

Student Support Services (TRIO)

TRIO 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 baccalaureate degree.

TRIO 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 TRIO programs and supplemental support services for students with disabilities.

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. 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 the Counselor for Students with Disabilities. A case-by-case determination will be made to establish eligibility for the requested accommodations. Appropriate accommodations are provided at no cost to the student.

To provide appropriate accommodations to a student with a disability, the college needs documentation of the disability. Documentation must be current, signed by an appropriate professional, and must include assessment results, a diagnosis of disability, and recommended accommodations relevant to disability needs. High School Individual Education Plans (IEP's) can be included as additional information. These documents are held in a confidential file in order to help better meet disability service needs. Submit documentation and a request for accommodations to Judy Jacobson-Berg, Counselor for Students with Disabilities. Denial of requested accommodations can be appealed by contacting the office of the Vice President of Academic Affairs. If you feel that your rights under ADA have not been met, you may file a grievance with the SCTC ADA coordinator.

Alternate formats of all college materials are available by request, to qualified individuals, by contacting the Counselor for Students with Disabilities. If you need disability related accommodations to make a college event accessible, please contact Judy Jacobson-Berg, Counselor for Students with Disabilities at 320-308-5096 or jjacobsonberg@sctc.edu.
TTY users please call MN Relay Service at 711 to contact the college.

Allow plenty of time for the College to supply the necessary services two or more weeks are usually needed to provide sign language interpreters. Textbooks and materials in alternative format often require at least six weeks notice.

For Further Information Please Refer to:

- MnSCU Policy 1B.4
- St. Cloud Technical College Student Handbook
- www.sctc.edu/disability Services
- www.sctc.edu/disabilityServices/accommodations/

Veterans Resource Center

The Veterans Resource Center is a place where students can come with questions about a variety of subjects pertaining to his/her benefits as a veteran or dependent of a veteran. The Resource Center staff will answer questions or refer you to another office which may be better prepared to give you the right answer. The staff in this office can help you understand your education benefits including:

Montgomery GI Bill
GI Bill Kicker
Student Loan Repayment Program
Available Scholarships and Grants
VA Education Programs

Students may also receive help with other VA programs, Tri-Care Insurance, military and retirement pay, family assistance, personal finance and budgeting, and veteran's employment. Many resources are available.
For information/assistance contact Veterans Services (320) 308-2185, or Financial Aid, (320) 308-5961.
The Veterans Resource Center is partnered with many other agencies, including:

The Department of Defense
The Veterans Administration
MN Family Programs
The American Legion/S.A. L./Veterans of Foreign Wars, D.A.V.

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 contributions. 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.

To be eligible for financial aid, students must meet the requirements detailed on the Free Application for Federal Student Aid (FAFSA), enroll as a student working toward a degree or certificate in an eligible program and maintain satisfactory academic progress. The Academic Progress Policy can be found at http://www.sctc.edu/financialAid/sap/. The Financial Aid Office determines your eligibility by applying federal guidelines.

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.

- You will need a PIN number to electronically sign your federal financial aid application. To apply for a PIN, go to www.pin.ed.gov. Parents may also apply for a PIN.
- Complete the federal 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 two weeks to process the on-line application and four weeks to process the paper version.
- After all documentation is received by SCTC, you will be sent an award notification. Your notification will include the grants and some of the student loan eligibility for which you qualify.
- 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.

Disbursement

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.**

Financial Aid will only be paid for courses actually attended. If a student registers for a course, then drops the course during the college add/drop period or before the course obligation date, financial aid must be returned for that dropped course.

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.

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).

Federal Academic Competitiveness Grant

First and second-year full-time undergraduates. Must be Pell eligible, U.S. citizen or eligible non-citizen, not in default on federal loans and have no drug conviction while receiving federal aid. Males must be registered for Selective Service.

Federal Supplemental Educational Opportunity Grant (FSEOG)

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

Minnesota Grant

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

Minnesota State Achieve Scholarship

Students who graduated from a Minnesota high school in 2008 or later and complete one of a series of college preparation programs described at **www.getreadyforcollege.org/achieve** may be eligible. Students must also be attending a Minnesota institution and be a U.S. citizen or eligible non-citizen and have a family adjusted gross income of less than $75,000.

Post-Secondary Child Care Grant

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

Miscellaneous 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 with interest.

Federal Stafford Student Loan Subsidized

A federally subsidized, low-interest student loan, funded by a private lender and awarded on the basis of financial need. The federal government does not charge interest on subsidized loans, while borrowers are enrolled at an eligible school at least half-time, during the six-month grace period, or during authorized periods of deferment.

Federal Unsubsidized Stafford Loan

A low-interest loan for students who do not meet the financial-need criteria for a subsidized loan. The borrower is responsible for all interest charges on the loan, which is funded by a private lender.

Federal Direct PLUS Loan

An edcucation loan which parents can borrow on behalf of their dependent children.

SELF Loan

Students enrolled at least half time in an eligible school in Minnesota, or Minnesota residents enrolled in an eligible out-of-state school or in the Canadian province of Manitoba. Co-signer must be U.S. citizen or permanent resident and be credit-worthy.

VETERANS ASSISTANCE

Funding received under the Montgomery GI Bill is typically considered a resource for funding your education. There are some exceptions to this. Funding may be available if you are a member of the National Guard or Reserves, if you are a veteran of the U.S. Armed services, or a dependent or spouse of a disabled or deceased veteran. You will need to provide a copy of your schedule to the Financial Aid Office each semester to receive funding. Please see the staff in the Veteran's Resource Center if you have questions related to your eligibility.

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 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.

For additional information contact the Financial Aid Office by phone at 320-308-5961 or by e-mail at financialaid@sctc.edu. Additional information is available at http://www.sctc.edu/financialAid/.

Records and 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, www.sctc.edu/registration/ provides important registration information.

Registration Sessions

All accepted students are required to attend a registration session where they will be advised on course selections before enrolling in college courses. To register for courses, students must have completed the Accuplacer test or been informed they are exempt from testing. Students are exempt if they have completed 12 or more quarter college credits or 8 or more semester credits with passing grades in both math and written composition.

Prior to the registration session, students must complete an on-line orientation session. Failure to complete the on-line orientation will result in delayed registration. St. Cloud Technical College will provide directions and deadlines for completing the orientation process.

Any student who has "stopped out" (not attended classes) for one year or longer, will be required to re-activate their file and complete the on-line orientation session.

Registration Process for Continuing Students

Degree seeking 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 register.
3. Prepare a schedule worksheet to identify time conflicts.
4. Submit immunization information (if needed).
5. Fulfill financial obligations to the College, including parking tickets.
6. Return overdue materials to the Library.

Note: 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 voluntarily "stopped out" (not attended classes) for one semester must meet with their academic advisor prior to registration.

Data Practices Policy

Minnesota State Colleges and Universities comply with the Family Education Rights and Privacy Act (FERPA), 20 U.S.C. §1232g, 34 CFR 99; the Minnesota Government Data Practices Act, (MGDPA) Minn. Stat. Ch 13, Minn. Rules CH 1205; and other applicable laws and regulations concerning the handling of education records. Accordingly, the college adopts the following policy:

Student means an individual currently or formerly enrolled or registered, applicants for enrollment registration at a public education agency or institution or individuals who receive shared time education services from a public agency or institution. All students at a post-secondary school have the same rights regarding their educational data regardless of age.

Educational data or education records means data in any form directly relating to an individual student maintained by a public education agency or institution or by a person acting for the agency or institution. Educational records **do not** include:

(1) Financial records of the student's parents or guardian;

(2) Confidential letters or statements of recommendation placed in education records before January 1, 1975, or after January 1, 1975, if the student waived right of access;

(3) Records of instructional personnel that are kept in the sole possession of the maker and are not accessible or revealed to any other individual except a temporary substitute for the maker and are destroyed at the end of the school year;

(4) Records of law enforcement units (if law enforcement unit is a separate entity and the records are maintained exclusively by and for law enforcement purposes);

(5) Employment records related exclusively to a student's employment capacity (not employment related to status as a student, such as work study) and not available for use for any other purpose;

(6) Medical and psychological *treatment* records that are maintained solely by the treating professional for treatment purposes;

(7) Records that only contain information about a student after that individual is no longer a student at the institution (alumni data).

Consent for Release Generally Required

The college will not permit access to or the release of personally identifiable information contained in student education records without the written consent of the student to any third party, except as authorized by the MGDPA and FERPA or other applicable law.

Release without Consent

As allowed by the MGDPA and FERPA, the college will release student records *without consent* as follows:

(1) To appropriate school officials who require access to educational records in order to perform their legitimate educational duties (see explanation below);
(2) To federal, state, or local officials or agencies authorized by law;
(3) In connection with a student's application for, or receipt of, financial aid;
(4) To accrediting organizations or organizations conducting educational studies, provided that these organizations do not release personally identifiable data and destroy such data when it is no longer needed for the purpose it was obtained;
(5) In compliance with a judicial order or subpoena, provided a reasonable effort is made to notify the student in advance unless such subpoena specifically directs the institution not to disclose the existence of a subpoena;
(6) To appropriate persons in an emergency situation if the information is necessary to protect the health or safety of the students or other persons; or
(7) To an alleged victim of a crime of violence (as defined in 18 U.S.C. Sect 16) or non-forcible sex offense, the final results of the alleged student perpetrator's disciplinary proceeding may be released;
(8) To another educational agency or institution, if requested by the agency or institution, where a student is enrolled or receives services while the student is also in attendance at the college or university, provided that the student is notified where applicable; receives a copy of the record, if requested; and has an opportunity for a hearing to amend the record, as required by law.

"School Officials" with a "legitimate educational interest"

The college will release information in student education records to appropriate school officials as indicated in (1) above when there is a legitimate educational interest. 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 University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, or assisting another school official in performing his or her tasks. A school official has a legitimate education interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

Directory Information

The following information on students at college is designated as public Directory Information:
(1) Student's name, hometown
(2) Participation in officially recognized activities and sports
(3) Dates of attendance (beginning and end dates of the semester)
(4) Classification
(5) Degrees, honors and awards received
(6) Date of graduation
(7) Physical factors (height and weight) of athletes
(8) Photographs
(9) Enrollment status (e.g., undergraduate, graduate, full-time, or part-time)

Notice to students about Directory Information:

Students may direct that any or all of the above-listed Directory Information be withheld from public disclosure by notifying the Records and Registration Office in writing.

Access to Educational Records by Student

Upon (written) request, the College shall provide a student with access to his or her educational records. There is no charge for viewing the records even if the college is required to make a copy of the data in order to provide access. Responses to requests by students to review their educational records shall be within ten business days.

Upon request, the meaning of education data shall be explained to the student by college personnel assigned to, and designated by, the appropriate office.

Students have the right to review only their own records. When a record contains private information about other student(s), disclosure cannot include information regarding the other student(s).

Challenge to Record

Students may challenge the accuracy or completeness of their educational records. *Note:* the right to challenge a grade does not apply under this policy unless the grade assigned was allegedly inaccurately recorded.

Copies

Students may have copies of their educational records and this policy. The copies of records will be made at the student's expense at rates stated in the college copy charge policy. Official transcripts will be $7.00.

Official copies of academic records or transcripts will not be released for students who have a delinquent financial obligation or financial "hold" at the College, unless otherwise required by law.

Business Services

Access/Parking Fee and Parking Regulations

All students must pay a per credit access/parking fee. The fee is determined annually and posted at www.sctc.edu/tuition. Daily parking permits are $2. Permits are available in the Business Office.

Access/parking fees will be charged to all St. Cloud Technical College students. The purpose of such fees is for the development and upkeep of the College's parking lots, access road, parking security, associated lighting and sidewalks to the campus, administrative costs associated to access/parking and is used solely for that purpose. All students, regardless of whether their education includes actually parking in the lots, benefit from the establishment and maintenance of the lots. It is an embedded service that allows service providers, students, faculty, staff and administration, security, delivery vehicles, etc., the access to our buildings necessary to complete the mission of the College.

Students enrolled in purely online delivered courses will not be charged. Students on extended internships, or in situations where the student does not park on campus, may formally request a waiver of the fee. Students should also request a waiver if they have a current handicapped sticker. Students must show proof of a valid handicapped sticker. 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. 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 student qualifies for a regular permit.

Access/parking fees are reviewed annually and subject to change.

Everyone using the parking lots between 7:00 am and 10:00 pm is required to display a current parking permit from the rear view mirror. Vehicles without a properly displayed permit will receive a ticket. Parking is not available in Lot B.

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.

PSEO Student Parking

PSEO students are personally responsible to pay a $3 per credit fee to park on campus. The parking fee is due by the beginning of each semester; paid at the Business Office. A parking permit will then be issued at the time of payment. PSEO students electing not to park on campus may have the parking fee waived by stopping by the Business Office. Failure to pay the parking fee by the beginning of the semester will result in the assessment of a late fee.

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." (located by Door 10)
- 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.
3. Charge for removal of auto clamp is $60.00.

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 with the option to 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.

Health Service Fee

All students must pay a per credit 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, students covered by another 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 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/tuition.

Refunds, Drops, Withdrawals, and Waivers, MnSCU Policy 5.12

Students are financially obligated for every class in which they have registered. Students that register for, but do not attend classes at St. Cloud Technical College and fail to formally withdraw, or drop classes within the free drop/add deadline, will still be responsible for the full tuition amount due. (After the free drop/add deadline, students must withdraw from ALL courses to receive a pro-rated refund based on the date of total withdrawal. It is the student's responsibility to check their balance due on-line).

DROP/WITHDRAW

Students may add or drop courses by using the WEB registration system through the fifth day of the semester or the first business day after the course begins, whichever is later. Courses withdrawn from after the add/drop period will receive a grade of "W". No course may be withdrawn from after the twelfth week of the semester or after 75% of the class for short-term courses.

No tuition refunds will be processed by the Business Office for courses withdrawn from after the add/drop period. (Students withdrawing from the college, see below).

Students wishing to completely withdraw from the college should obtain a "Withdrawal Worksheet" from the Admissions Office. Students should complete and sign the top portion of the form and return it immediately to the Admissions Office. The date of withdrawal will be the date the completed form is received by the Admissions Office. No withdrawals are allowed after the twelfth week of the semester has been completed. The Business Office will determine if a refund is appropriate and to whom the refund should be distributed. Questions about refunds should be directed to the Business Office.

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. Students may withdraw online or 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.

Senior Citizen Fee

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). Senior citizens registering for credit-based courses are required to pay a $20 per credit fee. If the course is audited, tuition is free. Exceptions may apply. State law states that a senior citizen may take a course "when space is available after all tuition-paying students have been accommodated."

This means senior citizens may have to wait until the first class meeting to register. Senior citizens are responsible for all materials, personal property, or service charges for the course, including technology fee, parking fee, MSCSA fee, and health service fee.

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. Current tuition and fee rates are posted at www.sctc.edu/tuition.

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 Nelnet Business Solutions (NBS), a tuition management company that provides a low cost option for budgeting students' college costs. SCTC/NBS has established several payment schedules requiring various down payment amounts and number of payment dates. Students register on-line with NBS via the SCTC web site, http://www.sctc.edu/tuition/paymentpolicies/. Click on-line registration, then bills/payments to authorize automatic bank payments or apply charges to a credit card.

Students will not 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 NBS payment options is available from the Business Office at 320-308-5572 or 320-308-5512.

Tuition Payment

Per MnSCU Policy 5.12, 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 NBS 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 NBS tuition payment plan
- A completed PSEO student enrollment agreement on file
- Active I-20 or DS2019 in place for an international student

Students are financially obligated for every class in which they are registered. Students that register for, but do not attend classes at Cloud Technical College and fail to formally withdraw, or drop classes within the free drop/add deadline, will still be responsbile for the full tuition amount due. (After the free drop/add deadline, students must withdraw from ALL courses to receive a pro-rated refund based on the date of total withdrawal. It is the student's responsibility to check their balance due on-line.

No invoices or tuition statements are mailed. Accounts may be reviewed and payments made online at: www.sctc.edu. Log into the on-line registration module and click on "bills/payments". 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 NBS account has been previously established. Changes may cause payment plan to change.
If a student's account is not paid in full, a hold will be placed on the student's account and a $50 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. Individuals that submit Non Sufficient Fund (NSF) checks will be subject to a $25 fine and be asked to make restitution by cash, money order or cashiers 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.

Students will be required to provide documentation with their request.

Customized Training And Education Center

Welcome to Customized Training and Education Center (CTEC) at St. Cloud Technical College where class offerings vary from continuing education, learning on-line, and customized training.

Education Center 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

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
- Organizational Development

For more information please call **CTEC** at 320-308-0015.

Emergency Medical, Safety Education and Fire Fighting is a division of **CTEC** 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

Truck Driving Program is a six-week course to prepare men and women for truck driving employment. The course consists of classroom instruction, truck simulation and behind-the-wheel experience in trucks currently used in the industry. Contact Diane at 320-308-6522.

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. **CTEC** 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 motorcycles. Certified instructors 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.

On-Line Courses include over 300 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.sctc.edu/training. 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.sctc.edu/training
2. Click on "Do you want to take a class?"
3. Click on "Learning On-Line".

Days and Hours

CTEC 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, Wednesday, Thursday	7:30 a.m. – 5:00 p.m.
Tuesday	7:30 a.m. - 6:00 p.m.
Friday	7:30 a.m. - 4:00 p.m.

For more information, please call:
320-308-0015 or 1-800-222-1009 option 6 or visit us online at www.sctc.edu/training

Accounting Careers

Accountant AAS Degree (72 Credits)

St.Cloud Technical College
placing you first

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
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
ACCT 2236	Government and Non-Profit Accounting	2

Suggested Technical Studies Semester IV

ACCT2219	Computerized Accounting II	3
ACCT2227	Intermediate Accounting II	4
ACCT2231	Income Tax II	2
ACCT2234	Auditing	3
ACCT2235	Accounting Comprehensive Review OR	
ACCT 1280	Accounting Internship	2

General Education
(must include at least three MNTC Goal Areas)

CMST1320	Introduction to Communication Studies	3
CPTR1300	Exploring Computers	3
ENGL1302	Analytical Writing	4
	General Education Electives	8

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

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

Accounting Careers

Accountant Diploma (64 Credits)

St.Cloud Technical College
placing you first

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
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

Suggested Technical Studies Semester III

ACCT2226	Intermediate Accounting I	4
ACCT2228	Cost Accounting II/Managerial Accounting	4
ACCT2230	Income Tax I	4
ACCT2236	Government and Non-Profit Accounting	2
BUSM1290	Job Seeking/Keeping Skills	1

Suggested Technical Studies Semester IV

ACCT2219	Computerized Accounting II	3
ACCT2227	Intermediate Accounting II	4
ACCT2231	Income Tax II	2
ACCT2234	Auditing	3
ACCT2235	Accounting Comprehensive Review OR	
ACCT 1280	Accounting Internship	2

General Studies

ENGL1100	Writing for the Workplace	3
	General Studies Electives	3

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

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

Accounting Careers

Accounting Clerk Diploma (34 Credits)

St.Cloud Technical College
placing you first

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)

St.Cloud Technical College
placing you first

Program Description

The Administrative Support AAS Degree prepares a graduate for a variety of administrative and clerical support functions, such as creating correspondence, handling mail, filing manually or electronically, transcribing business correspondence from machine dictation, answering telephones, operating copy/fax equipment, performing accounting transactions, planning and scheduling meetings and appointments, and handling travel and guest arrangements. An administrative assistant will be trained on the most current software packages including word processing, spreadsheets, database, presentation graphics, and desktop publishing. The program consists of core administrative courses designed to develop basic office skills, including keyboarding, oral and written communications, accounting, and computer operations. The program includes general education courses such as Analytical Writing and courses in Mathematics, the Humanities and the Social Sciences.

Career Opportunities

Administrative Support AAS Degree graduates successfully complete internships in a variety of general, legal, medical, educational, and governmental offices. Internship sites serve as potential employment. Graduates are employed in a variety of firms and organizations.

All students are required to purchase a program-specific laptop.

Acceptance Requirements and Credits

* 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)

St.Cloud Technical College
placing you first

Program Description

The Health Information Technician Program is designed to meet the Standards and Guidelines for an Accredited Educational Program adopted by CAHIIM (Commission on Accreditation for Health Informatics and Information Management Education) in cooperation with AHIMA (Health Information Management Association).Upon completion of the HIT program, graduates should be prepared to demonstrate entry-level competencies for Registered Health Information Technicians (RHITs) as identified by the profession.

Health information management combines the disciplines of medicine, information management, and computer technology within the healthcare industry. The HIT program curriculum includes general education requirements as well as courses in computer applications, biological sciences, medicine, health information collection, processing, retrieval, evaluation, dissemination and management. The curriculum also includes an educational clinical internship. During this experience, the student reports to a healthcare facility and experiences planned activities in the environment of the actual workplace. The provision for technical and managerial experiences is an important aspect of the curriculum.

**Students who have earned a grade of "C" or better, in all program classes, as well as an overall GPA of 2.5 or better will have satisfied the program requirements for a diploma or AAS degree.

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.

Acceptance Requirements and Credits

* 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
ADMS1225	Introduction to Health Information Technology	3
ADMS1228	Administrative Medical Terminology	3
ADMS1229	Administrative Pharmacology	3

Suggested Technical Studies Semester II

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

Suggested Technical Studies Semester III

ADMS1226	CPT Coding	3
ADMS2204	Administrative Pathophysiology	3
ADMS2212	Quality Improvement and Healthcare Statistics	3
ADMS2215	HIT Management and Supervision	3
BUSM1290	Job Seeking/Keeping Skills	1

Suggested Technical Studies Semester IV

ADMS2206	HIT AAS Professional Practice Experience	4
ADMS2220	Legal Aspects of Health Information	3
ADMS2224	Advanced Medical Coding	3
ADMS2244	HIT Comprehensive Review	1

General Education

CMST1320	Introduction to Communication Studies	3
CPTR1300	Exploring Computers	3
	Communications-Written	4
	Humanities	3
	Mathematics and Logic	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 (65 Credits)

St.Cloud Technical College
placing you first

Program Description

Administrative Support Legal Office professionals are critical to the support of attorneys and other legal staff in law firms, corporate legal departments, government agencies, and other legal service facilities. Well-trained legal office administrative support professionals assist attorneys and other legal professionals in the creation and retention of quality legal documentation and assist with other administrative duties. 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, advanced Microsoft Office, the humanities, the 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

* 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
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

ADMS1204	Advanced Microsoft Office	3
ADMS1206	Keyboard Speedbuilding	1
ADMS1228	Administrative Medical Terminology	3

Suggested Technical Studies Semester IV

ADMS1236	Administrative Legal Transcription	3
ADMS2210	AAS Internship	4
ADMS2234	Family Law	3
ADMS 2235	Legal Research and Writing	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

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)

St.Cloud Technical College
placing you first

Program Description

The Office Technology diploma prepares students for employment in the administrative support field. Students will use computer software for document processing and file management tasks. The office technology students will use his/her knowledge of communication, office procedures, and human relations to provide a valuable role in the business organization. In addition, the office technology student may perform duties such as handling mail, filing, and retrieving records, edit and store correspondence, maintain spreadsheets and databases and research on the internet.

Career Opportunities

Graduates of the Office Technology Assistants Program become employed in a variety of businesses. They possess valuable skills and proficiency with office technology used in business everywhere. An individual may obtain office technology employment with these basic skills.

All students are required to purchase a program-specific laptop.

Acceptance Requirements and Credits

* 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 (41 Credits)

St.Cloud Technical College
placing you first

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.

Acceptance Requirements and Credits

* 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
ADMS1228	Administrative Medical Terminology	3
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

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

Administrative Support Careers

Office Technology Assistant/Medical-Diploma (45 Credits)

St.Cloud Technical College
placing you first

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.

**Students who have earned a grade of "C" or better, in all program classes, as well as an overall GPA of 2.5 or better will have satisfied the program requirements for a diploma or AAS degree.

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.

Acceptance Requirements and Credits

* 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
ADMS1226	CPT Coding	3
ADMS1228	Administrative Medical Terminology	3
ADMS1229	Administrative Pharmacology	3
BUSM1200	Microsoft Software	3

Suggested Technical Studies Semester II

ADMS1203	Advanced Keyboarding/Word Processing Appl.	3
ADMS1222	Medical Machine Transcription II	3
ADMS1227	ICD-XCM Medical Insurance Coding	3
ADMS1240	Computerized Health Information	3
BUSM1215	Business Writing	2
BUSM1222	Oral Business Presentations	2
BUSM1290	Job Seeking/Keeping Skills	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)

St.Cloud Technical College
placing you first

Program Description

The Office Assistant program consists of a core of administrative courses designed to develop basic office skills, including keyboarding, oral and written communications, and basic computer knowledge. Office Assistants perform general office work, including keying, receptionist duties, and records management. An Office Assistant may be asked to complete a variety of office duties depending on the size of the office and number of people supported by assistants.

Career Opportunities

Graduates become employed at the entry-level position as an office assistant. The assistant works in an office support position that may utilize a wide range of systems and software applications. Graduates have an opportunity to apply the credits earned as an Office Assistant to other Administrative Support diplomas or AAS Degree.

All students are required to purchase a program-specific laptop.

Acceptance Requirements and Credits

* 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)

St.Cloud Technical College
placing you first

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. When not busy with callers and visitors, the receptionist may open and sort mail, schedule appointments, and perform general bookkeeping and office duties. This major requires strong skills in communications, telephone techniques, computer usage and human relations.

Career Opportunities

Employment opportunities will vary depending upon the individual's achievement. Receptionists become employed in general, educational, medical, and legal businesses. After a few years of employment, the receptionist often advances within the firm. Receptionists may be asked to take on additional responsibilities which would allow them to advance more quickly. Temporary and full-time work is available.

All students are required to purchase a program-specific laptop.

Acceptance Requirements and Credits

* 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 Communication And Design

Advertising Communication And Design AAS Degree (72 Credits)

St.Cloud Technical College
placing you first

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 substantial job growth 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.

Students are encouraged to participate in the student professional organizations such as DEX (Delta Epsilon Chi), AAF (American Advertising Federation) and The Northway Group (a student run in-house advertising agency).These organizations are designed 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 marketing and outdoor 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	3

Suggested Technical Studies Semester II

ADVR1216	Drawing with the Computer	4
ADVR1221	Computer Imaging and Editing	3
ADVR1261	Public Relations	2
ADVR1265	Visual Design	3
ADVR1270	Media Research and Planning	3

Suggested Technical Studies Semester III

ADVR2206	Ad-Ventures	2
ADVR2210	Introduction to Photography	3
ADVR2260	Advertising Campaign Development	4
ADVR2281	Broadcast	4

Suggested Technical Studies Semester IV

ADVR1241	Website Creation and Editing	3
ADVR2250	Retail Advertising	3
ADVR2285	Portfolio Construction and Presentation	2
ADVR2295	Multimedia/Director	4

General Education
(must include at least three MNTC Goal Areas)

Oral and Written Communications	7
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 Communication And Design

Advertising Communication And Design Diploma (64 Credits)

St.Cloud Technical College
placing you first

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 substantial job growth 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.

Students are encouraged to participate in the student professional organizations such as DEX (Delta Epsilon Chi), AAF (American Advertising Federation) and The Northway Group (a student run in-house advertising agency).These organizations are designed 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 marketing and outdoor 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	3

Suggested Technical Studies Semester II

ADVR1216	Drawing with the Computer	4
ADVR1221	Computer Imaging and Editing	3
ADVR1261	Public Relations	2
ADVR1265	Visual Design	3
ADVR1270	Media Research and Planning	3

Suggested Technical Studies Semester III

ADVR2206	Ad-Ventures	2
ADVR2210	Introduction to Photography	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
ADVR2250	Retail Advertising	3
ADVR2285	Portfolio Construction and Presentation	2
ADVR2295	Multimedia/Director	4

General Studies

Written Communication	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 Communication And Design

Advertising Web Page Designer AAS Degree (63 Credits)

St.Cloud Technical College
placing you first

Program Description

In this course, students will learn the basics of designing and developing a web site. The class focuses on Web page planning, writing, basic design, layout and construction, setup and maintenance of a Web site. In addition, students will look at design issues specific to web-based presentations, learn web page layout, effective navigation and delve into the design process. Students examine the how-tos, ins and outs and pitfalls of using graphics, color and fonts on web pages as well as working with tables and CSS.

Students gain the ideal combination of web design skills including web basics, design theory, image creation and usage, introduction of the WYSIWYG editors, using HTML, site establishment, advanced issues, testing and evaluation. By mastering key software application and fundamental design principles, you'll be able to design, illustrate, compile and produce visual solutions for communications, especially for the Internet.

Students are encouraged to participate in the student professional organizations such as DEX (Delta Epsilon Chi), AAF (American Advertising Federation) and The Northway Group (a student run in-house advertising agency).These organizations are designed to further develop and practice the advertising, sales and leadership skills taught in the formal classroom.

Career Opportunities

Employment areas for web design graduates include creating, updating web pages with corporations, organizations, educational institutions, government agencies, entertainment, advertising agencies, in-house advertising departments, public relations firms, promotions and marketing agencies and other emerging Internet businesses and organizations. Potential career opportunities may include digital media producer, webmaster, project coordinator and more.

Suggested Technical Studies Semester I

ADVR1200	Introduction to Advertising	4
ADVR1230	Copywriting	4
ADVR1255	Fundamentals of Design	3

Suggested Technical Studies Semester II

ADVR1216	Drawing with the Computer	4
ADVR1221	Computer Imaging and Editing	3
ADVR1265	Visual Design	3

Suggested Technical Studies Semester III

ADVR2206	Ad-Ventures	2
ADVR2210	Introduction to Photography	3
ADVR2281	Broadcast	4
ADVR1235	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
ADVR2295	Multimedia/Director	4

General Education
(must include at least three MNTC Goal Areas)

Oral and Written Communications	7
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 Communication And Design

Advertising Web Page Designer Diploma (51 Credits)

St.Cloud Technical College
placing you first

Program Description

In this course, students will learn the basics of designing and developing a web site. The class focuses on Web page planning, writing, basic design, layout and construction, setup and maintenance of a Web site. In addition, students will look at design issues specific to web-based presentations, learn web page layout, effective navigation and delve into the design process. Students examine the how-tos, ins, outs and pitfalls of using graphics, color and fonts on web pages as well as working with tables and CSS.

Students gain the ideal combination of web design skills including web basics, design theory, image creation and usage, introduction of the WYSIWYG editors, using HTML, site establishment, advanced issues, testing and evaluation. By mastering key software applications and fundamental design principles, you'll be able to design, illustrate, compile and produce visual solutions for communications, especially for the Internet.

Students are encouraged to participate in the student professional organizations such as DEX (Delta Epsilon Chi), AAF (American Advertising Federation) and The Northway Group (a student run in-house advertising agency).These organizations are designed to further develop and practice the advertising, sales and leadership skills taught in the formal classroom.

Career Opportunities

Employment areas for web design graduates include creating, updating web pages with corporations, organizations, educational institutions, government agencies, entertainment, advertising agencies, in-house advertising departments, public relations firms, promotions and marketing agencies and other emerging Internet businesses and organizations. Potential career opportunities may include digital media producer, webmaster, project coordinator and more.

Suggested Technical Studies Semester I

ADVR1200	Introduction to Advertising	4
ADVR1230	Copywriting	4
ADVR1255	Fundamentals of Design	3

Suggested Technical Studies Semester II

ADVR1216	Drawing with the Computer	4
ADVR1221	Computer Imaging and Editing	3
ADVR1265	Visual Design	3

Suggested Technical Studies Semester III

ADVR2206	Ad-Ventures	2
ADVR2210	Introduction to Photography	3
ADVR2281	Broadcast	4
ADVR1235	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
ADVR2295	Multimedia/Director	4

General Studies

Written Communication	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.

American Sign Language

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 at 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) homes, working with the deaf who communicate sign language as their primary language.

Technical Studies

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

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

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-Architecture and Revit 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 Communication Studies	3
ENGL1302	Analytical Writing	4
	Humanities	3
	Mathematics and Logic	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)

St.Cloud Technical College
placing you first

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-Architecture and Revit 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 (applies to A.A.S. Degree only).

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 insure students' transfer rights. For more information on SCTC, visit our websites 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 **12 semester** credits applied toward the degree must be taken from ARCC (these are offered on the SCTC campus).
4. Completion of specific degree requirements below.

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

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

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)

ENGL 1302 Analytical Writing	4 cr
CMST 1320 Intro to Speech Communication	3 cr
CMST 2300 Introduction to Public Speaking	3 cr

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 1350 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

Two courses - 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

St.Cloud Technical College
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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 1302[2]**) 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 1302[2] Analytical Writing, ENGL 2302 Adv. Argument & Research (For students who have taken a 3 cr Comp I at another college)**
		B. Oral: **CMST 1320[2] Intro to Communication Studies, CMST 2300[2] Intro to Public Speaking, CMST 2310 Interpersonal Communication**
		C. Other (no courses required from this category): **CMST 2301[2] Persuasion, CMST 2302 Small Group Communication, ENGL 1301 Technical Writing, ENGL 2310 Intro to Creative Writing**
Emphasis Area 2	Critical Thinking (at least three courses)	**CMST 1320[1] Intro to Communication Studies, CMST 2300[2] Intro to Public Speaking, CMST 2301[1] Persuasion, COMM 1330[9] Media & Social Issues , CRTK 1300[6] Intro to Critical Thinking; ENGL 1302[1] Analytical Writing, PHIL 1340[4] Intro to Logic, WMST 1300[7] Intro to Women's Studies;** SOC 1111[5] General Sociology
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: **ASTR 1300 Astronomy, CHEM 1340[*] Intro to General Chemistry, CHEM 1341[*] Intro to Organic and Biochemistry, EASC 1310 Meteorology, PHYS 1300* General Physics,**
		C. Biological Science: **BLGY 1305[10]*, Environ Science, BLGY 1351[*] General Biology, BLGY 2310* Human A & P I, BLGY 2320* Human A & P II, BLGY 2330[*] Microbiology**
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 1350 Introduction to Statistics, PHIL 1340[2] Intro to Logic**
Emphasis Area 5	History and the Social and Behavioral Sciences (at least two courses; one from each of two categories)	A. Economics/Geography: **ECON 1320 Intro to Macroeconomics, ECON 1330 Intro to Microeconomics, GEOG 1300[8] World Regional Geography,**
		B. Anthropology/Psychology/Sociology: **ANTH 1300[8] Intro to Anthropology, ANTH 2300[8] Anthropology of Science Fiction, DVRS 1304[7] Diversity & Social Justice, PSYC 1300 Intro to Psychology, PSYC 1304 Life Span Development, PSYC 1310[7] Psychology of Women, PSYC 2310 Abnormal Psychology, SOCI 1310 Intro to Soc, SOCI 1320 Social Problems, SOCI 1350 Sociology of Marriage & Family, SOCI 1360[9] Politics of Food, SOCI 2305[10] Environmental Sociology, SSCI 1300 Intro to Social Sciences**
		C. History/Political Science: **POLS 1304[9] Intro to American Politics** HIST 1103[8] Contemporary World History, HIST 1110[8] World War II, HIST 2211[9] US History I, HIST 2221[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 1321 Intro to Modern Fiction, ENGL 1322 Intro to Literature, ENGL 1330 American Literature About War , ENGL 1340[7] Introduction to Multicultural Literature, ENGL 1341 Intro to Women's Literature, ENGL 1342 Middle Eastern Literature[8], ENGL 1345 Gender Issues in Literature[7]**
		B. Humanities/Philosophy: **CRTK 1300[2] Intro to Critical Thinking, HUMN 1300 Intro to Humanities, HUMN 1320[9] Holocaust & Genocide Studies, HUMN 1340[8] Mideast Culture, HUMN 2350 Film & American Culture, HUMN 2352 Holocaust Field Study, PHIL 1310 Intro to Philosophy, PHIL 1320[9] Ethics, PHIL 1360[8] Comparative World Religions**
		C. Art/Music/Theatre: **ART 1320 Beginning Drawing, MUSC 1320 Music in World Culture, MUSC 1340 History of Rock and Roll, MUSC 1350 Experiencing Live Music, MUSC 1360 Class Voice, THTR 1310 Theatre Appreciation, THTR 1360 Acting for Everyone** ART 1100 Art Appreciation
Emphasis Area 7	Human Diversity (at least one course)	**DVRS 1304[5] Diversity & Social Justice, DVRS 2301 Race & Ethnic Relations, ENGL 1340[6] Intro to Multicultural Literature, ENGL 1345 Gender Issues in Literature[6], GERO 1300 Intro to Gerontology, PSYC 1310[5] Psychology of Women, WMST 1300[2] Intro to Women's Studies,**
Emphasis Area 8	Global Perspective (at least one course)	**ANTH 1300[5] Intro to Anthropology, ANTH 2300[5] Anthropology of Science Fiction, ENGL 1342 Middle Eastern Literature[6],GEOG 1300[5] World Regional Geography, HASL 1408 Amer Sign Language III, HASL 1412 Amer Sign Language IV, HUMN 1340[6] Mideast Culture, PHIL 1360[6] Comparative World Religions, SPAN 1310 Beginning Spanish I, SPAN 1320 Beginning Spanish II** HIST 1103[5] Contemporary World History, HIST 1110[5] World War II
Emphasis Area 9	Ethical & Civic Responsibility (at least one course)	**COMM 1330[2] Media & Social Issues, ECON 1310 Personal Finance, HUMN 1320[6] Holocaust & Genocide Studies, POLS 1304[5] Intro to American Politics, PHIL 1320[6] Ethics, SOCI 1360[9] Politics of Food** HIST 2211[5]US History I, HIST 2221[5] US History II
Emphasis Area 10	People & the Environment (at least one course)	**BLGY 1305[3]*Environmental Science, SOCI 2305[5] Environmental Sociology** POLS 2202[5] Public Issues

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.

Updated 04.16.09

Auto Body Collision Technology

Auto Body Collision Technician AAS Degree (72 Credits)

St.Cloud Technical College
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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
ABCT2507	Electrical Systems	2
ABCT2510	Damage Analysis and Measuring Systems	3
ABCT2514	Plastic Repair	2
ABCT2518	Collision Repair Lab II	1-3
ABCT2531	Mechanical Systems	3

Suggested Technical Studies Semester IV

ABCT2522	Structural Damage Repair	4
ABCT2527	Collision Repair Lab III	4
ABCT2534	Collision Repair Lab IV OR	
	ABCT 2542 Supervised Internship	4
TRAN1520	Workplace Perceptions and Expectations	2

General Education

MNTC Goal 1 Communications	6
MNTC Goal 2 Critial Thinking	3
MNTC Goals 3 through 10	6

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 Technology

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

ABCT2507	Electrical Systems	2
ABCT2510	Damage Analysis and Measuring Systems	3
ABCT2514	Plastic Repair	2
ABCT2518	Collision Repair Lab II	3
ABCT2531	Mechanical Systems	3

Suggested Technical Studies Semester IV

ABCT2522	Structural Damage Repair	4
ABCT2527	Collision Repair Lab III	4
ABCT2534	Collision Repair Lab IV OR	
ABCT 2542	Supervised Internship	4
TRAN1520	Workplace Perceptions and Expectations	2

Technical Electives *Choose 2 Credits*

ABCT1538	Auto Restoration	2
ABCT1541	Advanced and Custom Refinishing	2
ABCT2502	Estimating	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

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

Automotive Service Technician

Automotives 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.

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, driveability specialist, front-end specialist, transmission specialist and parts specialist. Students with Associate of Applied Science Degrees have job opportunities such as service technicians, service advisors and shop managers. Graduates may transfer their degree to a 4 year college in order to attain a Bachelors Degree which would qualify them to obtain positions with the automotive manufacturers or the automotive aftermarket at a corporate level.

Suggested Technical Studies Semester I

AUTO1508 Automotive Wheel Alignment 4
AUTO1509 A6: Automotive Electrical/Electronic Systems OR
AUTO 1510 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
AUTO1516 Brakes 4
AUTO1523 Advanced Chassis Electrical 2

Suggested Technical Studies Semester III

AUTO1522 A8 Engine Performance OR
AUTO 2502 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
AUTO2523 Advanced Electronic Systems 2
TRAN2514 Basic Air Conditioning 2

Technical Electives

Technical Electives 9

General Education

MNTC Goal 1 Communications 6
MNTC Goal 2 Critial Thinking 3
MNTC Goals 3 through 10 6

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

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

Automotive Service Technician

Automotives 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, driveability specialist, front-end specialist, transmission specialist, service advisors, parts specialist and shop manager.

Suggested Technical Studies Semester I

AUTO1508	Automotive Wheel Alignment	4
AUTO1509	A6: Automotive Electrical/Electronic Systems OR	
AUTO 1510	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
AUTO1523	Advanced Chassis Electrical	2

Suggested Technical Studies Semester III

AUTO1522	A8 Engine Performance OR	
AUTO 2502	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	3
AUTO2516	Automotive Heating and Air Conditioning	2
AUTO2520	Engine Driveability	3
AUTO2523	Advanced Electronic Systems	2
TRAN2514	Basic Air Conditioning	2

General Studies

	General Studies Electives	7

Estimated cost of books, supplies and materials: $3,000

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

Business Management

Associate in Science Degree (60 Credits)

St.Cloud Technical College
placing you first

Program Description

The business world today is facing rapid changes, creating an increased demand for well-trained professionals to fill positions in many areas of the public, private and non-profit sectors. This degree builds a strong foundation in general business topics and gives students the ability to choose to concentrate in accounting, finance and credit, or sales programs. Each elective area focuses students' practical knowledge in their field of study and provides opportunities to apply these skills in a variety of settings.

The Business Management degree at SCTC is a flexible degree designed for students who want to continue their education and/or enter the workforce. The curriculum addresses contemporary business issues through courses in economics, communications, accounting, technology, marketing and management. Emphasis is placed on developing skills in decision-making, interpersonal communication skills, critical thinking, project management and problem solving. Students successfully completing the Business Management degree may choose to further advance their education by continuing to Bachelors Degree programs through articulation agreements with other colleges.

Students completing the Business Management degree have the opportunity to participate in Business Professionals of America (BPA) and Delta Epsilon Chi (DEX). These student organizations further develop the project management, presentation, creativity, and leadership skills employers' demand.

Career Opportunities

Students entering the work environment are employed by a variety of public and private organizations in sales, customer service, management, banking, collection, financial services, retail, wholesale, and service organizations, and private or public accounting.

Technical Studies - Required Courses

ACCT1215	Accounting Principles I	4
ACCT1216	Accounting Principles II	4
SAMG1200	Principles of Marketing	3
SAMG1215	Principles of Management	3

Choose 15 additional credits from Accounting, Finance and Credit or Sales and Management:

Accounting (15 credits required from this group):
1 class minimum from each of the 3 groups:

Group 1		
ACCT1220	Payroll Accounting	2
ACCT2230	Income Tax I	4
ACCT2231	Income Tax II	2
BUSM1275	Business Law	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

OR

Finance and Credit (15 credits required from this group)

FNCR1200	Personal Money Management	3
FNCR1220	Principles of Banking	3
FNCR1250	Credit Law	3
FNCR2245	Consumer Lending	4
FNCR2270	Collection Techniques	3

OR

Sales and Management (15 credits required from this group)

SAMG1210	Customer Service/Sales (Required)	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

General Education

ENGL1302	Analytical Writing	4
MATH1350	Introduction to Statistics	3
ECON1330	Introduction to Microeconomics	3
ECON1320	Introduction to Macroeconomics	3
CPTR 1300	Exploring Computers	3
MNTC Goal Area 1 Communications-Oral		3
MNTC Goal Area 6 Humanities		3
MNTC Goal Area 7 Diversity		3
MNTC Goal Area 8 Global Perspectives		3
MNTC Goal Area 9 Ethical/Civic Responsibility		3

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

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

Cardiovascular Technology

Cardiovascular Technology AAS Degree (71 Credits)

St.Cloud Technical College
placing you first

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, interventional, 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

* Current CPR, Healthcare Provider required

* 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 FIVE STATE AREA. ADDITIONAL SITES IN OTHER STATES MAY ALSO BE AVAILABLE.

Suggested Technical Studies Semester I

HLTH1440	Medical Terminology	1
ICVT1422	Cardiovascular Instrumentation	3
USCV1440	Introduction to Clinics	1

Suggested Technical Studies Semester II

HLTH1448	Infection Control	1
ICVT1423	Catheterization Lab Fundamentals I	2
ICVT1443	Cardiovascular Clinic I	5
USCV1402	Cardiovascular Anatomy and Physiology	4

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

EMSC2460	ACLS Provider	1
ICVT2450	Applied Clinical Internship	13

Ethics

Ethics	3

General Education

Communications-Written	4
Communications-Oral	3
Humanities	3

Estimated cost of books, supplies and materials: $2,900

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

Carpentry

Carpentry AAS Degree (72 Credits)

St.Cloud Technical College
placing you first

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
(must include at least three MNTC Goal Areas)

Communications-Oral	3
Communications-Written	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)

St.Cloud Technical College
placing you first

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

Carpentry Assistant Certificate (28 Credits)

St.Cloud Technical College
placing you first

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.

Carpentry

Cabinet Maker's Apprentice Certificate (30 Credits)

St.Cloud Technical College
placing you first

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	Residential Framing	3
CARP1536	Cabinet Building and Estimating	5

Suggested Technical Studies Semester II

CARP2567	Cabinetmaking Internship	9

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.

Child, Adult Care and Education

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

St.Cloud Technical College
placing you first

Program Description

The CACE Program prepares students for employment in a variety of educational and human service positions by providing courses in health and nutrition, gerontology, human development, professional and leadership skills, managing behavior, inclusive learning environments, curriculum planning, 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 teacher, teachers, directors, paraprofessionals, family child care professionals, and other interested individuals. The program courses are in agreement with the Department of Human Service (DHS) licensing guidelines for child care providers. Membership in MnAEYC, NAEYC or other professional organizations is strongly recommended. Applicants to the CACE Program must complete any college readiness courses with a passing 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 and submit a Department of Human Service (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, 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
CACE1420	Foundations of Development	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1444	Planning and Implementing Curriculum	3
CACE1460	Internship I	3
EMSC1404	First Aid and CPR for Child Care Providers	1

Suggested Technical Studies Semester II

CACE1404	Safety, Health and Nutrition	3
CACE1422	Profiles of the Exceptional Child	3
CACE1424	School-Age Strategies for Learning	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: $1,300

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

Child, Adult Care and Education

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

St.Cloud Technical College
placing you first

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 health and nutrition, gerontology, human development, professional leadership skills, managing behavior, inclusive learning environments, curriculum planning, 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 MnAEYC, NAEYC or other professional organizations is strongly recommended.

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

Before being placed on an Internship, students will be required to complete and submit a Department of Human Services (DHS) Background Study Form; Pre-Entrance Medical Exam; and an Immunization Record. 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
CACE1420	Foundations of Development	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1444	Planning and Implementing Curriculum	3
CACE1460	Internship I	3
EMSC1404	First Aid and CPR for Child Care Providers	1

Suggested Technical Studies Semester II

CACE1404	Safety, Health and Nutrition	3
CACE1422	Profiles of the Exceptional Child	3
CACE1424	School-Age Strategies for Learning	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
ENGL2302	Advanced Argument and Research Writing	3
MATH1330	Cultural Mathematics	3
SOCI1350	Sociology of Marriage and Family	3
	Natural Science Physical	3
	Natural Science Biology w/lab	4
	Humanities and Fine Arts	3
	Ethic and Civic Responsibility	3
	Sociology	3

Estimated cost of books, supplies and materials: $1,300

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

Child, 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 educational, human service and positions by providing courses in gerontology, health and nutrition, human development, managing behavior, inclusive learning environments, curriculum planning, implementing strategies for learning, and practical experience. Students who sucessfully 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 professionals 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 MnAEYC, NAEYC or other professional organizations is strongly recommended.

Applicants to the CACE Program must complete any college readiness courses with a passing 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 and submit a Department of Human Service (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, 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
CACE1420	Foundations of Development	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1444	Planning and Implementing Curriculum	3
CACE1460	Internship I	3
EMSC1404	First Aid and CPR for Child Care Providers	1

Suggested Technical Studies Semester II

CACE1404	Safety, Health and Nutrition	3
CACE1422	Profiles of the Exceptional Child	3
CACE1424	School-Age Strategies for Learning	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: $700

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

Child, Adult Care and Education

Child Care and Education Certificate (19 Credits)

St.Cloud Technical College
placing you first

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 MnAEYC, NAEYC or other professional organizations is strongly recommended.

Applicants to the CACE Program must complete any college readiness courses with a passing 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, 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
CACE1420	Foundations of Development	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1444	Planning and Implementing Curriculum	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: $325

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

Computer Programming

Computer Programmer AAS Degree (71 Credits)

St.Cloud Technical College
placing you first

Program Description

The Computer Programmer major 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 receive an AAS degree upon successful completion of the major. Skills such as attentiveness, logical reasoning and attention to detail are necessary to be a successful Computer Programmer.

E-commerce and the Internet have become an integral part of our daily lives. Students will receive extensive exposure to extremely current methodologies, languages, programming procedures, and to business data processing applications. Practical experience is provided on IBM PC -compatibles. Computer Programmers will design and write programs for E-commerce, Internet and Business Application environments. Students will be able to follow instructions provided by systems documentation, write and test the programs, review results and make necessary corrections. These processes will apply to E-commerce, Internet and Business Application platforms.

Students in the Computer Programmer major must achieve a 2.0 GPA or better in all Computer Programmer technical courses. All students in the Computer Programmer major are required to purchase 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 business such as accounting firms, software houses, manufacturing firms, computer service centers, banks and hospitals. Employment potential is outstanding for competent Computer Programmer graduates.

Suggested Technical Studies Semester I

CMSC1203	Structured Programming Logic	3
CMSC1206	Basic Networking/ Security	3
CMSC1212	Web Markup Language	3

Suggested Technical Studies Semester II

CMSC1215	XML	3
CMSC1216	Database Modeling I	3
CMSC1225	Java Language I	3
CMSC1227	Agile Programming Methodology	3
CMSC1255	PHP Scripting	3

Suggested Technical Studies Semester III

CMSC2201	Database Modeling II	3
CMSC2202	Web Scripting Language	3
CMSC2203	C# Programming	3
CMSC2204	Mobile Device Programming/Connectivity	3
CMSC2261	Visual Basic I	3
CMSC2266	Java Language II	3

Suggested Technical Studies Semester IV

BUSM1290	Job Seeking/Keeping Skills	1
CMSC2205	Internship	3
CMSC2263	Visual BASIC II	3
CMSC2279	Systems Analysis and Design	3

General Education

CMST1320	Introduction to Communication Studies	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.

Culinary Arts

Culinary Arts Diploma (38 Credits)

St.Cloud Technical College
placing you first

Program Description

The Culinary Arts Program is designed to prepare students for the food service industry by exploring all facets of food preparation, planning, and service. The program provides training in nutrition, sanitation, and the operation of equipment in addition to food preparation techniques. Technical classes are supplemented with a variety of assessments, demonstrations, training, preparation and service experiences. You will have many opportunities to participate in college and community events where you can gain practical experience in the field, including membership in the local Chef's Society. Students with a passion for food, a sense of style and creativity, and organizational skills are encouraged to apply and explore this exciting program.

Career Opportunities

As a graduate of the program you will be licensed in Serv-Safe and may enjoy a career as a chef or cook in hotels, restaurants, resorts, catering, healthcare centers, and more!

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

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	1

Estimated cost of books, supplies and materials: $500

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

Dental Assistant

Dental Assistant AAS Degree (68 Credits)

St.Cloud Technical College
placing you first

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. This learning is accomplished through on-campus classroom, laboratory and clinical experience as well as an internship rotation in dental offices.

The Dental Assistant Program is accredited by the Commission on Dental Accreditation of the American Dental Association. Graduates will be eligible to write the Dental Assisting National Board Certification examination and the Minnesota Registration examination.

Career Opportunities

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

Acceptance Requirements and Credits

MNTC Goal Area 1 Communications (Oral)..... 3
MNTC Goal Area 1 Communications (Written)..... 4

* Current CPR, Healthcare Provider required

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

* In addition the following must be completed: A medical examination Vaccinations against Hepatitis B or a signed release form Mantoux test Mandatory attendance at an informational meeting An observation in a dental office setting

Suggested Technical Studies Semester I

DENT1400	Dental Sciences	3
DENT1405	Introduction to Dental Assisting	2
DENT1409	Preclinical Dental Assisting	1
DENT1412	Infection Control in the Dental Environment	3
HLTH1468	Essentials of Nutrition	2

Suggested Technical Studies Semester II

DENT1424	Chairside Assisting I	2
DENT1434	Dental Materials I	2
DENT1440	Dental Radiology I	4
DENT1444	Expanded Functions I	4

Suggested Technical Studies Semester III

DENT1460	Internship I	1
DENT2406	Dental Health	1
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
DENT2485	Internship Seminar	2
DENT2488	Dental Ethics and Jurisprudence	1

General Education

Natural Science	4
Psychology	3
Humanities or Diversity Electives	3

Estimated cost of books, supplies and materials: $3,500

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

Dental Assistant

Dental Assistant Diploma (59 Credits)

St.Cloud Technical College
placing you first

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. This learning is accomplished through on-campus classroom, laboratory and clinical experience as well as an internship rotation in dental offices.

The Dental Assistant program is accredited by the Commission on Dental Accreditation of the American Dental Association. Graduates will be eligible to write the Dental Assisting National Board Certification examination and the Minnesota Registration examination.

Career Opportunities

The need for Dental Assistants is due to the success of preventive dentistry, increased awareness of the importance of regular dental care and cosmetic dentistry. 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 and oral surgery.

Acceptance Requirements and Credits

ENGL1100	Writing for the Workplace or MNTC Goal 1 (Written).	3
GBEH1300	Human Relations or MNTC Goal 7 Diversity	3

* Current CPR, Healthcare Provider required

* Prior to entering the Dental Assistant program, students must complete the Accuplacer test with scores above the cutoff point in reading comprehension or successful completion of equivalent general education course work.
* In addition the following must be completed: A medical examination Vaccinations against Hepatitis B or a signed release form Mantoux test Mandatory attendance at an informational meeting An observation in a dental office setting

Suggested Technical Studies Semester I

DENT1400	Dental Sciences	3
DENT1405	Introduction to Dental Assisting	2
DENT1409	Preclinical Dental Assisting	1
DENT1412	Infection Control in the Dental Environment	3
HLTH1460	Nutrition	1

Suggested Technical Studies Semester II

DENT1424	Chairside Assisting I	2
DENT1434	Dental Materials I	2
DENT1440	Dental Radiology I	4
DENT1444	Expanded Functions I	4

Suggested Technical Studies Semester III

DENT1460	Internship I	1
DENT2406	Dental Health	1
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
DENT2485	Internship Seminar	2
DENT2488	Dental Ethics and Jurisprudence	1

General Education

	Psychology	3

Estimated cost of books, supplies and materials: $3,500

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

Dental Hygienist

Dental Hygiene AAS Degree (84 Credits)

St.Cloud Technical College
placing you first

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	3
Chemistry (for Health Science majors)	3
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.

* 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 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 II	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: $7,000

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 78. If ACCUPLACER scores indicate pre-college course work this must be done prior to starting 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	Safety, Certifications and Skills	3

Suggested Technical Studies Semester III

ELEC1538	Industry Skills Development	1
ELEC2502	Residential Wiring I	2
ELEC2510	National Electrical Code III	2
ELEC2519	Commercial Wiring	3
ELEC2520	Commercial Lighting	2
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 Communication Studies	3
ENGL1302	Analytical Writing	4
	Humanities	3
	Mathematics	3
	Social Sciences	3
	General Education Electives	4

Estimated cost of books, supplies and materials: $1,800

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

Electrical Construction Technology

Electrical Construction Technology Diploma (70 Credits)

St.Cloud Technical College
placing you first

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 the 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.If ACCUPLACER scores indicate pre-college course work this must be done prior to starting 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 grained 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	Safety, Certifications and Skills	3

Suggested Technical Studies Semester III

ELEC1538	Industry Skills Development	1
ELEC2502	Residential Wiring I	2
ELEC2510	National Electrical Code III	2
ELEC2519	Commercial Wiring	3
ELEC2520	Commericial Lighting	2
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)

St.Cloud Technical College
placing you first

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, telecommunciations systems, 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 vareity 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 Communication Studies	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)

St.Cloud Technical College
placing you first

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.

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 Communication Studies	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

Industrial Electronics Technician Diploma (66 Credits)

St.Cloud Technical College
placing you first

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)

St.Cloud Technical College
placing you first

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.

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.

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.

Farm Management

Farm Business Management Diploma (60 Credits)
Advanced Farm Business Managment Certificate (30 Credits)

St.Cloud Technical College
placing you first

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.

DIPLOMA Technical Courses

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	Financial Instruments in Farm System Management	2

Year 5

FBMT2151	Strategies in Farm System Data Management	4
FBMT2152	System Information for Financial Planning	4
FBMT2253	System Plans and Projections	2

Year 6

FBMT2161	Examination of Farm System Management	4
FBMT2162	Refining Farm System Management	4
FBMT2263	Evaluating Farm System Programs	2

Advanced Certificate Technical Courses -Core Required

FBMT2930	Fund of Fin Mgmt	3
FBMT2931	Applied Financial Mgmt	3
FBMT2932	Fund of Fin Mgmt/Strategic Planning	3
FBMT2933	Applied Fin Mgmt/Strategic Planning	3
FBMT2934	Fund of Fin Mgmt/Business Plan	3
FBMT2935	Applications in Fin Mgmt/Business Plans	3

Advanced Certificate Technical Courses - Electives

FBMT2950	Farm Management Decision Making	2
FBMT2951	Farm Management Communications	2
FBMT2952	Modern Agricultural Technology	2
FBMT2953	Farm Business and/or Family Transition	2
FBMT2954	Farm Management Personnel Mgmt	2
FBMT2955	Farm Managment Enterprise Alternatives	2

Estimated cost of books, supplies and materials: $25

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 Finance and Credit industry. Preparing 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
FNCR1200	Personal Money Management	3
FNCR1206	Professional Expectations I	1
FNCR1220	Principles of Banking	3
SAMG1210	Customer Service/Sales Techniques	3

Suggested Technical Studies Semester II

ACCT1216	Accounting Principles II	4
ACCT1219	Spreadsheets-Microsoft Excel	2
BUSM1267	Introduction to Business	2
BUSM1275	Business Law	2
FNCR1207	Professional Expectations II	1

Suggested Technical Studies Semester III

ECON1310	Personal Finance	3
FNCR1240	Supervision	3
FNCR2270	Collection Techniques	3
SAMG2255	Applied Sales Strategies/Telemarketing	3

Suggested Technical Studies Semester IV

BUSM1215	Business Writing	2
FNCR1208	Professional Expectations III	1
FNCR1250	Credit Law	3
FNCR2245	Consumer Lending	3
FNCR2273	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

Finance and Credit Diploma (65 Credits)

St.Cloud Technical College
placing you first

Program Description

The Finance and Credit Program includes course material designed to prepare students interested in pursuing career opportunities in the Finance and Credit industry. Preparing 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
FNCR1200	Personal Money Management	3
FNCR1206	Professional Expectations I	1
FNCR1220	Principles of Banking	3
SAMG1210	Customer Service/Sales Techniques	3

Suggested Technical Studies Semester II

ACCT1216	Accounting Principles II	4
ACCT1219	Spreadsheets-Microsoft Excel	2
BUSM1267	Introduction to Business	2
BUSM1275	Business Law	2
FNCR1207	Professional Expectations II	1

Suggested Technical Studies Semester III

BUSM1260	Applied Business Mathematics/Calculators	3
FNCR1240	Supervision	3
FNCR2270	Collection Techniques	3
SAMG2255	Applied Sales Strategies/Telemarketing	3

Suggested Technical Studies Semester IV

BUSM1215	Business Writing	2
BUSM1222	Oral Business Presentations	2
ECON1310	Personal Finance	3
FNCR1208	Professional Expectations III	1
FNCR1250	Credit Law	3
FNCR2245	Consumer Lending	3
FNCR2273	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.

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

HLTH 1402	Nursing Assistant	3
HLTH 1404	Home Health Aide/Homemaker	1
HLTH1430	Introduction to Health Careers	2
HLTH1440	Medical Terminology	1

Technical Electives

	Technical Electives	12

General Education

CMST1320	Introduction to Communication Studies	3
ENGL1302	Analytical Writing	4
	General Education Electives	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)

St.Cloud Technical College
placing you first

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	Commercial 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
(must include at least three MNTC Goal Areas)

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 Conditioining and Refrigeration
Diploma (66 Credits)

St.Cloud Technical College
placing you first

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	Commercial Load Calculating	2
HART2540	Internship - Commercial	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)

St.Cloud Technical College
placing you first

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.

Information Technology Infrastructure

Network Administration AAS Degree (60 Credits)

Program Description

The Network Administration major reflects current Information Technology (IT) industry requirements, with a focus on certifications. The major ties courses directly to high demand IT certifications, including those from CompTIA, Microsoft and the Certified Wireless Network Professional organization. It includes Cisco Academy curriculum, building students' theoretical knowledge and hands-on proficiency in a high demand industry. General Education courses help to develop student interpersonal communications abilities and other important "soft skills" needed in the IT field. The Practicum and Internship experiences expose students to actual IT work environments, and allow them the opportunity to demonstrate their abilities in the presence of prospective employers. Organizations continue to expand their networking infrastructure, including networked computers and peripheral equipment of increasingly complex design and configuration. This growth ensures employment for individuals willing to achieve the knowledge and hands-on skills needed to succeed in a challenging and ever-changing technical environment.

Network Administration students must achieve a 'C' (2.0) or better grade in each required technical and general education course.

Career Opportunities

Employment includes positions in IT Helpdesk, desktop and server assembly and configuration, systems upgrade and repair, user training, and more. The curriculum includes a strong combination of skills, which combined with very attainable certifications, results in excellent job placement potential.

Suggested Technical Studies Semester I

CPTR1300	Exploring Computers	3
MSNA1200	IT Essentials	3
MSNA 1201	Intro to Networking	2
MSNA1203	MS Windows Vista 70-620	3

Suggested Technical Studies Semester II

MSNA1204	Cisco (Exploration) Fundamentals	3
MSNA1210	Panduit Network Installation Essentials	3
MSNA1213	MS Server 2008 Netwk Infra 70-642	3

Suggested Technical Studies Semester III

MSNA1206	Cisco (Exploration) Switching and Wireless	3
MSNA2203	MS Small Business Server 2008	3
MSNA2204	Wireless CWNA	2
MSNA2206	Network Security	3
MSNA2208	MSNA Practicum	1

Suggested Technical Studies Semester IV

MSNA2201	MS Server 2008 - AD Configuration 70-640	3
MSNA2210	Linux Workstation	3
MSNA2212	Help Desk	3
MSNA2215	MSNA Internship	2

General Education

CSSC1302	Career Development/Job Search	1
CMST1320	Introduction to Communication Studies	3
CMST2310	Interpersonal Communication	3
CRTK1300	Introduction to Critical Thinking	3
MNTC Goal 1	Communications (Written)	4
MNTC Goal 4	Mathematics and Logic	3

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

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

Information Technology Infrastructure

PC Specialist Diploma (39 Credits)

St.Cloud Technical College
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Program Description

The PC Specialist Diploma will train students, through theory and hands-on practice, in basic computer hardware, operating system, networking and application installation, configuration and use. Additionally, students will develop written and oral communication skills, as well as build their problem solving and decision making abilities. The diploma can be used as a standalone course of study or as an opportunity for students to continue their education in the information technology field.

Technical courses include microcomputer hardware, software, networking and computer security, as well as application skills classes, such as Microsoft Office, Desktop Publishing and Website Management. Studies can lead to A+, Security+, Wireless#, and Microsoft operating system and application certifications.

PC Specialist students must achieve a "C" or better in all required technical and general education courses.

Career Opportunities

Graduates of the PC Specialist major will be able to enter the job market as entry-level help desk workers in the Information Technology field. PC Specialists will provide end users with basic hardware, operating system software and networking support, as well as application program use and troubleshooting.

Suggested Technical Studies Semester I

BUSM1200	Microsoft Software	3
MSNA1200	IT Essentials	3
MSNA1203	MS Windows Vista 70-620	3
MSNA1204	Cisco (Exploration) Fundamentals	3

Suggested Technical Studies Semester II

ADMS1204	Advanced Microsoft Office	3
MSNA1213	MS Server 2008 Netwk Infra 70-642	3

Suggested Technical Studies Semester III

BUSM1290	Job Seeking/Keeping Skills	1
MSNA2208	MSNA Practicum	1

Suggested Technical Studies Semester IV

ADMS1214	Administrative Desktop Publishing	3
BUSM1256	Web Site Management	2
MSNA2204	Wireless CWNA	2
MSNA2206	Network Security	3
MSNA2212	Help Desk	3

General Studies

ENGL1100	Writing for the Workplace	3
GBEH1300	Human Relations OR	
	DVRS 1304 Diversity and Social Juistice OR	
	CMST 1320 Intro to Communication Studies	3

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

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

Information Technology Infrastructure

Cisco Networking (Associate) Certificate (15 Credits)

St.Cloud Technical College
placing you first

Program Description

The Cisco Networking (Associate) certificate will focus solely on training students in all areas of Local Area Networking (LAN) and Wide Area Networking (WAN), through lessons in theory and practical application. The initial course introduces generic aspects of networking and helps prepare students for the CompTIA Network+® certification exam, an internationally recognized industry credential. Subsequent Cisco Academy modules prepare students for the Cisco CCNA exam, a prestigious IT achievement. As a capstone experience, the CCNA Certification Preparation course helps to prepare students through instructor-shared experiences with the certification testing, practice tests and discussions for the CCNA exam. The Cisco Networking (Associate) certificate can be used as a standalone course of study or as an opportunity for students to continue their education in the networking major.

Students must achieve a grade of "C" or better in each required course to obtain the Cisco Networking (Associate) certificate.

Career Opportunities

Students completing the CCNA Certificate will have a highly desired course of training, which should enable them to achieve rapid promotion in the networking industry. The certificate, coupled with passing the CCNA certification exam, will enable graduate to enter the job market well ahead of their networking industry peer and garner salaries at the top of the networking pay scale.

Technical Studies

MSNA1201	Intro to Networking	2
MSNA1204	Cisco (Exploration) Fundamentals	3
MSNA1206	Cisco (Exploration) Switching & Wireless	3
MSNA2216	Cisco (Exploration) Routing Protocols & Concepts	3
MSNA2218	Cisco (Exploration) Accessing WAN	3
MSNA2228	CCNA Certification Prep	1

Estimated cost of books, supplies and materials: $200

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.

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
LSCE2530	Utility Design II	3

General Education

MATH1300	College Algebra	3
MATH1320	College Trigonometry	2
	Communications-Oral	3
	Communications-Written	4
	Humanities or Social Science	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)

St.Cloud Technical College
placing you first

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

ENGL 1100 or from MNTC Goal Area 1	3
GBEH 1300 or from MNTC Goal 5/Goal6/Goal7	3
General Studies or General Education 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 Tool Technology

Machine Tool Technology AAS Degree (72 Credits)

Program Description

The Machine Tool Technology Program provides training in the latest techniques of conventional and computerized machining. The lab is equipped with a variety of machines that are representative of today's 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. The AAS degree option allows students to transfer the general education courses to a 4-year university.

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, CNC applications/sales, machining technician, CNC machining including Swiss CNC turning technology.

Suggested Technical Studies Semester I

MACH1503	Machine Technology I	4
MACH1510	Machine Technology II	4
MACH1517	Blueprint Reading I	1
TECH1552	Basic Metal Joining and Fabrication	2

Suggested Technical Studies Semester II

MACH1511	Machine Technology III	5
MACH1514	Introduction to Swiss Machining	2
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
MACH2528	Electrical Discharge Machining	2
MACH2537	Swiss CNC Turn Adv	3
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	4

General Education

MATH1300	College Algebra	3
MATH1320	College Trigonometry	2
CMST1320	Introduction to Communication Studies	3
CPTR1300	Exploring Computers	3
PHYS1300	General Physics	4
	General Education Electives	4

Estimated cost of books, supplies and materials: $2,400

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

Machine Tool Technology

Machine Tool Technology Diploma (68 Credits)

Program Description

The Machine Tool Technology Program provides training in the latest techniques of conventional and computerized machining. The lab is equipped with a vareity of machines that are representative of today's 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, CNC applications/sales, machining technician, CNC machining including Swiss CNC turning technology.

Suggested Technical Studies Semester I

MACH1503	Machine Technology I	4
MACH1510	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

MACH1511	Machine Technology III	5
MACH1514	Introduction to Swiss Machining	2
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
MACH2528	Electrical Discharge Machining	2
MACH2537	Swiss CNCTurning Adv	3
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
MACH2533	Advanced Electrical Discharge 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: $2,400

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

Mechanical Design Technology

Mechanical Design Technology AAS Degree (66 Credits)

St.Cloud Technical College
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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 todays 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

CADD2505	Production CADD I	3
CADD2509	Production CADD II	3
CADD2518	Statics and Strength of Materials	3
CADD2529	Manufacturing Systems	2
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	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 Diploma (64 Credits)

St.Cloud Technical College
placing you first

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 todays mechanical designer faces.

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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

CADD2505	Production CADD I	3
CADD2509	Production CADD II	3
CADD2518	Statics and Strength of Materials	3
CADD2529	Manufacturing Systems	2
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)

St.Cloud Technical College
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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 and 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.

Mechanical Design Graduates:

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

Machine Tool Graduates:

Suggested Technical Studies Semester V

CADD1502	Mechanical CADD I	3
CADD1512	CADD Applications	3
CADD1519	Engineering Math	1
CADD2528	Manufacturing Systems	1
	Technical Electives	1

Suggested Technical Studies Semester VI

CADD1507	Mechanical CADD II	3
CADD1516	CADD Applications II	3
CADD2541	Basic CAM	2
CADM3502	CMM Operations	2
TECH1540	Technical Communications	1

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)

St. Cloud Technical College
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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	Mobile Hydraulics	2
MHTT1508	Truck Computer Systems	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
MHTT1522	Electrical II	2
MHTT1526	Truck Maintenance	3
TRAN2514	Basic Air Conditioning	2

Suggested Technical Studies Semester III

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 Electives

Technical Electives Choose 6 credits	6

General Education

MCTC Goal Area 1 Communications	6
MNTC Goal Area 2 Critical Thinking	3
MNTC Goal Areas 3 through 10	6

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

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

Medium/Heavy Truck Technician

Medium/Heavy Truck Technician Diploma (67 Credits)

St. Cloud Technical College
placing you first

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	Mobile Hydraulics	2
MHTT1508	Truck Computer Systems	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
MHTT1522	Electrical II	2
MHTT1526	Truck Maintenance	3
TRAN2514	Basic Air Conditioning	2

Suggested Technical Studies Semester III

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 Electives

Technical Electives	9

General Studies

Communications-Written	3
General Studies Electives	4

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

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

Nursing Assistant/Home Health Aid

Nursing Assistant/Home Health Aid

Program Description

Todays 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 Nursing Assistant/Home Health Aide 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.

Upon completion of all class hours, students will be eligible to take the state exam offered at St. Cloud Technical College (cost is $160) and upon passing, will be recognized by the state of Minnesota in its registry of Nursing Assistants/Home Health Aides. 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 on the Minnesota registry, an individual must complete 12 hours of education every year and work in the field at least eight paid hours every two years.

Technical Studies

HLTH 1402 Nursing Assistant 3
HLTH 1404 Home Health Aide/Homemaker 1

Estimated cost of books, supplies and materials: $85

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

Paramedicine

Paramedicine AAS Degree (64 Credits)

Program Description

Graduates of the Paramedicine A. A.S. program will be eligible to take the national level Paramedicine exam and have the knowledge and skills necessary to be a competent and successful entry-level paramedic. The Paramedic (EMT-P) works in the exciting and 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 greater 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 (AAHEP).

Career Opportunities

Career opportunities for paramedics include: private ambulance companies, hospitals, industry, 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

HLTH 1440 Medical Terminology

* CPR for Healthcare Provider and EMT Basic are also required before beginning the Paramedicine program. (must submit CPR and MN EMSRB EMTB card)
* Applicant may only apply after successful completion of the acceptance requirements. These courses must be completed prior to starting the program.
* General Education requirements should be completed prior to starting core courses. Also, Anatomy and Physiology I is a prerequisite to Paramedicine I.

Suggested Technical Studies Semester I

EMSP1400	Paramedicine I	3
EMSP1402	Paramedicine Skills I	3
EMSP1404	Emergency Pharmacology for Paramedics	2
EMSP1406	Paramedicine II	3
EMSP1408	Paramedicine Skills II	3
EMSP1430	BLS Ambulance Clinical	1
HLTH1448	Infection Control	1

Suggested Technical Studies Semester II

EMSC2460	ACLS Provider	1
EMSC2462	PHTLS Provider	1
EMSC2468	Pediatric Advanced Life Support/Neonatal Resuscitation Provider (PALS/NRP)	1
EMSP1432	Critical Care Clinical	2
EMSP1434	Support Services Clinical	2
EMSP1440	ALS Ambulance Clinical	3
EMSP2410	Paramedicine III	4
EMSP2412	Paramedicine Skills III	2

Suggested Technical Studies Semester III (Summer)

EMSC2472	PEPP Provider	1
EMSP2438	Emergency Department Clinical	3
EMSP2442	Acute Care Clinical	2
EMSP2480	Paramedicine Externship	8

General Education

BLGY2310	Human Anatomy/Physiology I	4
BLGY2320	Human Anatomy/Physiology II	4
	Humanities	3
	Psychology	3
	Communications (Written)	4

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

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

Paramedicine

Paramedicine Evening Program AAS Degree (64 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:

HLTH 1440 Medical Terminology

* CPR for Healthcare Provider and EMT Basic are also required before beginning the Paramedicine program. (must submit CPR and MN EMSRB EMTB card)

* Applicant may only apply after successful completion of the acceptance requirements. These courses must be completed prior to starting the program.

* Anatomy and Physiology I is a prerequisite to Paramedicine I.

Suggested Technical Studies Semester I

EMSP1400	Paramedicine I	3
EMSP1402	Paramedicine Skills I	3
EMSP1430	BLS Ambulance Clinical	1
HLTH1448	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

EMSC2460	ACLS Provider	1
EMSC2462	PHTLS Provider	1
EMSC2468	Pediatric Advanced Life Support/Neonatal Resuscitation Provider (PALS/NRP)	1
EMSP1432	Critical Care Clinical	2
EMSP1434	Support Services Clinical	2
EMSP1440	ALS Ambulance Clinical	3

Suggested Technical Studies Semester IV

EMSP2410	Paramedicine III	4
EMSP2412	Paramedicine Skills III	2
EMSP2438	Emergency Department Clinical	3

Suggested Technical Studies Semester V

EMSC2472	PEPP Provider	1
EMSP2442	Acute Care Clinical	2
EMSP2480	Paramedicine Externship	8

General Education

BLGY2310	Human Anatomy/Physiology I	4
BLGY2320	Human Anatomy/Physiology II	4
	Humanities	3
	Psychology	3
	Communication Written	4

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

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

Paraprofessional Educator

Paraprofessional Educator AAS Degree (65 Credits)

St.Cloud Technical College
placing you first

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 Associates (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 a professional organization is strongly recommended.

Applicants to the Paraprofessional Educator Program must complete any college readiness course with a passing grade, if indicated by their Accuplacer scores prior to enrolling in 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
CACE1420	Foundations of Development	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1444	Planning and Implementing Curriculum	3
CACE1460	Internship I	3
EMSC1404	First Aid and CPR for Child Care Providers	1

Suggested Technical Studies Semester II

CACE1404	Safety, Health and Nutrition	3
CACE1422	Profiles of the Exceptional Child	3
CACE1424	School-Age Strategies for Learning	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
CACE1473	Strategies in Reading for the Paraprofessional	2
CACE1476	Writing Strategies for Paraprofessionals	1

Suggested Technical Studies Semester IV

CACE1426	Children with Difficult Behaviors	3
CACE1474	Strategies in Math for Paraprofessionals	2
CACE1478	Technology Strategies for Paraprofessionals	1

Technical Electives

Technical Electives	1

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

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

PLBG1504	Piping Procedures I	5
PLBG1508	Plumbing Calculations I	4
PLBG1510	Minnesota State Plumbing Code I	3
PLBG1518	Blueprint Reading and Estimating I	4

Suggested Technical Studies Semester II

PLBG1514	Minnesota State Plumbing Code II	3
PLBG1520	Blueprint Reading and Estimating II	3
PLBG1524	Plumbing Calculations II	3
PLBG1530	Piping Procedures II	3
PLBG1538	Plumbing Internship	2
PLBG1544	Career Planning/Customer Relations	1

Technical Electives

	Technical Electives	9

General Education

CMST1320	Introduction to Communication Studies	3
ENGL1302	Analytical Writing	4
	Humanities	3
	Mathematics and Logic	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)

St.Cloud Technical College
placing you first

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

PLBG1504	Piping Procedures I	5
PLBG1508	Plumbing Calculations I	4
PLBG1510	Minnesota State Plumbing Code I	3
PLBG1518	Blueprint Reading and Estimating I	4

Suggested Technical Studies Semester II

PLBG1514	Minnesota State Plumbing Code II	3
PLBG1520	Blueprint Reading and Estimating II	3
PLBG1524	Plumbing Calculations II	3
PLBG1530	Piping Procedures II	3
PLBG1538	Plumbing Internship	2
PLBG1544	Career Planning/Customer Relations	1

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 (60 Credits)

St.Cloud Technical College
placing you first

Program Description

Practical Nursing is a challenging, meaningful, and fulfilling career with the benefits of intellectual stimulation, attractive earning potential, personal rewards, and excitement!The program is designed to prepare interested men and women to provide nursing care in a variety of patient care settings. The focus of the provision of care includes promotion of health, prevention of illness, holistic and restorative interventions, and acute and long-term care practice. We are very proud of the college's state-of-the-art nursing simulation lab that allows for the integration of instruction and clinical practice.

The program exists to educate and prepare individuals to complete the National Council Licensure Exam (NCLEX-PN), and to encourage individuals to engage in lifelong learning; continued learning is essential in a society that seeks well-trained healthcare workers for the benefit of patient health, quality of life and the well-being of the community. All program Core requirements must be completed at SCTC. Students may be admitted to the Nursing Program only two times.

Admission to the program is highly competitive and requires the student to attend the pre-program informational session. Admittance requirements are subject to change in the near future. For consideration into the nursing program, students must have completed all prerequisite courses with a minimum GPA of 2.5 or above for the AAS.

A graduate of the Practical Nursing program provides a foundation for career mobility with associate or baccalaureate RN programs.

Career Opportunities

Today we are finding businesses and occupations being laid off, however, health care continues to need highly qualified and competent workers. Projections from the U. S. Bureau of Labor Statistics indicate that one million new nurses will be needed by 2010; by 2014 employment of nurses is expected to grow 29.4%; "Job Outlook is Excellent"!The SCTC Practical Nursing Program has consistently placed its graduates throughout the St. Cloud area and Minnesota.

Acceptance Requirements and Credits

BLGY2310	Human Anatomy/Physiology I	4
BLGY2320	Human Anatomy/Physiology II	4
BLGY2330	Microbiology	4
CMST2310	Interpersonal Communication OR	
CMST1320	Introduction to Communication Studies	3
ENGL1302	Analytical Writing	4
HLTH1440	Medical Terminology	1
HLTH1460	Nutrition	1
PSYC1300	Introduction to Psychology	3
PSYC1304	Life Span Developmental Psychology	3
General Education Electives		3

* THE FOLLOWING CERTIFICATIONS/REGISTRATIONS MUST BE CURRENT AND ON FILE PRIOR TO ADMISSION INTO THE PROGRAM -- CPR/AED Adult, Child and Infant (Health Care Provider Level) --HLTH 1402 NA or verification of completion of a 75 hour NA course.

* 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 course work. successful completion of equivalent general education

* A minimum grade of "C" of 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.

Technical Studies Semester I

PRSG2401	Medical Surgical Nursing I	3
PRSG2409	Basic Nursing Concepts	3
PRSG2419	Nursing Skills	3
PRSG2429	Essentials of Clinical Pharmacology	2
PRSG2439	Clinical Application I	3

Technical Studies Semester II

PRSG2402	Medical Surgical Nursing II	3
PRSG2410	Advanced Nursing Role Concepts	3
PRSG2440	Clinical Application II	5
PRSG2450	Family Health Nursing	3
PRSG2460	Mental Health Nursing	2

Estimated cost of books, supplies and materials: $3,500

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

Practical Nursing

Practical Nursing Diploma (50 Credits)

St.Cloud Technical College
placing you first

Program Description

Practical Nursing is a challenging, meaningful, and fulfilling career with the benefits of intellectual stimulation, attractive earning potential, personal rewards, and excitement!The program is designed to prepare interested men and women to provide nursing care in a variety of patient care settings. The focus of the provision of care includes promotion of health, prevention of illness, holistic and restorative interventions, and acute and long-term care practice. We are very proud of the college's state-of-the-art nursing simulation lab that allows for the integration of instruction and clinical practice.

The program exists to educate and prepare individuals to complete the National Council Licensure Exam (NCLEX-PN), and to encourage individuals to engage in lifelong learning; continued learning is essential in a society that seeks well-trained healthcare workers for the benefit of patient health, quality of life and the well-being of the community. All program Core requirements must be completed at SCTC. Students may be admitted to the Nursing Program only two times.

Admission to the program is highly competitive and requires the student to attend the pre-program informational session. Admittance requirements are subject to change in the near future. For consideration into the nursing program, students must have completed all prerequisite courses with a minimum GPA of 2.5 or above for the Diploma.

A graduate of the Practical Nursing program provides a foundation for career mobility with associate or baccalaureate RN programs.

Career Opportunities

Today we are finding businesses and occupations being laid off, however, health care continues to need highly qualified and competent workers. Projections from the U. S. Bureau of Labor Statistics indicate that one million new nurses will be needed by 2010; by 2014 employment of nurses is expected to grow 29.4%; "Job Outlook is Excellent"!The SCTC Practical Nursing Program has consistently placed its graduates throughout the St. Cloud area and Minnesota.

Acceptance Requirements and Credits

BLGY2310	Human Anatomy/Physiology I	4
BLGY2320	Human Anatomy/Physiology II	4
CMST2310	Interpersonal Communication OR	
CMST1320	.....Introduction to Communication Studies	3
ENGL1302	Analytical Writing	4
HLTH1440	Medical Terminology	1
HLTH1460	Nutrition	1
PSYC1304	Life Span Developmental Psychology	3

* THE FOLLOWING CERTIFICATIONS/REGISTRATIONS MUST BE CURRENT AND ON FILE PRIOR TO ADMISSION INTO THE PROGRAM -- CPR/AED Adult, Child and Infant (Health Care Provider Level) --HLTH 1402 NA or verification of completion of a 75 hour NA course.

* 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 course work. successful completion of equivalent general education

* A minimum grade of "C" of 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.

Technical Studies Semester I

PRSG2401	Medical Surgical Nursing I	3
PRSG2409	Basic Nursing Concepts	3
PRSG2419	Nursing Skills	3
PRSG2429	Essentials of Clinical Pharmacology	2
PRSG2439	Clinical Application I	3

Technical Studies Semester II

PRSG2402	Medical Surgical Nursing II	3
PRSG2410	Advanced Nursing Role Concepts	3
PRSG2440	Clinical Application II	5
PRSG2450	Family Health Nursing	3
PRSG2460	Mental Health Nursing	2

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-Part-Time AAS Degree (60 Credits)

St.Cloud Technical College
placing you first

Program Description

Practical Nursing is a challenging, meaningful, and fulfilling career with the benefits of intellectual stimulation, attractive earning potential, personal rewards, and excitement!The program is designed to prepare interested men and women to provide nursing care in a variety of patient care settings. The focus of the provision of care includes promotion of health, prevention of illness, holistic and restorative interventions, and acute and long-term care practice. We are very proud of the college's state-of-the-art nursing simulation lab that allows for the integration of instruction and clinical practice.

The program exists to educate and prepare individuals to complete the National Council Licensure Exam (NCLEX-PN), and to encourage individuals to engage in lifelong learning; continued learning is essential in a society that seeks well-trained healthcare workers for the benefit of patient health, quality of life and the well-being of the community. All program Core requirements must be completed at SCTC. Students may be admitted to the Nursing Program only two times.

Admission to the program is highly competitive and requires the student to attend the pre-program informational session. Admittance requirements are subject to change in the near future. For consideration into the nursing program, students must have completed all prerequisite courses with a minimum GPA of 2.5 or above for the AAS.

A graduate of the Practical Nursing program provides a foundation for career mobility with associate or baccalaureate RN programs.

Career Opportunities

Today we are finding businesses and occupations being laid off, however, health care continues to need highly qualified and competent workers. Projections from the U.S. Bureau of Labor Statistics indicate that one million new nurses will be needed by 2010; by 2014 employment of nurses is expected to grow 29.4%; "Job Outlook is Excellent"! The SCTC Practical Nursing Program has consistently placed its graduates throughout the St. Cloud area and Minnesota.

Acceptance Requirements and Credits

BLGY2310	Human Anatomy/Physiology I	4
BLGY2320	Human Anatomy/Physiology II	4
BLGY2330	Microbiology	4
CMST2310	Interpersonal Communication OR	
CMST1320	Introduction to Communication Studies	3
ENGL1302	Analytical Writing	4
HLTH1440	Medical Terminology	1
HLTH1460	Nutrition	1
PSYC1300	Introduction to Psychology	3
PSYC1304	Life Span Developmental Psychology	3
General Education Electives		3

* THE FOLLOWING CERTIFICATIONS/REGISTRATIONS MUST BE CURRENT AND ON FILE PRIOR TO ADMISSION INTO THE PROGRAM -- CPR/AED Adult, Child and Infant (Health Care Provider Level) --HLTH 1402 NA or verification of completion of a 75 hour NA course.

* 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 course work. successful completion of equivalent general education

* A minimum grade of "C" of 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.

Technical Studies Semester I

PRSG2409	Basic Nursing Concepts	3
PRSG2419	Nursing Skills	3

Technical Studies Semester II

PRSG2401	Medical Surgical Nursing I	3
PRSG2429	Essentials of Clinical Pharmacology	2

Technical Studies Semester III

PRSG2439	Clinical Application I	3
PRSG2460	Mental Health Nursing	2

Technical Studies Semester IV

PRSG2402	Medical Surgical Nursing II	3
PRSG2450	Family Health Nursing	3

Technical Studies Semester V

PRSG2410	Advanced Nursing Role Concepts	3
PRSG2440	Clinical Application II	5

Estimated cost of books, supplies and materials:

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

Practical Nursing

Practical Nursing-Part-Time Diploma (50 Credits)

St.Cloud Technical College
placing you first

Program Description

Practical Nursing is a challenging, meaningful, and fulfilling career with the benefits of intellectual stimulation, attractive earning potential, personal rewards, and excitement!The program is designed to prepare interested men and women to provide nursing care in a variety of patient care settings. The focus of the provision of care includes promotion of health, prevention of illness, holistic and restorative interventions, and acute and long-term care practice. We are very proud of the college's state-of-the-art nursing simulation lab that allows for the integration of instruction and clinical practice.

The program exists to educate and prepare individuals to complete the National Council Licensure Exam (NCLEX-PN), and to encourage individuals to engage in lifelong learning; continued learning is essential in a society that seeks well-trained healthcare workers for the benefit of patient health, quality of life and the well-being of the community. All program Core requirements must be completed at SCTC. Students may be admitted to the Nursing Program only two times.

Admission to the program is highly competitive and requires the student to attend the pre-program informational session. Admittance requirements are subject to change in the near future. For consideration into the nursing program, students must have completed all prerequisite courses with a minimum GPA of 2.5 or above for the AAS.

A graduate of the Practical Nursing program provides a foundation for career mobility with associate or baccalaureate RN programs.

Career Opportunities

Today we are finding businesses and occupations being laid off, however, health care continues to need highly qualified and competent workers. Projections from the U.S. Bureau of Labor Statistics indicate that one million new nurses will be needed by 2010; by 2014 employment of nurses is expected to grow 29.4%; "Job Outlook is Excellent"! The SCTC Practical Nursing Program has consistently placed its graduates throughout the St. Cloud area and Minnesota.

Acceptance Requirements and Credits

BLGY2310	Human Anatomy/Physiology I	4
BLGY2320	Human Anatomy/Physiology II	4
CMST2310	Interpersonal Communication OR	
CMST1320	Introduction to Communication Studies	3
ENGL1302	Analytical Writing	4
HLTH1440	Medical Terminology	1
HLTH1460	Nutrition	1
PSYC1304	Life Span Developmental Psychology	3

* THE FOLLOWING CERTIFICATIONS/REGISTRATIONS MUST BE CURRENT AND ON FILE PRIOR TO ADMISSION INTO THE PROGRAM -- CPR/AED Adult, Child and Infant (Health Care Provider Level) --HLTH 1402 NA or verification of completion of a 75 hour NA course.

* 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 course work. successful completion of equivalent general education

* A minimum grade of "C" of 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.

Technical Studies Semester I

PRSG2409	Basic Nursing Concepts	3
PRSG2419	Nursing Skills	3

Technical Studies Semester II

PRSG2401	Medical Surgical Nursing I	3
PRSG2429	Essentials of Clinical Pharmacology	2

Technical Studies Semester III

PRSG2439	Clinical Application I	3
PRSG2460	Mental Health Nursing	2

Technical Studies Semester IV

PRSG2402	Medical Surgical Nursing II	3
PRSG2450	Family Health Nursing	3

Technical Studies Semester V

PRSG2410	Advanced Nursing Role Concepts	3
PRSG2440	Clinical Application II	5

Estimated cost of books, supplies and materials:

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

Public Welfare Financial Worker

Public Welfare Financial Worker AAS Degree (63 Credits)

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.

Technical Studies

BUSM1200	Microsoft Software	3
BUSM1260	Applied Business Mathematics/Calculators	3
BUSM1290	Job Seeking/Keeping Skills	1
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

CMST1320	Introduction to Communication Studies	3
CRTK1300	Introduction to Critical Thinking	3
DVRS 1304	Diversity and Social Justice	3
ENGL1302	Analytical Writing	4
	General Education Electives	18

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

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

Public Welfare Financial Worker

Public Welfare Financial Worker Diploma (41 Credits)

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.

Technical Studies

BUSM1200	Microsoft Software	3
BUSM1260	Applied Business Mathematics/Calculators	3
BUSM1290	Job Seeking/Keeping Skills	1
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

CMST1320	Introduction to Communication Studies ..OR.. CRTK 1300 Critical Thinking	3
DVRS 1304	Diversity and Social Justice	3
ENGL1302	Analytical Writing	4

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

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

Sales And Management

Sales And Management AAS Degree (72 Credits)

St.Cloud Technical College
placing you first

Program Description

The Sales and Management field is one of the fastest growing, largest, and most diversified fields of employment. This degree program is designed for students who want to start their career in sales, management or marketing and want to enter this dynamic, rapidly growing field directly after graduation.

The program introduces students to a broad base of sales and management related knowledge and includes experiences and opportunities for students to network and make connections in the community while they attend classes. The AAS degree option also includes general education classes that broaden the student experience and are transferable to other colleges in the Minnesota State College and University system.

Students develop skills in business applications including communication, sales, prospecting, marketing, customer relationship managment, managing a business, supervising employees, and related technology applications. Courses emphasize practical business related knowledge and hands-on learning.

During the program, students complete three semesters of supervised occupational experience that directly applies classroom learning to the workplace. This work experience broadens student's knowledge and helps them successfully secure positions after graduation.

Students have the opportunity to participate in Delta Epsilon Chi (DEX), the collegiate division of DECA. DEX facilitates student's connection of classroom skills training to real world application. Students in DEX also attend professional business conferences and competitions and participate in volunteerism and community networking activities.

Career Opportunities

Sales and Management AAS 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.

Suggested Technical Studies Semester I

SAMG1200	Principles of Marketing	3
SAMG1210	Customer Service/Sales Techniques	3
SAMG1215	Market Financial Math	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 and Written	6
History, Social and Behavioral Sciences	3
Humanities and Fine Arts	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.

Sales And Management

Sales And Management Diploma (64 Credits)

Program Description

The Sales and Management field is one of the fastest growing, largest, and most diversified fields of employment. This degree program is designed for students who want to start their career in sales, management or marketing and want to enter this dynamic, rapidly growing field directly after graduation.

The program introduces students to a broad base of sales and management related knowledge and includes experiences and opportunities for students to network and make connections in the community while they attend classes. The AAS degree option also includes general education classes that broaden the student experience and are transferable to other colleges in the Minnesota State College and University system.

Students develop skills in business applications including communication, sales, prospecting, marketing, customer relationship managment, managing a business, supervising employees, and related technology applications. Courses emphasize practical business related knowledge and hands-on learning.

During the program, students complete three semesters of supervised occupational experience that directly applies classroom learning to the workplace. This work experience broadens student's knowledge and helps them successfully secure positions after graduation.

Students have the opportunity to participate in Delta Epsilon Chi (DEX), the collegiate division of DECA. DEX facilitates student's connection of classroom skills training to real world application. Students in DEX also attend professional business conferences and competitions and participate in volunteerism and community networking activities.

Career Opportunities

Sales and Management AAS 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.

Suggested Technical Studies Semester I

SAMG1200	Principles of Marketing	3
SAMG1210	Customer Service/Sales Techniques	3
SAMG1215	Market Financial Math	2
SAMG1225	Business Ethics and Law	3
SAMG1235	Supervised Occupational Experience	2
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

SAMG1240	Professional Self Development	1
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

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 (38 Credits)

Program Description

The Sales and Management Associate program is designed for students seeking an introduction to sales and management or to pair this knowledge base with a trade of their choice.

Students develop basic skills and understanding in selling, marketing, management styles and business applications including math, accounting, and communications. Courses include an emphasis in practical business related knowledge and hands-on learning. Students immediately apply course topics in a supervised occupational experience in a sales, customer service, marketing, or management related position.

Students have the opportunity to participate in Delta Epsilon Chi (DEX), the collegiate division of DECA. DEX facilitates student's connection of classroom skills training to real world application. Students in DEX attend professional business conferences and competitions and participate in volunteerism and community networking activities. .

Career Opportunities

Sales and Management Associate level (1-year diploma) graduates are often employed as customer service representatives, entry-level sales people, and entry-level retail, restaurant, and hospitality managers and supervisors. Students can also choose to continue their education by applying these courses to the Sales and Management diploma or AAS degree.

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 (71 Credits)

St.Cloud Technical College
placing you first

Program Description

The Sonography Program provides the student with academic study, laboratory and clinical experience. The clinical experience will affiliate the students with facilities located within the five state region and beyond during the clinical ultrasound internship courses. 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. Diagnostic Medical Sonographers perform and analyze ultrasound images through the use of high frequency sound waves in a variety of medical settings.

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. This program is nationally accredited by the Commission on Accreditation of Allied Health Educational Programs (CAAHEP).Graduates of this program will be able to obtain, review and integrate pertinent and supporting clinical data to facilitate optimum diagnostic results, analyze and process anatomic, pathologic and/or physiologic data for interpretation by a physician.

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. Students must provide their own transportation to clinical facilities, as well as living arrangements.

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

* Current CPR, Healthcare Provider required (must be mainted throughout the program).

* Contact the admissions department for a complete explanation of the required prerequisites, acceptance criteria and processes.

Suggested Technical Studies Semester I

DMSG1401	Introduction to the Sonography Field	1
HLTH1440	Medical Terminology	1
HLTH1448	Infection Control	1
USCV1422	Ultrasound Physics	3

Suggested Technical Studies Semester II

DMSG1402	Ultrasound Cross-Sectional Anatomy I	3
DMSG1404	Diagnostic Medical Sonography I	3
DMSG1406	Clinical Ultrasound Lab I	3

Suggested Technical Studies Semester III (Summer)

DMSG1408	Clinical Ultrasound Internship I	2

Suggested Technical Studies Semester IV

DMSG2402	Ultrasound Cross-Sectional Anatomy II	3
DMSG2404	Diagnostic Medical Sonography II	3
DMSG2406	Clinical Ultrasound Lab II	5

Suggested Technical Studies Semester V

DMSG2407	Sonography Board Reviews	1
DMSG2409	Clinical Ultrasound Internship II	13

Suggested Technical Studies Semester VI (Summer)

DMSG2410	Clinical Ultrasound Internship III	2
DMSG2411	Clinical Ultrasound Internship IV	2

General Education

Communications-Oral	3
Communications-Written	4
Humanities	3

Estimated cost of books, supplies and materials: $3,500

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

Surgical Technology

Surgical Technology AAS Degree (60 Credits)

St.Cloud Technical College
placing you first

Program Description

The Surgical Technology Program prepares students to function as part of the operating room team by handing instruments to the surgeon during various surgical procedures. The surgical technologist works under medical supervision to facilitate the safe and effective conduct of invasive surgical procedures. This individual acts in association with the registered nurse and surgeon to ensure that the operating room environment is safe, that equipment functions properly, and that the oeprative procedure is conducted under conditions that maximize patient safety.

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. Students may choose between a diploma and an AAS Degree. The general education courses taken in the AAS Degree option are transferable to a 4-year university.

A surgical technologist possesses expertise in the theory and application of sterile and septic technique and combines the knowledge of human anatomy, surgical procedures and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures. Personal qualities of patience, manual dexterity and 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 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 (CAAHEP).

Students must provide their own transportation to clinical facilities, as well as living arrangements.

Career Opportunities

Surgical Technologists are allied health professionals who are an integral part of the team of medical practitioners providing pre-operative, intra-operative, and post-operative surgical care to patients in a variety of settings. Jobs are available in small Minnesota communities, as well as the metro area and in various cities throughout the United States.

Acceptance Requirements

HLTH1440	Medical Terminology	1
BLGY 2310	Human Anatomy and Physiology I	4
BLGY 2320	Human Anatomy and Physiology II	4
MNTC Goal 1	Communications (Written)	3
CMST 2310	Interpersonal Communications OR	
CMST 1320	Intro to Communication Studies	3
DVRS 1304	Diversity and Social Justice OR	
CRTK 1300	Critical Thinking	3
General Education Elective		4

*The following certification must be current and on file prior to admission into the program: CPR/AED Adult, Child & Infant (Healthcare Provider Level)

*All acceptance requirement courses must be completed with a grade of "C" or better prior to admission to the program.

Suggested Technical Studies Semester I

HLTH 1484	Ethics for Health Careers	3
SURG 1400	Medical Microbiology	2
SURG1404	Surgical Pharmacology	2
SURG1420	Operating Room Techniques	3
SURG1424	Operating Room Techniques Lab	4

Suggested Technical Studies Semester II

SURG1442	Surgical Procedures I	6
SURG1462	Operating Room Clinical Lab I	14

Suggested Technical Studies Semester III (May term)

SURG1443	Surgical Procedures II	1
SURG1463	O. R. Clinical Lab II	3

Estimated cost of books, supplies and materials: $3,500

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

Surgical Technology

Surgical Technology Diploma (49 Credits)

St.Cloud Technical College
placing you first

Program Description

The Surgical Technology Program prepares students to function as part of the operating room team by handing instruments to the surgeon during various surgical procedures. The surgical technologist works under medical supervision to facilitate the safe and effective conduct of invasive surgical procedures. This individual acts in association with the registered nurse and surgeon to ensure that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety.

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. Students may choose between a diploma and an AAS Degree. The general education courses taken in the AAS Degree option are transferable to a 4-year university.

A surgical technologist posseses expertise in the theory and application of sterile and aseptic technique and combines the knowledge of human anatomy, surgical procedures and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures. Personal qualities of patience, manual dexterity and 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 clinical rotations. A physcial 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 (CAAHEP).

Students must provide their own transportation to clinical facilities, as well as living arrangements.

Career Opportunities

Surgical Technologists are allied health care professionals who are an integral part of the team of medical practitioners providing pre-operative, intra-operative and post-operative surgical care to patients in a variety of settings. Jobs are available in small Minnesota communities, as well as the metro area and in various cities throughout the United States.

Acceptance Requirements

HLTH1440	Medical Terminology	1
HLTH1444	Introductory Anatomy and Physiology	4
CMST 2310	Interpersonal Communications OR	
CMST 1320	Intro to Communication Studies	3
DVRS 1304	Diversity and Social Justice OR	
CRTK 1300	Critical Thinking	3

*The following certification must be current and on file prior to admission into the program: CPR/AED Adult, Child & Infant (Healthcare Provider Level)

*All acceptance requirement courses must be completed with a grade of "C" or better prior to admission to the program.

Suggested Technical Studies Semester I

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 II

SURG1442	Surgical Procedures I	6
SURG1462	Operating Room Clinical Lab I	14

Suggested Technical Studies Semester III (May term)

SURG1443	Surgical Procedures II	1
SURG1463	O. R. Clinical Lab II	3

Estimated cost of books, supplies and materials: $3,100

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

Water Environment Technologies

Water Environment Technologies AAS Degree (67 Credits)

St.Cloud Technical College
placing you first

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 the state exams they will receive 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 positions 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.

Upon successful completion of the Water Environment Technologies program, students may also choose to become lab technicians, facility mechanics, equipment sales persons, solids handlers, meter readers, utility service operators, or pursue other various related positions in the water treatment field.

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 Biosolids Rule	3

Suggested Technical Studies Semester III (May Term)

WETT1546	Collection and Disinfection Systems Operation	3
WETT1550	Strategic Enhancement for Success	3

Technical Electives

Technical Electives	3

General Education

MNTC Goal Area 1 Communications-Oral	3
MNTC Goal Area 1 Communications-Written	3
MNTC Goal Area 3, 4 or 10 Math, N.Science or People & Env.	6
MNTC Goal Area 2, 5, 6, 7, 8, or 9 Critical Thinking, Social Sci, Diversity Global Perspectives or Ethical Resp.	6
Gen Ed Electives from any goal area	2

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)

St.Cloud Technical College
placing you first

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 the state exams they will receive 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.

Upon successful completion of the Water Environment Technologies program, students may also choose to become lab technicians, facility mechanics, equipment sales persons, solids handlers, meter readers, utility service operators, or pursue other various related positions in the water treatment field.

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 (May Term)

WETT1546	Collection and Disinfection Systems Operation	3
WETT1550	Strategic Enhancement for Success	3

General Education

MNTC Goal Area 1 Communications-Oral or Written	3
MNTC Goal Areas 2-10	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)

St.Cloud Technical College
placing you first

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, Automated Machining, CADD Drafting, 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. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.

**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.

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
WELD1505	Arc Welding Processes I	5
WELD1515	Thermal Welding and Cutting Process	3
WELD1520	Metallurgy in Fabrication	3
WELD1529	Print Reading & Math Applications	2

Suggested Technical Studies Semester II

TECH1550	Basic CADD	2
WELD1533	Blueprint Reading II	1
WELD1540	Arc Welding Processes II	6
WELD1545	Gas Tungsten Arc Welding	4
WELD1558	Fabrication/Layout II	3

General Studies

ENGL1100	Writing for the Workplace	3
GBEH1300	Human Relations	3

Estimated cost of books, supplies and materials: $810

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

Minnesota Transfer Curriculum Courses

1 - Written/Oral Communication (Goal Area 1)

CMST 1320	Introduction to Communication Studies	3 Credits
CMST 2300	Introduction to Public Speaking	3 Credits
CMST 2301	Persuasion	3 Credits
CMST 2302	Small Group Communicatin	3 Credits
CMST 2310	Interpersonal Communication	3 Credits
ENGL 1301	Technical Writing	4 Credits
ENGL 1302	Analytical Writing	4 Credits
ENGL 2302	Advanced Argument and Research Writing	3 Credits
ENGL 2310	Introduction to Creative Writing	3 Credits

2 - Critical Thinking (Goal Area 2)

CMST 2301	Persuasion	3 Credits
COMM 1330	Media and Social Issues	3 Credits
CRTK 1300	Introduction to Critical Thinking	3 Credits
PHIL 1340	Introduction to Logic	3 Credits
WMST 1300	Introduction to Women's Studies	3 Credits

3 - Natural Science (Goal Area 3)

ASTR 1300	Astronomy	3 Credits
BLGY 1305	Environmental Science	4 Credits
BLGY 1320	Human Biology	4 Credits
BLGY 1351	General Biology	4 Credits
BLGY 2310	Human Anatomy/Physiology I	4 Credits
BLGY 2320	Human Anatomy/Physiology II	4 Credits
BLGY 2330	Microbiology	4 Credits
CHEM 1340	Introduction to General Chemistry	4 Credits
CHEM 1341	Introduction to Organic and Biochemistry	4 Credits
EASC 1310	Meteorology	4 Credits
PHYS 1300	General Physics	4 Credits

4 - Mathematics (Goal Area 4)

MATH 1300	College Algebra	3 Credits
MATH 1320	College Trigonometry	2 Credits
MATH 1330	Cultural Mathematics	3 Credits
MATH 1350	Introduction to Statistics	3 Credits
PHIL 1340	Introduction to Logic	3 Credits

5 - Social, Behavior Sciences, History (Goal Area 5)

ANTH 1300	Introduction to Cultural Anthropology	3 Credits
ANTH 2300	Anthropology of Science Fiction	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
POLS 1304	Introduction to American Politics	3 Credits
PSYC 1300	Introduction to Psychology	3 Credits
PSYC 1304	Life Span Developmental Psychology	3 Credits
PSYC 1310	Psychology of Women	3 Credits
PSYC 2310	Abnormal Psychology	3 Credits
SOCI 1310	Introduction to Sociology	3 Credits
SOCI 1320	Social Problems	3 Credits
SOCI 1350	Sociology of Marriage and Family	3 Credits
SOCI 1360	Politics of Food	3 Credits
SOCI 2305	Environmental Sociology	3 Credits
SSCI 1300	Introduction to the Social Sciences	3 Credits

6 - Humanities-Arts, Lit and Philosophy (Goal Area 6)

ART 1320	Beginning Drawing	3 Credits
CRTK 1300	Introduction to Critical Thinking	3 Credits
ENGL 1321	Introduction to Modern Fiction	3 Credits
ENGL 1322	Introduction to Literature	3 Credits
ENGL 1330	American Literature About War	3 Credits
ENGL 1340	Introduction to Multicultural Literature	3 Credits
ENGL 1341	Introduction to Women's Literature	3 Credits
ENGL 1342	Middle Eastern Literature	3 Credits
ENGL 1345	Gender in Literature	3 Credits
HUMN 1300	Introduction to the Humanities	3 Credits
HUMN 1320	Holocaust and Genocide Studies	3 Credits
HUMN 1340	Middle Eastern Cultures	3 Credits
HUMN 2350	Film and American Culture	3 Credits
HUMN 2352	Holocaust Field Studies	1 Credit
MUSC 1320	Music in World Culture	3 Credits
MUSC 1340	History of Rock and Roll	3 Credits
MUSC 1350	Experiencing Live Music	3 Credits
MUSC 1360	Class Voice	3 Credits
PHIL 1310	Introduction to Philosophy	3 Credits
PHIL 1320	Ethics	3 Credits
PHIL 1360	Comparative World Religions	3 Credits
THTR 1310	Theatre Appreciation	3 Credits
THTR 1360	Acting for Everyone /Beginning Acting/Acting I	3 Credits

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7 - Human Diversity (Goal Area 7)

DVRS 1304	Diversity and Social Justice	3 Credits
DVRS 2301	Race and Ethnic Relations	3 Credits
ENGL 1340	Introduction to Multicultural Literature	3 Credits
ENGL 1345	Gender Issues in Literature	3 Credits
GERO 1300	Introduction to Gerontology	3 Credits
PSYC 1310	Psychology of Women	3 Credits
WMST 1300	Introduction to Women's Studies	3 Credits

8 - Global Perspective (Goal Area 8)

ANTH 1300	Introduction to Cultural Anthropology	3 Credits
ANTH 2300	Anthropology of Science Fiction	3 Credits
ENGL 1342	Middle Eastern Literature	3 Credits
GEOG 1300	World Regional Geography	3 Credits
HASL 1408	American Sign Language III	3 Credits
HASL 1412	American Sign Language IV	3 Credits
HUMN 1340	Middle Eastern Cultures	3 Credits
PHIL 1360	Comparative World Religions	3 Credits
SPAN 1310	Beginning Spanish I	4 Credits
SPAN 1320	Beginning Spanish II	4 Credits

9 - Ethical and Civic Responsibility (Goal Area 9)

COMM 1330	Media and Social Issues	3 Credits
ECON 1310	Personal Finance	3 Credits
HUMN 1320	Holocaust and Genocide Studies	3 Credits
PHIL 1320	Ethics	3 Credits
POLS 1304	Introduction to American Politics	3 Credits
SOCI 1360	Politics of Food	3 Credits

10 - People and the Environment (Goal Area 10)

BLGY 1305	Environmental Science	4 Credits
SOCI 2305	Environmental Sociology	3 Credits

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General Education Courses

ANTH 1300	Introduction to Cultural Anthropology	3 Credits
ANTH 2300	Anthropology of Science Fiction	3 Credits
ART 1320	Beginning Drawing	3 Credits
ASTR 1300	Astronomy	3 Credits
BLGY 1305	Environmental Science	4 Credits
BLGY 1320	Human Biology	4 Credits
BLGY 1351	General Biology	4 Credits
BLGY 2310	Human Anatomy/Physiology I	4 Credits
BLGY 2320	Human Anatomy/Physiology II	4 Credits
BLGY 2330	Microbiology	4 Credits
CHEM 1340	Introduction to General Chemistry	4 Credits
CHEM 1341	Introduction to Organic and Biochemistry	4 Credits
CMST 1320	Introduction to Communication Studies	3 Credits
CMST 2300	Introduction to Public Speaking	3 Credits
CMST 2301	Persuasion	3 Credits
CMST 2302	Small Group Communication	3 Credits
CMST 2310	Interpersonal Communication	3 Credits
COMM 1330	Media and Social Issues	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
DVRS 1304	Diversity and Social Justice	3 Credits
DVRS 2301	Race and Ethnic Relations	3 Credits
EASC 1310	Meteorology	4 Credits
ECON 1310	Personal Finance	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 1330	American Literature About War	3 Credits
ENGL 1340	Introduction to Multicultural Literature	3 Credits
ENGL 1341	Introduction to Women's Literature	3 Credits
ENGL 1342	Middle Eastern Literature	3 Credits
ENGL 1345	Gender in Literature	3 Credits
ENGL 2302	Advanced Argument and Research Writing	3 Credits
ENGL 2310	Introduction to Creative Writing	3 Credits
GEOG 1300	World Regional Geography	3 Credits
GERO 1300	Introduction to Gerontology	3 Credits
HASL 1408	American Sign Language III	3 Credits
HASL 1412	American Sign Language IV	3 Credits
HUMN 1300	Introduction to the Humanities	3 Credits
HUMN 1320	Holocaust and Genocide Studies	3 Credits
HUMN 1340	Middle Eastern Cultures	3 Credits
HUMN 2350	Film and American Culture	3 Credits
HUMN 2352	Holocaust Field Studies	1 Credit
MATH 1300	College Algebra	3 Credits
MATH 1320	College Trigonometry	2 Credits
MATH 1330	Cultural Mathematics	3 Credits
MATH 1350	Introduction to Statistics	3 Credits
MUSC 1320	music in World Culture	3 Credits
MUSC 1340	History of Rock and Roll	3 Credits
MUSC 1350	Experiencing Live Music	3 Credits
MUSC 1360	Class Voice	3 Credits
PHIL 1310	Introduction to Philosophy	3 Credits
PHIL 1320	Ethics	3 Credits
PHIL 1340	Introduction to Logic	3 Credits
PHIL 1360	Comparative World Religions	3 Credits
PHYS 1300	General Physics	4 Credits
POLS 1304	Introduction to American Politics	3 Credits
PSYC 1300	Introduction to Psychology	3 Credits
PSYC 1304	Life Span Developmental Psychology	3 Credits
PSYC 1310	Psychology of Women	3 Credits
PSYC 2310	Abnormal Psychology	3 Credits
SOCI 1310	Introduction to Sociology	3 Credits
SOCI 1320	Social Problems	3 Credits
SOCI 1350	Sociology of Marriage and Family	3 Credits
SOCI 1360	Politics of Food	3 Credits
SOCI 2305	Environmental Sociology	3 Credits
SPAN 1310	Beginning Spanish I	4 Credits
SPAN 1320	Beginning Spanish II	4 Credits
SSCI 1300	Introduction to the Social Sciences	3 Credits
THTR 1310	Theatre Appreciation	3 Credits
THTR 1360	Acting for Everyone /Beginning Acting/Acting I	3 Credits
WMST 1300	Introduction to Women's Studies	3 Credits

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General Studies & Developmental Courses

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
CACE 1420	Foundations of Development	3 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
FNCR 1200	Personal Money Management	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
GTEC 1304	The Automobile in America	3 Credits
HLTH 1460	Nutrition	1 Credit
INTS 1160	Academic Foundations	3 Credits
READ 1110	Study Strategies	2 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

EAP 0300	EAP College Writing I	4 Credits
EAP 0301	EAP College Writing II	4 Credits
EAP 0310	EAP Listening I	4 Credits
EAP 0320	EAP Listening II	4 Credits
EAP 0330	EAP College Reading I	4 Credits
EAP 0331	EAP College Reading II	4 Credits
ENGL 0300	Foundations for College Writing I	3 Credits
ENGL 0304	Foundations for College Writing II	3 Credits
ENGL 0350	Introduction to Practical Writing	2 Credits
ENGL 0352	Mosaic Fast Track	4 Credits
ENGL 0355	Foundations for College Success	4 Credits
LCOM 0001	Learning Community	0 Credit
MATH 0380	Basic Math Skills	3 Credits
MATH 0470	Elementary Algebra	3 Credits
MATH 0480	Intermediate Algebra	3 Credits
MATH 0490	College Algebra Prep	2 Credits
READ 0300	Reading and Vocabulary	3 Credits
READ 0304	Reading Strategies	3 Credits

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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.
(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.
(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.
Corequisite(s): ABCT1514
Prerequisite(s): ABCT1502, ABCT1506
(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.
(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.
Corequisite(s): ABCT1522
(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.
Corequisite(s): ABCT1518
(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.
Corequisite(s): ABCT1530
Prerequisite(s): ABCT1518, ABCT1522
(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.
Corequisite(s): ABCT1526
(3 C: 1 lect/pres, 2 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.
(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.
(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.
(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT 2507 - 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 SRS, power accessories, and lighting systems.
(2 C: 1 lect/pres, 1 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.
Corequisite(s): ABCT2518
Prerequisite(s): ABCT1506, ABCT1514
(3 C: 1 lect/pres, 2 lab, 0 other)

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.
(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.
Corequisite(s): ABCT2510
(C: 0 lect/pres, 3 lab, -3 other)

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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.
Prerequisite(s): ABCT1502, ABCT1506, ABCT1514
(4 C: 2 lect/pres, 2 lab, 0 other)

ABCT 2527 - Collision Repair Lab III
This lab will run concurrent with ABCT 2522 Structural Repair. It allows students the necessary time to perform structural repairs.
(4 C: 0 lect/pres, 4 lab, 0 other)

ABCT 2531 - 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.
(3 C: 1 lect/pres, 2 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.
Prerequisite(s): ABCT1506, ABCT2518
(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.
(C: 0 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.
(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.
(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. Both the preparer and user perspective are emphasized. Students will explore accounting as an information system completing and analyzing various accounting projects and applying business ethics to accounting situations.
(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 1216 - Accounting Principles II
This course covers the analysis, from the preparer and user perspective of business transactions related to partnerships and corporations. Students will complete projects on internal control, financial analysis and the accounting cycle. Classroom discussion along with individual and group assignments are an integral part of this course.
Prerequisite(s): ACCT1215
(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.
Prerequisite(s): ACCT1215 or concurrent registration
(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.
Prerequisite(s): BUSM1200, ACCT1215 or concurrent registration
(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.
Prerequisite(s): CPTR1300 or BUSM1200
(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.
Corequisite(s): ACCT1215
(2 C: 1 lect/pres, 1 lab, 0 other)

ACCT 1280 - Accounting 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.
(C: 0 lect/pres, 0 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.
Corequisite(s): ACCT1216, ACCT1217
Prerequisite(s): ACCT1215, ACCT1218, ACCT2230
(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.
Prerequisite(s): ACCT1216
(4 C: 3 lect/pres, 1 lab, 0 other)

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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.
Prerequisite(s): ACCT2226
(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.
Prerequisite(s): ACCT1217
(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.
(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.
Prerequisite(s): ACCT2230
(2 C: 2 lect/pres, 0 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.
Prerequisite(s): ACCT2226
(3 C: 2 lect/pres, 1 lab, 0 other)

ACCT 2235 - Accounting Comprehensive Review
The course serves as a capstone course covering financial accounting, ethics, business consulting, managerial accounting, business law and taxation. It is also designed to prepare the student for the Comprehensive Examination for Accreditation in Accountancy, as offered by the Accreditation Council for Accountancy and Taxation.
(2 C: 2 lect/pres, 0 lab, 0 other)

ACCT 2236 - Government and Non-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. Students will complete both a non-profit project and a governmental accounting project along with various classroom group and individual assignments.
Prerequisite(s): ACCT1215
(2 C: 1 lect/pres, 1 lab, 0 other)

ADMS 1201 - Introduction to Personal Computers
This course provides a general overview of the frequently-used functions of a personal computer at SCTC or a laptop. Course will include introduction to computer hardware, operating systems, electronic mail, Internet, D2L, network drives, and Novell Client software.
(1 C: 1 lect/pres, 0 lab, 0 other)

ADMS 1202 - Keyboarding/Word Processing
Students will cover the basic formatting of business documents using word processing, spreadsheet, database, graphics, presentation, and e-mail applications. Students will design and generate letters, tables, memos, and reports using appropriate software. Students will continue the development of keyboarding speed, accuracy, and proofreading skills.
Prerequisite(s): BUSM1207
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1203 - Advanced Keyboarding/Word Processing Appl.
Students will learn the advanced features of word processing software and apply them to the business related activities. Students will improve their productivity by using efficient, time saving methods to produce documentation. The course includes a strong emphasis on office organization, communication and documentation.
Prerequisite(s): ADMS1202 C grade; 35 wpm
(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.
Prerequisite(s): CPTR1300 or BUSM1200
(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.
Prerequisite(s): ADMS1202
(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. Students will identify skills and qualities necessary for administrative professionals.
Corequisite(s): ADMS1202
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1208 - Office Procedures II
The course includes hands-on projects that represent the complex day to days skills/activities necessary to successfully manage in an office environment. A variety of other office administrative tasks involving the use of advanced word processing, database and spreadsheet functions will be performed.
Prerequisite(s): ADMS1207, ADMS1202
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1214 - Administrative Desktop Publishing
This course is an introduction to the concepts, terminology, techniques, and applications of desktop publishing. Students will produce professional publications, business documents, and presentations using Microsoft Publisher.
Prerequisite(s): ADMS1203
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1221 - Medical Machine Transcription I
Students will cover the basic formatting of business documents and healthcare documents using word processing and transcription software. Document storage, retrieval, and major editing will be used. Students will continue the development of keyboarding speed, accuracy, and proofreading skills.
Prerequisite(s): ADMS1202 or Instructor Approval, BUSM1207
(3 C: 2 lect/pres, 1 lab, 0 other)

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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 producing templates for medical forms; building speed and accuracy; proofreading and correcting errors.
Prerequisite(s): ADMS1202, ADMS1221 or Instructor Approval
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 1225 - Introduction to Health Information Technology
This course will introduce the student to health information technology both as work-based, task-oriented function and as part of a larger profession of health information management. The course will identify content and structure of health information; reporting of health information for reimbursement and classification, overview of legal health record and importance of professional development. The course also introduces EHR and PHR.
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 1226 - CPT Coding
This course covers basic coding rules and principles for coding diseases using CPT classification systems. Accuracy and the need for following coding rules are emphasized when coding procedures.
Prerequisite(s): ADMS1223
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 1227 - ICD Coding
This course covers the basics of coding with ICD coding system. Students learn how to classify and index diagnoses and procedures for the purposes of standardization, retrieval, and statistical analysis.
Prerequisite(s): ADMS1221 or Instructor's approval, ADMS1228
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 1228 - 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.
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 1229 - 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. Medications used to treat specific diseases of the body will be identified.
(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.
Prerequisite(s): ADMS1202, ADMS1237
(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 foundation to all other Legal Administrative Classes. (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 to support billing through coding, chargemaster, claims management, and bill reconciliation processes.
Corequisite(s): ADMS1228
Prerequisite(s): ADMS1221, ADMS1228
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS 2204 - Administrative Pathophysiology
This course will provide students with the basic concepts related to diseases and disorders of the human body. Focus will be on the nature, causation, diagnostic procedures and treatment of common diseases relating to infection, genetics, and the following body systems: immune, endocrine, respiratory, cardiovascular, neurologic, blood, digestive, renal, and musculoskeletal systems.
Prerequisite(s): HLTH1444, ADMS1228 or ADMS1223, HLTH1444
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2206 - HIT AAS Professional Practice Experience
This course emphasizes interaction between the student and PPE supervisor with emphasis on the supervisory role. Human relations and working within a team environment are emphasized. This is the capstone course for the program; course should be completed during the student's final year. Student must have a cumulative GPA of 2.5 or greater.
Prerequisite(s): ADMS1223, ADMS1226, ADMS1227
(4 C: 0 lect/pres, 0 lab, 4 other)

ADMS 2210 - Administrative Support AAS Degree 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. This is a variable credit course that may be taken for 4 to 6 credits.
(C: 0 lect/pres, 0 lab, 0 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.
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2215 - HIT Management and Supervision
This class examines the many aspects of management of health information services. It introduces the general principles of management. Leadership theory and change management are examined. Work design and performance improvement specific to the HIM field are discussed. Human resource management concepts including position descriptions, performance standards, interview techniques, building effective teamwork, staff training and development, laws affecting organization workforce, financial management functions of HIM profession are introduced. The steps and scope of project management are discussed. HIM strategic management processes are explored.
Prerequisite(s): ADMS1225
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2220 - Legal Aspects of Health Information
This course covers the fundamental aspect of all the essentials including the legal system, the patient/physician relationship, professional liability and medical malpractice prevention, public duties of the physician, the medical record, confidentiality, bioethical issues and HIPAA.
Prerequisite(s): ADMS1240, ADMS1225
(3 C: 3 lect/pres, 0 lab, 0 other)

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

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.
Prerequisite(s): ADMS1226, ADMS1223, HLTH1444, ADMS1227
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2231 - Paralegal Basic Law I
This course presents Ethics for Attorneys and Paralegals, Career Opportunities in the Legal Profession, Sources of American Law; the Court System, Alternative Dispute Resolution, Tort Law, Product Liability, Consumer Law, Contracts, and Intellectual Property Law, Insurance Law, Real Property, Estates and Family Law.
Corequisite(s): ADMS1237
(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.
(4 C: 4 lect/pres, 0 lab, 0 other)

ADMS 2234 - Family Law
The purpose of the family law course is to give legal assistants a better understanding of domestic relations law and to show students how those laws governing family situations are applied. The content of the course includes formation of the marital relationship, dissolution, child custody and support, adoption, abortion, paternity, domestic violence, child neglect, and surrogacy.
Prerequisite(s): ADMS2231, ADMS2232, ENGL1302
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2235 - Legal Research and Writing
This course will provide a comprehensive working knowledge and an understanding of the research materials, research tools, research strategies and other skills necessary to write legal memoranda in order to assist attorneys to write briefs and other legal research-based documents. Students will be instructed to use a law library to locate and use both primary and secondary research data, to use Westlaw or Lexus Nexus legal research sources to solve legal problems, including federal and state cases, digests, statutes, regulations, treatises, encyclopedias, law reviews, citators and practice works.
Prerequisite(s): ENGL1302
(4 C: 3 lect/pres, 1 lab, 0 other)

ADMS 2236 - Wills, Trust and Estate Planning
This course will introduce students to the concepts, forms and procedures necessary for estate planning and drafting of wills and trusts, and the process of conducting an informal probate of a will. Topics studied will include analysis of relevant statutes; examination of the components of wills and trusts; probate of wills; durable powers of attorney; intrafamily gifts; charitable transfers; living wills; and health care proxies.
Prerequisite(s): ENGL1302
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2237 - Litigation
This course will provide a comprehensive working knowledge and understanding of the principles of civil litigation in federal and state courts. Topics studied will include cases of action and defenses, introduction to rules of procedure and discovery, and ethical responsibilities. Pretrial practice, including discovery, pretrial motions, and trial preparations will be covered, together with the basics of a civil trial, post-trial motions, appeal and alternative dispute resolution. Electronic discovery and e-filing will also be studied. The principles learned will be applied to practical case studies.
Prerequisite(s): ENGL1302
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2238 - Corporate Law
This course will cover the formation, operation, and dissolution of various kinds of business corporations including: sole proprietorships, corporations, partnerships, the law of agency and employment agreements. Minnesota corporations will specifically be examined. This course will also include in-depth analysis of contract law, including common law and Uniform Commercial Code; elements of a contract; performance; status of frauds; and contract interpretation. Students will learn the fundamental principles of law and how to prepare documents necessary to each topic. In addition, this course examines the ethical considerations relating to business and contract law practice.
Prerequisite(s): ENGL1302
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2239 - Real Estate Law
This course is an introduction to real estate law. Topics of study include property rights, principles of land ownership, sale, contracts, liens, mortgage financing, mortgages or deeds of trust, deeds, recording, settlement concepts, condominiums and cooperatives, leasing and other property concepts. The student will be familiar with the processing of a real estate transaction from beginning through closing and post closing procedures.
Prerequisite(s): ENGL1302
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2240 - Administrative Office Management and Supervision
This course introduces current management principles, concepts, and organizational trends, in addition, also acknowledge that it's everyone's job to manage 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 supervision staff. The course will also include managing human resources, 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 business systems.
Prerequisite(s): BUSM1200, CPTR1300, ADMS1202, ADMS1208, ADMS1240 or ADMS1208 or ADMS1237
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS 2244 - HIT Comprehensive Review
The course will provide study tips, comprehensive list of useful resources, review questions within the course content areas, and practice examination questions.
Corequisite(s):
(1 C: 1 lect/pres, 0 lab, 0 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.
(4 C: 4 lect/pres, 0 lab, 0 other)

ADVR 1210 - Computer Design and Layout - Modified Course for Tech Prep
This course introduces students to the concepts and processes of graphic design. Students learn the fundamental principles of page layout and typography working on computers in bitmap, vector graphics, and page layout software. Using current industry standard software, students will learn essential design concepts and techniques used in desktop publishing. Students will be required to produce various types of design pieces using page layout software.
NOTES: For details of topics covered in the high school variable course, please refer to the appropriate Articulated College credit agreement.
This variable course is designed to allow students with Articulated 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.
(C: 0 lect/pres, 0 lab, 0 other)

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

ADVR 1211 - Computer Design and Layout
This course introduces students to the concepts and processes of graphic design. Students learn the fundamental principles of page layout and typography working on computers in bitmap, vector graphics, and page layout software. Using current industry standard software, students will learn essential design concepts and techniques used in desktop publishing. Students will be required to produce various types of design pieces using page layout software.
(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.
(C: 0 lect/pres, 0 lab, 0 other)

ADVR 1216 - Drawing with the Computer
This course will introduce students to Adobe Illustrator, the industry-standard illustration program for creating vector-based print, multimedia and web graphics. Students will learn design theory and image creation. Students construct illustrations and prepare them for export to graphics software, to the Web, and for printing. This course will emphasize proficiency in Adobe Illustrator and understanding the role of object-oriented tools in the realm of design. Students gain the skills necessary to create vector graphics for print and web.
(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.
(C: 0 lect/pres, 0 lab, 0 other)

ADVR 1221 - Computer Imaging and Editing
Students will learn the most commonly used commands and techniques for obtaining consistent, predictable, high quality images using a leading image editing software application. Using the creative tools of the software, students learn how to select pixels in images, use layers, color correct images and to apply layer styles and filters to create special effects. Students will learn how to use vector paths for a variety of purposes, including masking and clipping paths. In addition, students will learn basic scanning techniques and how to create and save images in formats for press, print and Web use.
(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR 1230 - Copywriting
Students will study copywriting techniques, copy research, creative strategies and objectives. These principles are applied to a variety of media including print, direct mail, television and radio, which will then be developed into an advertising campaign. Students will learn how to discover the features and benefits of any product offering. Additional focus on methods for clearly defining the message and techniques for creating effective written pieces will be explored.
(4 C: 4 lect/pres, 0 lab, 0 other)

ADVR 1235 - 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.
(3 C: 2 lect/pres, 1 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.
Prerequisite(s): ADVR1200, ADVR1230, ADVR2281
(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 1241 - Website Creation and Editing
This course is designed to instruct students in all aspects of basic website creation, including creation, management, and maintenance of websites. Emphasis is placed on the full development cycle, from thumbnails and mockups through to publishing and testing. This course guides students in developing necessary skills for a finished, publishable product.
(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 1242 - Website Creation and Editing - Modified Course for Tech Prep
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.
(C: 0 lect/pres, 0 lab, 0 other)

ADVR 1254 - Fundamentals of Design - Modified Tech Prep Course
This course introduces students to graphic design as a form of visual communication through the study of the elements and principles of design. Students will take a step-by-step approach to learn design basics, drawing skills, and color theory. Hands-on projects will be created using a variety of mediums. A special focus is placed on building student's design skills and knowledge.
NOTES: For details of topics covered in the high school variable course, please refer to the appropriate Articulated College Credit agreement.
This variable course is designed to allow students with Articulated College Credit for ADVR 1254 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (ADVR 1254(will be delivered concurrently with ADVR 1255.
(C: 0 lect/pres, 0 lab, 0 other)

ADVR 1255 - Fundamentals of Design
This course introduces students to graphic design as a form of visual communication through the study of the elements and principles of design. Students will take a step-by-step approach to learn design basics, drawing skills, and color theory. Hands-on projects will be created using a variety of mediums. A special focus is placed on building student's design skills and knowledge.
(3 C: 2 lect/pres, 1 lab, 0 other)

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ADVR 1261 - Public Relations
Students will learn to identify the public relations and publicity functions often assigned to advertising personnel and apply these procedures and practices to business and community needs. Methods of crisis management and dealing with the media will be identified. Emphasis is placed on the development of persuasive, professional public relations writing skills and development of a comprehensive public relations campaign.
(2 C: 2 lect/pres, 0 lab, 0 other)

ADVR 1265 - Visual Design
This course expands graphic design knowledge and skills, offering students the opportunity to create more advanced design in a variety of applications including print, logos, posters, billboards, brochures and websites. Research, analysis, and the design processes that lead to creative conceptualization and final design solutions are used. Emphasis is placed on visual problem solving skills and the creative and aesthetic aspects of graphic design. Students also study the history and use of typography in design throughout the semester.
(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.
(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 or agency and their instructor. All project areas will be implemented, including arranging meetings, determining deadlines, creating flowcharts, design, production and presentation. 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.
(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.
(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.
(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR 2206 - Ad-Ventures
Students will be exposed to advertising avenues critical to creating strong advertising and design. Problem solving skills will be used as students learn to trust their creative and artistic instincts and develop a visual vocabulary of their own using a variety of techniques and materials. The main focus of the course is on experimentation, exploring creativity and brainstorming. Advertising trends are also identified and discussed, and time management skills are developed.
(2 C: 2 lect/pres, 0 lab, 0 other)

ADVR 2209 - Introduction to Photography - Modified Course for Tech Prep
This course will cover the fundamentals of photography to include the use and functions of a 35mm film camera and digital camera. Students will learn light metering, exposure controls and modes, depth of field, the purpose and creative use of various lenses, filters and flash. Students will also learn and apply photographic design, with increased perceptual awareness to create works of film and digital imagery. Studio lighting and techniques are covered with an emphasis on creative product shots for advertising purposes.
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 ADVR 2209 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (ADVR 2209) will be delivered concurrently with ADVR 2210.
(C: 0 lect/pres, 0 lab, 0 other)

ADVR 2210 - Introduction to Photography
This course will cover the fundamentals of photography to include the use and functions of a 35mm film camera and digital camera. Students will learn light metering, exposure controls and modes, depth of field, the purpose and creative use of various lenses, filters and flash. Students will learn and apply photographic design, with increased perceptual awareness to create works of film and digital imagery. Studio lighting and techniques are covered with an emphasis on creative product shots for advertising purposes.
(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR 2240 - The Northway Group
This course is designed to challenge the serious Advertising Communications and Design student with a purposeful, specialized occupational experience in the advertising field through participation in "The Northway Group".
Each Agency project is an individualized student experience with a sponsoring nonprofit business, organization, or professional and their instructor. Each student is assigned roles in agency projects based upon their skill set and experience. Students will then apply their knowledge of advertising, writing, design, research, photography, computer software and production techniques to complete a series of projects that will closely simulate agency work experience.
(2 C: 0 lect/pres, 2 lab, 0 other)

ADVR 2250 - Retail Advertising
Students will learn the fundamentals of national and local retail operations with emphasis on promotion and advertising. Store operations, customer service, planning, budgeting, and legal and ethical issues will be discussed. The promotional mix will be identified and illustrated using current retail materials, and trends in the future of retail advertising will be evaluated. Students will study effective media use and produce retail advertising materials for a variety of media.
(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.
(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.
Prerequisite(s): ADVR1200, ADVR1270, ADVR1211
(4 C: 3 lect/pres, 1 lab, 0 other)

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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 used in said plan - advertising, media, sales promotion, public relations support, etc. In addition, students will develop, write, design and produce a comprehensive campaign plans book, 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.
Prerequisite(s): ADVR1200, ADVR1230, ADVR1261, ADVR1270
(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.
Prerequisite(s): ADVR1200, ADVR1221, ADVR1230
(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.
Prerequisite(s): ADVR1200, ADVR1211, ADVR1216, ADVR1221, ADVR2281, ADVR1230, ADVR1270, ADVR2260, ADVR2250
(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.
Prerequisite(s): ADVR1211, ADVR1221
(4 C: 2 lect/pres, 2 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.
Prerequisite(s): READ0304 and ENGL0304 or 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.
Prerequisite(s): READ0304 and ENGL0304 or 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.
(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.
(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.
Corequisite(s): ARCH1522
(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.
Prerequisite(s): ARCH1502, ARCH1506, ARCH1534
(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.
(C: 0 lect/pres, 0 lab, 0 other)

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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.
(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.
Prerequisite(s): ARCH1514
(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.
(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.
(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.
Prerequisite(s): ARCH1526
(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 rending and to help build on good principles of design. Student will also learn oral and written communication to help them present their projects.
Prerequisite(s): ARCH1522
(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.
Prerequisite(s): ARCH1502
(2 C: 1 lect/pres, 1 lab, 0 other)

ARCH 2504 - Introduction to Google SketchUp
To meet the demands of industry and education for a fast, accurate, and inexpensive software to create 3D objects Google has created "Google SketchUp". Developed for the conceptual stages of design, this program is powerful and easy to learn. In short, it is designed to simplify and streamline the 3D design process. SketchUp is used by many designers to quickly create three dimensional concepts and colorful renditions.
In this introduction to SketchUp students will master basic skills by creating a 3D building complete with doors, windows, stairs and interior components. While SketchUp is suited to any type of 3D modeling, the emphasis in this course will be on construction and architectural applications.
(1 C: 0 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.
Prerequisite(s): ARCH1502
(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.
Corequisite(s): ARCH2522, ARCH2530
Prerequisite(s): ARCH1506
(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.
Corequisite(s): ARCH2518
Prerequisite(s): ARCH1510, ARCH2506, ARCH2522
(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.
Corequisite(s): ARCH2514
Prerequisite(s): ARCH2510, ARCH2506
(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.
Prerequisite(s): ARCH1526
(2 C: 1 lect/pres, 1 lab, 0 other)

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

RCH 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.
Prerequisite(s): ARCH1518
(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.
(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.
Prerequisite(s): ARCH2522, ARCH2526
(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.
Prerequisite(s): ARCH2526, ARCH2522
(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, prestressed 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.
Prerequisite(s): ARCH1530
(3 C: 1 lect/pres, 2 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.

(2 C: 2 lect/pres, 0 lab, 0 other)

ART 1320 - Beginning Drawing
Meets MN Transfer Goal Area 6 - The Humanities/Fine Art. This course introduces students to the basic elements of drawing. Students will experiment with a variety of techniques, styles and media, while developing perceptual awareness, eye/hand coordination, and an increased appreciation of art.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ASTR 1300 - Astronomy
Meets Mn Transfer Goal 3 - Natural Sciences. This is an introductory astronomy course designed for non-science majors. This course presents astronomy in a cosmic context. The course starts with an overview of the evolving universe that is used during the entire course to develop an integrated understanding of astronomy and an appreciation for science. This course emphasizes key physical concepts that enable students to understand how science can explain the phenomena they see in their daily lives and how these are connected to the processes that govern the cosmos. Topics include our emerging understanding of galaxy evolution, starbursts, quasars, intergalactic clouds and dark matter. In addition, we compare each of the planets to develop a deeper understanding of our solar system, our own world, our relationship to the cosmos and the prospects for life elsewhere in the universe.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 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.
Prerequisite(s): TRAN1502 or READ0304 or Appropriate Accuplacer Score.
(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.
(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.
Prerequisite(s): TRAN1504, READ0304 or Appropriate Accuplacer Score.
(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.
Corequisite(s): AUTO1514
(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.
Corequisite(s): AUTO1512
(4 C: 0 lect/pres, 4 lab, 0 other)

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

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.
Prerequisite(s): TRAN1502
(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.
(4 C: 2 lect/pres, 2 lab, 0 other)

AUTO 1523 - Advanced Chassis Electrical
Students will develop a fundamental understanding of vehicle electronic control units controlling Anti-locking brake, supplemental restraint, and tire pressure monitoring systems. Lab work consists of using scan tools for service, repair and diagnosis 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.
Prerequisite(s): TRAN1504, TRAN1516
(2 C: 1 lect/pres, 1 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.
(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.
Prerequisite(s): TRAN1502, TRAN1504, TRAN1516
(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.
Prerequisite(s): TRAN1504, AUTO1509, TRAN1502 or AUTO1510
(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.
Prerequisite(s): AUTO2506
(3 C: 1 lect/pres, 2 lab, 0 other)

AUTO 2512 - Driveline Repair
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.
Corequisite(s): AUTO2511
Prerequisite(s): AUTO2506, AUTO1510, TRAN1502
(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 airflow distribution.
Corequisite(s): TRAN2514
(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.
Prerequisite(s): AUTO2502, AUTO2505
(3 C: 1 lect/pres, 2 lab, 0 other)

AUTO 2523 - Advanced Electronic Systems
Students will develop a fundamental understanding of vehicle electronic control units controlling automatic transmissions, automatic air conditioning and Data line systems. Lab work consists of using scan tools for service, repair and diagnosis on these electronic/mechanical systems on late model vehicles. Students should be able to describe operation and perform service in accordance with manufacturer's procedures.
Prerequisite(s): TRAN1504, TRAN1516
(2 C: 1 lect/pres, 1 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.
(C: 0 lect/pres, 0 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(4 C: 3 lect/pres, 1 lab, 0 other)

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BLGY1320 - Human Biology
Meets MN Transfer Goal 3 - Natural Sciences Organization and general function of the human body. Areas of study include human organization, support and movement, integration and coordination, maintenance of the body, body defenses, reproduction, and development.
Prerequisite(s): READ0304and ENGL 0304 or Appropriate Accuplacer Score.
(4 C: 4 lect/pres, 0 lab, 0 other)

BLGY 1351 - General Biology
Meets MN Transfer Goal 3 - Natural Sciences. This course is an introductory biology course designed to provide students with an understanding of basic concepts in life sciences. There is an emphasis on the cell as the basic unit of life. This course serves as a foundation for more advanced courses required by students in biology or health related fields.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(4 C: 2 lect/pres, 2 lab, 0 other)

BLGY 2310 - 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.
Prerequisite(s): BLGY1351
(4 C: 2 lect/pres, 2 lab, 0 other)

BLGY 2320 - 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.
Prerequisite(s): BLGY2310
(4 C: 2 lect/pres, 2 lab, 0 other)

BLGY 2330 - Microbiology
Meets MN Transfer Goal Area 3 - Natural Sciences. This course will cover the foundation and fundamentals of microbiology including classification and identification of microorganisms. A survey of microbes will focus on those involved in human pathogenesis. Laboratory techniques and microscope applications used in microbiology will be covered.
Prerequisite(s): BLGY1351 or BLGY2310
(4 C: 2 lect/pres, 2 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.
(3 C: 2 lect/pres, 1 lab, 0 other)

BUSM 1201 - Microsoft Software - Modified Tech Prep Course
Students will work with Microsoft packages. This course will give the necessary skills to complete word processing, spreadsheets, database, file management, Power Point, and internet projects in an office or for personal use.
Prerequisite(s): BUSM1207
(C: 0 lect/pres, 0 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.
(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.
(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.
(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.
(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.
Prerequisite(s): CPTR1300, ADMS1203
(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.
(3 C: 2 lect/pres, 1 lab, 0 other)

BUSM 1266 - Introduction to Business - Modified Tech Prep Course
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.
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 BUSM 1266 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (BUSM 1266) will be delivered concurrently with BUSM 1267.
(C: 0 lect/pres, 0 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.
(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.
(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.
(2 C: 2 lect/pres, 0 lab, 0 other)

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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.
(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.
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1401 - Professional Relations in CACE Careers - Modified course for Tech Prep
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.
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 CACE 1401 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CACE 1401) will be delivered concurrently with CACE 1400.
(C: 0 lect/pres, 0 lab, 0 other)

CACE1403 - Safety, Health and Nutrition - Modified Course for Tech Prep
This course will guide the student in obtaining skills needed to establish and maintain a physically and psychologically safe and healthy learning environment for young children. Topics include 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. 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 CACE 1403 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CACE 1403) will be delivered concurrently with CACE 1404.
(C: 0 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.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE 1419 - Foundations of Development - Modified Course for Tech Prep
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.
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 CACE 1419 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CACE 1419) will be delivered concurrently with CACE 1420.
(C: 0 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.
Prerequisite(s): READ0304 or 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.
Prerequisite(s): READ0304 or 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.
Prerequisite(s): READ0304 or 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.
Prerequisite(s): CACE1420, CACE1440
(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.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(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.
Prerequisite(s): READ0304 or 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.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

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

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.
Prerequisite(s): READ0304 or 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.
Prerequisite(s): CACE1400, CACE1420, EMSC1404 or concurrent registration, MATH0380 or 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.
Prerequisite(s): CACE1400, CACE1420, CACE1404, CACE1440
(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.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(1 C: 1 lect/pres, 0 lab, 0 other)

CACE 1473 - Strategies in Reading for the Paraprofessional
This course combines an understanding of how children learn Reading and how to promote that learning by supporting the instruction of the classroom teacher.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(2 C: 2 lect/pres, 0 lab, 0 other)

CACE 1474 - Strategies in Math 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.
Prerequisite(s): MATH0480 or Appropriate Accuplacer Score.
(2 C: 2 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.
(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.
(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.
(2 C: 2 lect/pres, 0 lab, 0 other)

CADD 1501 - Mechanical CADD I - Modified Course for Tech Prep
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.
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 CADD 1501 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CADD 1501) will be delivered concurrently with CADD 1502.
Corequisite(s): CADD1502
(C: 0 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.
(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.
Prerequisite(s): CADD1502
(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.
(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.
Prerequisite(s): CADD1502
(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.
Prerequisite(s): CADD1507, CADD1512
(3 C: 1 lect/pres, 2 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.
(C: 0 lect/pres, 0 lab, 0 other)

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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.
Prerequisite(s): TECH1522 or MATH1320
(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.
Prerequisite(s): CADD1516
(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.
Prerequisite(s): CADD2505
(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.
Corequisite(s): CADD2514, CADD2522
Prerequisite(s): CADD2509
(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.
Corequisite(s): CADD2510, CADD2522
Prerequisite(s): CADD2509
(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.
(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.
(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".
Corequisite(s): CADD2510, CADD2514
Prerequisite(s): CADD2518
(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2529 - 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.
(2 C: 0 lect/pres, 1 lab, 1 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.
Prerequisite(s): CADD1516
(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.
Prerequisite(s): CADD1502
(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.
Prerequisite(s): CADD2509
(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.
Prerequisite(s): CADD2531
(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.
(C: 0 lect/pres, 0 lab, 0 other)

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

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.
(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.
(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.
(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.
(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.
(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.
Prerequisite(s): CARP1506, CARP1514, CARP1521
(4 C: 2 lect/pres, 2 lab, 0 other)

CARP 1525 - Exterior/Interior Finish - Modified Tech Prep Course
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.
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 student with Tech Prep College Credit for CARP 1525 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CARP 1525) will be delivered concurrently with CARP 1527.
Prerequisite(s): CARP1506, CARP1514, CARP1521
(C: 0 lect/pres, 0 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.
Prerequisite(s): CARP1506, CARP1514, CARP1521
(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.
Prerequisite(s): CARP1506, CARP1514
(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.
Prerequisite(s): CARP1514
(2 C: 0 lect/pres, 2 lab, 0 other)

CARP 1535 - Cabinet Building and Estimating - Modified Tech Prep Course
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.
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 CARP 1535 that was earned in high school to complete the remaining course requirements at SCTC. This SCTC course (CARP 1535) will be delivered concurrently with CARP 1536.
(C: 0 lect/pres, 0 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.
Corequisite(s): CARP1506, CARP1514
(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.
Prerequisite(s): CARP1529
(2 C: 1 lect/pres, 1 lab, 0 other)

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

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.
Prerequisite(s): CARP1521, CARP1524, CARP1506, CARP1514
(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.
Prerequisite(s): CARP1524, CARP1506, CARP1514, CARP1521
(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.
Prerequisite(s): CARP1521, CARP1527, CARP1506, CARP1514
(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.
Prerequisite(s): CARP1527, CARP1506, CARP1514, CARP1521
(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.
Prerequisite(s): CARP1524, CARP1506, CARP1514, CARP1521
(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.
Prerequisite(s): CARP1506, CARP1514, CARP1536
(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.
(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.
Prerequisite(s): CARP2506, CARP2518, CARP2522, CARP2524
(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.
Prerequisite(s): CARP1506, CARP1514, CARP1521, CARP1524, CARP1527, CARP1536
(3 C: 0 lect/pres, 0 lab, 3 other)

CARP 2567 - 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 doing multiple facets of the cabinetmaking trade.
Prerequisite(s): CARP1506, CARP1536
(9 C: 0 lect/pres, 9 lab, 0 other)

CHEM 1340 - Introduction to General Chemistry
Meets MN Transfer Goal 3 - Natural Sciences. This course is intended as a broad introduction to chemistry for the non-science major as well as for the allied health science major. Topics covered include the scientific method, atomic structure, the periodic table, bonding, acids and bases, nomenclature, equations, stoichiometry, gas laws, and oxidation and reduction. This course includes two hours of required lab per week. The laboratory introduces students to safe handling of chemicals, appropriate use of lab ware, and transcription of observations and data. Attendance in the first week lab safety session is mandatory.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(4 C: 3 lect/pres, 1 lab, 0 other)

CHEM 1341 - Introduction to Organic and Biochemistry
Meets Mn Transfer Goal 3 - Natural Sciences. This course is intended as a broad introduction to organic and biochemistry for the non-science major as well as for the allied health science major. Topics covered include nomenclature and characterization of hydrocarbons and functional groups, organic reactivity, classification and behavior of biochemicals including carbohydrates, lipids and oils, amino acids and proteins, and nucleic acids. This course includes four hours of required lab per week. The laboratory introduces students to safe handling of chemicals, appropriate use of lab ware, and transcription of observations and data. Attendance in the first week lab safety session is mandatory.
Prerequisite(s): CHEM1340
(4 C: 2 lect/pres, 2 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.
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1206 - Basic Networking/ Security
Basic concepts and terminology used in local area networks will be covered, including the OSI and TCP/IP models of networking. Fundamental problems associated with management of local area networks will be presented and solved. The student will be able to identify the hardware and software necessary to implement a local area network. In addition, to address network security issues, this course will provide an understanding of information security management and the technical components of security. The material covers the history and terminology of security and an overview of how to manage information security issues. Topics include legal and ethical issues, risk management, security design, and maintenance.
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1212 - Web Markup Language
This course will teach the student how to create web pages. It will also teach them how to get those pages on the Internet and make them visible to the world. It will teach the student HTML which is the markup language used by the Internet. It will also teach the student Javascript and Cascading Style Sheets which are used to make web pages dynamic and formatted. Students will also complete exercises using links, sound, graphics, animation and forms. The programming techniques include handling conversions from both clients and servers, passing communication, distributed information handling and tags. Page loading techniques will also be taught.
(3 C: 2 lect/pres, 1 lab, 0 other)

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

CMSC 1215 - XML
XML is a language that allows information and services to be encoded with meaningful structure and semantics. It is used for information exchange over the internet. Visual Basic, Java and many more language use XML to process information. XML fundamentals and concepts, architecture, information modeling, XML processing, transformations and testing and tuning will be covered to prepare the student for the certification test.
Prerequisite(s): CMSC1203
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1216 - Database Modeling I
Databases are an integral part of computer systems. This course is the first of two database modeling courses. It covers RDBMS basics, introduction to SQL Server 2005, installation of SQL 2005, create databases through scripts, T-SQL statements, joins, creating and altering tables, add/modify/delete data in tables, constraints, queries, database normalization, indexes, views, writing scripts and batches, stored procedures and user defined functions.
Prerequisite(s): CMSC1203
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1225 - 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. Program creation, declaring and using variables, sequence, selection and loop structures, arrays, functions, inheritance, classes, polymorphism, abstract classes and interfaces are covered in this class.
Prerequisite(s): CMSC1203
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1227 - Agile Programming Methodology
Agile programming methodology abandons the SDLC in program development. Simple design, design as you go, incremental steps, independent steps and knowing the tools that are available to use for your purpose are core rules of Agile programming. Agile programming implements the use of team programming, usually groups of 2-10. With Agile methodology, programmers can react more quickly to requirement changes and additions. Constant coding, testing and implementation are imperative in Agile programming. An expert user is also always part of the process.
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 1255 - PHP
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.
Prerequisite(s): CMSC1203
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2201 - Database Modeling II
Database Modeling II is an extension of Database Modeling I. SQL server installation and configuration, configuring SQL Server instances, databases and security; configuring linked servers; database mirroring; log shipping; database snapshots as well as data customer support. Data retrieval, manipulation, management thru XML, exceptions are covered. Service Broker components are implemented as well as importing and exporting data to files. Replication management is introduced. Database maintenance, management, backup and restoration are covered. Monitoring and troubleshooting SQL Server performance and gathering performance and optimization data by using DMV's are the new pieces that are introduced in this course along with continuing database creation and maintaining databases from Database Modeling I.
Prerequisite(s): CMSC1203, CMSC1216
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2202 - Web Scripting Language
A web scripting language enables the user to create dynamic web pages that enable database connectivity. Creating user services, creating and managing components, consuming and manipulating data, testing and debugging, deploying a web application, maintaining and supporting a web application and configuring and securing a web application are subjects covered in this course.
Prerequisite(s): CMSC1203
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2203 - C# Programming
C# is an objected-oriented language from Microsoft that is derived from C and C++. C# is programmed in the Net environment. C# features include using variables, functions, multi-dimensional and jagged arrays, overloading, indexes, attributes and overriding and XML integration. Console applications, Windows applications and ASP.Net web services can be written in C#.
Prerequisite(s): CMSC1203
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2204 - Mobile Device Programming/Connectivity
Mobile devices are being used more and more in the business world. Having the knowledge to program these devices will increase the programmer's value in the workplace. Thru mobile web forms and XML, this course teaches the programmer to build applications that render intelligently on different devices.
Corequisite(s): CMSC2202
Prerequisite(s): CMSC1203
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC 2205 - 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.
(3 C: 0 lect/pres, 0 lab, 3 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.
Prerequisite(s): CMSC1200, CMSC1203
(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.
Prerequisite(s): CMSC2261
(3 C: 2 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 Exception Handling, arrays, ArrayLists, serialization and threads. Database connectivity and file processing will be covered thoroughly.
Prerequisite(s): CMSC1225
(3 C: 2 lect/pres, 1 lab, 0 other)

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CMSC 2279 - Systems Analysis and Design
This course includes an introduction to systems analysis and design, technique and tools. Students will complete an application project throughout the term.
Prerequisite(s): CMSC2263, CMSC1216 or CMSC2266, CMSC1216
(3 C: 2 lect/pres, 1 lab, 0 other)

CMST 1320 - Introduction to Communication Studies
Meets MN Transfer Goal 1 - Oral Communication. This course introduces students to a variety of communication areas, including listening, interpersonal communication, small group communication and public speaking. Students will apply concepts from these areas through writing, discussion and speaking. This course emphasizes the importance of effective communication in everyday life.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

CMST 2300 - Introduction to Public Speaking
Meets MN Transfer Goal 1 - Oral 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

CMST 2301 - Persuasion
Meets MN Transfer Goals 1 and 2 - Oral Communication and Critical Thinking. This course explores the logical and psychological processes and theories of persuasion as they occur in a range of communication situations.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

CMST 2302 - Small Group Communication
Meets MN Transfer Goal 1 - Written and Oral Communication
This course covers basic Small Group Communication principles and features a practical small group experience. Students are given a semester-long group project to allow them time to experience for themselves the capacity for superior solutions through group discussion. In core groups students will try on a repertoire of group roles, weed out successful from unsuccessful group behaviors, uncover cultural biases around teamwork, and witness the four stages of small group development.
(3 C: 0 lect/pres, 0 lab, 3 other)

CMST 2310 - Interpersonal Communication
Meets Mn Transfer Goal 1 - Oral Communication. This course covers the theory and practice of interpersonal communication. Core concepts are verbal and nonverbal communication, communication styles, perception, self-identity, active listening, and conflict resolution skills.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

COMM 1330 - Media and Social Issues
Meets MN Transfer Goals 2 and 9 - Critical Thinking and Ethical and Civic Responsibility. This course is designed to help students develop an informed and critical understanding of the nature of mass media, the techniques used by them, and the impact of these techniques on society. It is aimed to increase students' understanding and enjoyment of how the media works, how they produce meaning, how they are organized, and how they construct reality with an emphasis on social issues.
Prerequisite(s): READ0304 and ENGL0304 or 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, spreadsheet and presentation 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 historical development of computers.
(3 C: 2 lect/pres, 1 lab, 0 other)

CRTK 1300 - Introduction to Critical Thinking
Meets MN Transfer Goals 2 and 6 - Critical Thinking and Humanities. 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.
Prerequisite(s): READ0304 and ENGL0304 or 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.
(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.
(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.
(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, safety, and sanitation, history, use of weights and measures. This course also covers basic cooking techniques and knife identification and use.
Prerequisite(s): MATH0380 or Appropriate Accuplacer Score.
(3 C: 2 lect/pres, 1 lab, 0 other)

CULN 1203 - Introduction to Culinary Arts - Modified Course for Tech Prep
This course includes in 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. (C: 0 lect/pres, 0 lab, 0 other)

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

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.
Prerequisite(s): CULN1201
(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.
(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. -
Prerequisite(s): CULN1201
(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.
Prerequisite(s): CULN1201
(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. (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.
Prerequisite(s): CULN1201
(3 C: 1 lect/pres, 2 lab, 0 other)

CULN 1250 - Basic Cooking Principles
This course will utilize the skills learned in the preparation of stocks, soups, and sauces. The course will also include the preparation of meat, poultry, and fish items using the various moist and dry heat methods.
Prerequisite(s): CULN1240
(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.
Prerequisite(s): CULN1201
(2 C: 1 lect/pres, 1 lab, 0 other)

CULN 1265 - Basic Food Production Principles
This course teaches the preparation of meat, fish, seafood, poultry, 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. Prerequisite(s): CULN1220, CULN1245, CULN1230, CULN1240, CULN1250, CULN1201 (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.
Prerequisite(s): CULN1250
(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.
(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.
(2 C: 0 lect/pres, 2 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.
Corequisite(s): DEHY1480, DEHY1424
(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1402 - Dental Hygiene Seminar II
This course is designed to continue the student's education in the basic dental hygiene sciences with an emphasis on dental health education, primary preventive measures, and nutritional educational counseling. The course emphasizes the special needs of diabetes, mental retardation, therapy, epilepsy and eating disorders.
Corequisite(s): DEHY1482, DEHY1484
Prerequisite(s): DEHY1400, DEHY1480
(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.
Corequisite(s): DEHY1420, DEHY1486
Prerequisite(s): DEHY1402, DEHY1482
(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.
Corequisite(s): DEHY1488
Prerequisite(s): DEHY1404, DEHY1486
(2 C: 1 lect/pres, 1 lab, 0 other)

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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.
(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1418 - Introduction to 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 DXTTR.
(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, prophy 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.
Prerequisite(s): DEHY1484, DEHY1402
(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.
(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.
(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.
(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.
(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 evaluation and critiquing of journal articles.
(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.
Prerequisite(s): DEHY1440
(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1448 - Dental Hygiene Radiology II
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.
Prerequisite(s): DEHY1418
(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.
Prerequisite(s): DEHY1426, DEHY1428
(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 perio surgery.
Prerequisite(s): DEHY1460
(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.
Prerequisite(s): DEHY1424, DEHY1422
(2 C: 1 lect/pres, 1 lab, 0 other)

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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.
(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.
Prerequisite(s): DEHY1480
(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.
Prerequisite(s): DEHY1482
(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.
Prerequisite(s): DEHY1482, DEHY1402
(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.
Prerequisite(s): DEHY1404, DEHY1486, DEHY1468
(6 C: 0 lect/pres, 6 lab, 0 other)

DEHY 2400 - 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.
(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.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

DENT 1405 - Introduction to Dental Assisting
This course combines lecture and laboratory practice to acquaint the student to the fundamentals of working as a chairside assistant in a dental office. The student will be introduced to numbering systems and basic instruments and equipment utilized in dental procedures. Emphasis is placed on the proper technique of hand washing, patient seating and dismissal and oral evacuation while maintaining infection control protocols and following disinfection and sterilization guidelines. Students will apply knowledge and complete clinical records including medical/dental histories and vital signs.
(2 C: 1 lect/pres, 1 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.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(1 C: 1 lect/pres, 0 lab, 0 other)

DENT 1412 - 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 and infectious diseases will be discussed as well as their mode of transmissions. Other topics included in this course include terminology, occupational safety and management of hazardous materials utilized in the dental office.
(3 C: 3 lect/pres, 0 lab, 0 other)

DENT 1424 - Chairside Assisting I
This course is designed to continue the students' education in basic dental assisting with emphasis on instrument identification, charting, anesthesia and instrument transfer in general dentistry. Students will perform chairside techniques and follow infection control protocols in the dental clinic and utilize dental software to record clinical data. Students will also increase oral communications skills by instructing patients in oral hygiene and preventive care.
Prerequisite(s): DENT1405
(2 C: 1 lect/pres, 1 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.
Prerequisite(s): DENT1400, DENT1409
(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.
Prerequisite(s): DENT1400
(4 C: 2 lect/pres, 2 lab, 0 other)

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

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. Prerequisite(s): DENT1400, DENT1409, DENT1412
(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.
(1 C: 0 lect/pres, 0 lab, 1 other)

DENT 2406 - Dental Health
This course will provide an overview of pathological conditions of the oral cavity. Students will recognize the appearance and maintenance of healthy oral tissue as well as anomalies of the teeth and surrounding tissues. Students will apply their knowledge while presenting group oral hygiene instructions and develop citizenship skills through service learning projects.
Prerequisite(s): DENT1424
(1 C: 1 lect/pres, 0 lab, 0 other)

DENT 2412 - Dental Practice Management
This course will cover principles and applications related to the management of the dental business office. Topics discussed include appointment control, telephone techniques, financial records maintenance, third-party reimbursement forms, HIPAA regulations, supply inventory and business operating systems. Emphasis will be placed on job seeking skills and developing a professional portfolio. Prerequisite(s): GBEH1300 or Equivalent, DENT2424
(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.
Prerequisite(s): DENT1424
(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.
Prerequisite(s): DENT1434
(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.
Prerequisite(s): DENT1440
(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.
Prerequisite(s): DENT1444
(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.
Prerequisite(s): DENT2454, DENT2424, DENT2446, DENT2440, DENT2406
(6 C: 0 lect/pres, 0 lab, 6 other)

DENT2485 - Internship Seminar
Internship seminar is a pass/fail course that combines the didactic training with the internship experience in preparation for the (DANB) National General Chairside and the Minnesota State Registration examinations. In coincides with Internship II and provides the opportunity for students to share clinical experiences with their classmates and complete and turn in written reports relating to functions performed in the clinical facility. The course will also provide the necessary information to apply for registration with the State Board of Dentistry and to establish and maintain a professional portfolio.
Prerequisite(s): DENT2424, DENT2446, DENT2454, DENT2440, DENT2406
(2 C: 2 lect/pres, 0 lab, 0 other)

DENT 2488 - Dental Ethics and Jurisprudence
The course focuses on the legal and ethical standards that govern the practice of dentistry. It includes a guided process to assist the student in reviewing and successfully passing the Minnesota Jurisprudence examination which is a requirement to become a registered dental assistant.
(1 C: 1 lect/pres, 0 lab, 0 other)

DMSG 1401 - Introduction to the Sonography Field
This course will introduce students to the sonography field, covering the origins and evolution of Diagnostic Medical Sonography. The student will learn the sonographer profile, sonographer safety; legal, ethical, and legislative issues; current sonographic examinations; and basic patient care skills.
Prerequisite(s): MATH1300, PHYS1300, BLGY2310, BLGY2320
(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.
Prerequisite(s): USCV1422, DMSG1401
(3 C: 3 lect/pres, 0 lab, 0 other)

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

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.
Prerequisite(s): USCV1422, DMSG1401
(3 C: 3 lect/pres, 0 lab, 0 other)

DMSG 1406 - Clinical Ultrasound Lab 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.
Prerequisite(s): USCV1422, DMSG1401
(3 C: 0 lect/pres, 3 lab, 0 other)

DMSG 1408 - Clinical Ultrasound Internship I
This course is designed to provide an initial exposure to several sonography departments in hospitals and clinical settings. Students will observe the role of clinical sonographers in a clinical setting. This course will provide the opportunity to apply didactic knowledge to the clinical environment by observing normal and abnormal sonographic anatomy of the human body. Students will also be scanning in the simulated clinical lab to help them maintain their scanning skills throughout the summer.
Prerequisite(s): DMSG1402, DMSG1404, DMSG1406
(2 C: 0 lect/pres, 0 lab, 2 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.
Prerequisite(s): DMSG1402, DMSG1404, DMSG1406, DMSG1408
(3 C: 3 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.
Prerequisite(s): DMSG1402, DMSG1406, DMSG1404, USCV1440, DMSG1408
(3 C: 3 lect/pres, 0 lab, 0 other)

DMSG 2406 - Clinical Ultrasound Lab 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.
Prerequisite(s): DMSG1402, DMSG1404, DMSG1406, DMSG1408
(5 C: 0 lect/pres, 5 lab, 0 other)

DMSG 2407 - Sonography Board Reviews
This course will help the student prepare to take the American Registry for Diagnostic Medical Sonography (ARDMS) specialty examinations in Physics, Abdomen and OB/GYN in a simulated atmosphere. It is designed to be used as an edition to your regular study and as a method to determine your strengths and weaknesses so that you can study more effectively.
Prerequisite(s): DMSG2402, DMSG2404, DMSG2406
(1 C: 1 lect/pres, 0 lab, 0 other)

DMSG 2409 - Clinical Ultrasound Internship II
This course is a continuation of Clinical Ultrasound Internship I. The student will focus on becoming proficient in the scanning of the human body under the guidance of registered sonographers in abdomen, superficial structures, pelvis, obstetrics, and vascular systems. Students will broaden and perfect their skills through hands-on participation and observation.
Prerequisite(s): DMSG2402, DMSG2404, DMSG2406
(13 C: 0 lect/pres, 15 lab, -2 other)

DMSG 2410 - Clinical Ultrasound Internship III
This course is a continuation of skills and knowledge acquired in Clinical Ultrasound Internship II. Students will continue scanning of the human body under the guidance of registered sonographers in abdomen, superficial structures, pelvis, obstetrics, and vascular systems. Students will broaden and perfect their skills through hands-on participation.
Prerequisite(s): DMSG2409
(2 C: 0 lect/pres, 2 lab, 0 other)

DMSG 2411 - Clinical Ultrasound Internship IV
This is the final course in the Sonography Program. The student will focus on becoming proficient in the scanning of the human body. Students will perform under the guidance of registered sonographers in hands-on scanning in abdominal, superficial structures, OB/GYN, and vascular systems. Upon completion of this internship the student will be able to perform routine duties and be ready for the workplace as a Diagnostic Medical Sonographer.
Prerequisite(s): DMSG2410
(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 lives. This course can be used in place of GBEH 1300 - Human Relations.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

DVRS 2301 - Race and Ethnic Relations
Meets MN Transfer Goal 7 - Human Diversity. This course provides students a framework for exploring and understanding race and ethnicity in our world today. Students will examine their own ethnic heritage and compare and contrast the history of their ethnic group with the experiences of other groups in the U.S.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

EAP 0300 - EAP College Writing I
EAP College Writing I is the first-level course for non-native speakers of English. In this course, students increase proficiency in the writing skills necessary for basic personal and academic communication. Students use process writing techniques to write simple paragraphs, outlines and essays, and gain mastery in the use of the basic structures of the English language while immersing themselves in culturally and contextually relevant writings and readings. This course does not fulfill a general studies or general education requirement. Students with serious writing difficulties can expect to attempt this course multiple times. In order to receive a passing grade at the end of this course, students will submit a writing sample completed in class which demonstrates the focus, development, clarity, and coherence necessary for success in EAP College Writing II.
(4 C: 3 lect/pres, 1 lab, 0 other)

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EAP 0301 - EAP College Writing II
EAP College Writing II is the second-level structure course for non-native speakers of English. In this course, English Language Learners increase proficiency in the writing skills necessary for personal and academic communication. Students use process writing techniques to write multiple-paragraph assignments through short expository, response or researched essays. Students use sophisticated grammar structures in their writings while immersing themselves in culturally and contextually relevant writings and readings.
Prerequisite(s): EAP0300 or Appropriate Accuplacer Score.
(4 C: 3 lect/pres, 1 lab, 0 other)

EAP 0310 - EAP Listening I
EAP Listening I is designed to provide non-native speakers of English with the foundational academic listening skills necessary to improve performance at the college level. Students entering this course will have scored between 50-69 on the ESL Accuplacer or between 0-27 on the Regular Accuplacer or will have been identified as expected to benefit by participation in this course. EAP Listening I is intended as a complimentary course EAP Reading I and EAP Writing I so students are encouraged to take all three classes during the same semester.
(4 C: 3 lect/pres, 1 lab, 0 other)

EAP 0320 - EAP Listening II
EAP Listening II is designed to provide non-native speakers of English with the academic listening skills necessary to improve performance at the college level. Students entering this course will have scored between 70-89 on the ESL Accuplacer or between 28-50 on the Regular Accuplacer or will have been identified as expected to benefit by participation in this course. EAP Listening II is intended as a complimentary course to EAP Reading II and EAP Writing II so students are encouraged to take all three classes during the same semester.
Prerequisite(s): EAP0310 or Appropriate Accuplacer Score.
(4 C: 3 lect/pres, 1 lab, 0 other)

EAP 0330 - EAP College Reading I
This is the first course in the developmental sequence of reading for non-native speakers of English. In this preparatory course, students will expand their ability to successfully use reading strategies for success in college courses, with an emphasis on academic vocabulary, cultural context development, and comprehension. Students will explore reading through a variety of materials including novels, newspapers, textbooks, Internet, and technical resources. This course is developmental and does not fulfill a general education or general studies requirement.
(4 C: 3 lect/pres, 1 lab, 0 other)

EAP 0331 - EAP College Reading II
This is the second course in the developmental sequence of reading for non-native speakers of English. In this preparatory course, students will expand their ability to successfully use reading strategies for success in college courses, with an emphasis in active reading, activating schemata, and comprehension development. Students entering this course will have scored between 70-89 on the ESL Accuplacer Test. This course is developmental and does not fulfill a general education or general studies requirement.
Prerequisite(s): EAP0330 or Appropriate Accuplacer Score.
(4 C: 3 lect/pres, 1 lab, 0 other)

EASC 1310 - Meteorology
Meets MN Transfer Goal 3 - Natural Sciences. This is an introductory meteorology course designed for non-science majors. This course focuses on understanding the basic concepts of meteorology by emphasizing observations of the atmosphere and using those observations to explain atmospheric phenomena. This course emphasizes key atmospheric concepts that enable students to understand how science can explain the weather phenomena they see in their daily lives and how these phenomena are connected to short term events such as local weather, severe storms and atmospheric stability and long term effects such as global warming. This course includes a lab component where students will learn to use real data to analyze and predict weather patterns and atmospheric phenomena.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(4 C: 3 lect/pres, 1 lab, 0 other)

ECON 1310 - Personal Finance
Meets MN Transfer Goal 9 - Ethical and Civic Responsibility. The students will learn what it means to make responsible economic decisions and analyze the social and personal impact on these choices. Techniques for dealing with ethical questions and solutions based on economic consumption in a technology driven society will be identified.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ECON 1320 - Introduction to Macroeconomics
Meets MN Transfer Goal 5 - History and the Social and Behavioral Sciences. 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ECON 1330 - Introduction to Microeconomics
Meets MN Transfer Goal 5 - History and the Social and Behavioral Sciences. 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.
Prerequisite(s): READ0304 and ENGL0304 or 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.
(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.
Prerequisite(s): ELEC1502, ELEC1510, ELEC1518, ELEC1522
(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.
(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.
Prerequisite(s): ELEC1510
(2 C: 0 lect/pres, 2 lab, 0 other)

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

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.
Prerequisite(s): MATH0380 or 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.
(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.
Prerequisite(s): ELEC1518
(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.
Prerequisite(s): ELEC1502, ELEC1510, ELEC1522
(2 C: 0 lect/pres, 2 lab, 0 other)

ELEC 1534 - Safety, Certifications and Skills
This course is designed for Construction Electrician Students who have completed the first year of the program. They will have instruction in OSHA, various industry certifications, industrial jobsite training, advanced blueprint reading, alternative energy options, and training in basic welding and welding safety.
(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.
Prerequisite(s): ELEC1506, ELEC1514, ELEC1526
(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.
(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.
Prerequisite(s): ELEC2502
(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.
Prerequisite(s): ELEC1514
(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.
Prerequisite(s): ELEC2510
(2 C: 1 lect/pres, 1 lab, 0 other)

ELEC 2519 - Commercial Wiring
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 by lab projects in EMT with 1/2 inch and 3/4 inch conduit. MC cable and AC cable lab projects will enhance the students' knowledge of other wiring installations for commercial wiring.
Prerequisite(s): ELEC1506, ELEC1518
(3 C: 1 lect/pres, 2 lab, 0 other)

ELEC 2520 - Commercial Lighting
The student will have the knowledge of commercial wiring, study incandescent, fluorescent, HID, and mercury vapor light fixtures, operation of troubleshooting and repair layout of systems and efficient usage.
Prerequisite(s): ELEC1506, ELEC1518
(2 C: 1 lect/pres, 1 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.
Corequisite(s): ELEC2538
Prerequisite(s): ELEC1526
(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.
Prerequisite(s): ELEC2522
(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.
Prerequisite(s): ELEC2522
(3 C: 1 lect/pres, 2 lab, 0 other)

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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.
Prerequisite(s): ELEC1502
(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.
Prerequisite(s): ELEC1518, ELEC1526
(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.
(1 C: 0 lect/pres, 1 lab, 0 other)

EMSC 1400 - Principles of First Aid
This is an intermediate and in-depth First Aid course. Topics covered in this course will include: how to recognize a situation needing emergency care, how and when to access the EMS system, and how to care for the victim with and without accessing further medical care. 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 including Sudden Infant Death Syndrome. This course is taught to the standards of the American Heart Association. (1 C: 1 lect/pres, 0 lab, 0 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.
(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.
(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).
(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).
(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 of 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. A Mantoux test (TB) with negative results is required prior to attending clinicals. Please have this completed with a copy of the negative results prior to the start of class.
Prerequisite(s): EMSC1480 currently certified in CPR at the level of Health Care provider by the American Heart Association.
(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).
(2 C: 1 lect/pres, 1 lab, 0 other)

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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).
(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).
(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. Text required: BLS for Healthcare Provider, American Heart Association, ISBN 087493461-3. Other materials provided by instructor as necessary.
(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.
(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.
(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.
(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.
(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.
Corequisite(s): EMSP1402
(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.
AHA CPR-C course and EMT-B license or certification.
Corequisite(s): EMSP1400
(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.
Prerequisite(s): EMSP1400, EMSP1402, EMSP1430
(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.
Corequisite(s): EMSP1408
Prerequisite(s): EMSP1402, EMSP1430
(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.
Prerequisite(s): EMSP1400, EMSP1402, EMSP1430
(3 C: 0 lect/pres, 3 lab, 0 other)

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

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.
(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.
Prerequisite(s): EMSP1408, EMSP1404, EMSP1406
(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.
Prerequisite(s): EMSP1408, EMSP1406
(2 C: 0 lect/pres, 2 lab, 0 other)

EMSP 1440 - 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.
Prerequisite(s): EMSP1406, EMSP1408
(3 C: 0 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.
Prerequisite(s): EMSP1432, EMSP1434, EMSP1436
(4 C: 4 lect/pres, 0 lab, 0 other)

EMSP 2412 - Paramedicine Skills III
This course is the skills component of EMSP 2410, reflective of the 1998 National Standards Paramedic Curriculum. It will continue to enhance and refine the skills learned in EMSP 1402 and EMSP 1408. Fundamental skills related to critical medical emergencies will be enhanced and applied in treatment of patients with a variety of etiologies and presentations. Emphasis is placed on team-based approach in simulation and scenario-based learning.
Corequisite(s): EMSP2410
Prerequisite(s): EMSP1432, EMSP1434, EMSP1436
(2 C: 0 lect/pres, 2 lab, 0 other)

EMSP 2438 - Emergency Department 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.
Prerequisite(s): EMSP2410
(3 C: 0 lect/pres, 3 lab, 0 other)

EMSP 2442 - 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.
Prerequisite(s): EMSP2410
(2 C: 0 lect/pres, 0 lab, 2 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.
Prerequisite(s): EMSP2410
(8 C: 0 lect/pres, 0 lab, 8 other)

EMSP 2484 - Advanced Paramedicine Skills
This course is an optional technical course available for second year Paramedicine students in their last semester. The course will enhance students' level of competency in advanced life support skills and their preparedness to enter the workforce as an entry-level paramedic.
Prerequisite(s): EMSP2410, EMSP2412
(1 C: 0 lect/pres, 1 lab, 0 other)

ENGL 0300 - Foundations for College Writing I
This course is designed for students who score between 28 and 50 on the Accuplacer Reading Test. Students in this course will develop an idea in a unified and coherent first using multiple paragraphs and then through basic five paragraph outlines. The course emphasizes the English usage, sentence structure, punctuation, grammar and spelling necessary for composition. This course is developmental and does not fulfill a general studies or general education requirement.
Students with serious writing difficulties can expect to complete this course multiple times. In order to receive a passing grade at the end of the course, students will submit a writing sample completed in class which demonstrates the focus, development, clarity, and coherence necessary for success in Introduction to Analytical Writing.
(3 C: 2 lect/pres, 1 lab, 0 other)

ENGL 0304 - Foundations for College Writing II
This is the second course in the developmental sequence for students seeking an AA or 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. Students entering this course will have scored between 51 and 77 on the Accuplacer reading test or have successfully completed ENGL 0300. This course is developmental and does not fulfill a general education or general studies requirement.
Prerequisite(s): ENGL0300 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 0352 - Mosaic Fast Track
Mosaic Fast Track is designed to provide non-native speakers of English with the fundamental academic listening and study skills necessary to improve performance at the college level. Students entering this course will have scored between 50-69 on the ESL Accuplacer Test or between 0-27 on the Regular Accuplacer or will have been identified as expected to benefit by participation in this course. This course does not fulfill a general studies or general education requirement. This course carries institutional credit but will not transfer and may not be used to meet degree requirements.
(4 C: 3 lect/pres, 1 lab, 0 other)

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ENGL 0355 - Foundations for College Success
This course provides students with preparatory skills necessary for college success including reading, writing and class presentation. In addition, students will cover personally relevant topics of learning styles, study strategies, and group dynamics. Finally students will be introduced to and use technology relevant to their general course work. This course is developmental and does not fulfill a general education requirement.
(4 C: 4 lect/pres, 0 lab, 0 other)

ENGL 1100 - Writing for the Workplace
This course emphasizes writing skills that have an impact on academic success, personal development and social/cultural involvement. Organization, tone, purpose, mechanics and forms of development are addressed along with general communication issues.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1301 - Technical Writing
Meets MN Transfer Goal 1 - Written Communication.
This transferrable course will teach students to write effectively for the business world. They will learn how to research, write, and design appealing and productive print and electronic documents. Assignments will parallel the writing demands students will face both in college and in the workplace and may include emails, memos, reports, webpages, wikis, graphics, instructions, proposals, collaborative writing, and descriptions.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(4 C: 4 lect/pres, 0 lab, 0 other)

ENGL 1302 - Analytical Writing
Meets MN Transfer Goal 1 - Written Communication. This course focuses on research and argument, emphasizing contemporary issues. The course develops the writing, research, analytical, and peer evaluation skills necessary to succeed academically, professionally and personally. Students will produce for grading at least 6,500 words during the semester, including an extensive research paper. This course can be used in place of ENGL 1100 - Writing for the Workplace".
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(4 C: 4 lect/pres, 0 lab, 0 other)

ENGL 1321 - Introduction to Modern Fiction
Meets MN Transfer Goal 6 - Humanities. This course is designed to be an interesting survey of modern literature representing the traditional to the avant garde. Students will read, interpret, discuss and write about this literature.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1322 - Introduction to Literature
Meets MN Transfer Goal 6 - Humanities. 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1330 - American Literature About War
Meets MN Transfer Goal 6 - Humanities. This course introduces students to the history, culture, and social implications of war through the experiences of soldiers and civilians of countries at war. In this class, students will gain a better understanding of the hardships that people endure during wartime and reasons that countries go to war.
Prerequisite(s): READ0304 and ENGL0304 or 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 and Human Diversity. This course provides a broad introduction to multicultural literature. Students will read, discuss, and analyze various types of multicultural literature. Multicultural literature refers to works written by African American, Asian American, Native American, and Latino authors. It can also refer to works that deal with issues of race, gender, class, ethnicity, religion, sexuality, and nationality.
Prerequisite(s): READ0304 and ENGL0304 or 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. 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1342 - Middle Eastern Literature
Meets MN Transfer Goals 6 and 8 - Humanities and Global Perspective
This course attempts to reflect a growing academic interest in the Middle East and its distinguished literary tradition in context of historical, social, and cultural structures and values in Literature. Novels, short stories, and poetry from Arab, Jewish, and Persian backgrounds are covered.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 1345 - Gender in Literature
Meets Mn Transfer Goal Areas 6 and 7 - Humanities and Human Diversity
This course explores the portrayal of gender in terms of roles (experience and perspectives) and sexual identity/orientation, and in context of historical, social, and cultural structures and values in literatures.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 2302 - Advanced Argument and Research Writing
Meets Mn Transfer Goal 1 - Written Communication. This is a topic-based course which emphasizes research, critical thinking, organized writing, argumentation and proper documentation of sources while building on skills learned in the freshman composition course. Assignments will focus on using primary and secondary sources to develop writing and analytical skills for in-depth researched argumentative writing.
Prerequisite(s): ENGL1302 Or Comp I at another college.
(3 C: 3 lect/pres, 0 lab, 0 other)

ENGL 2310 - Introduction to Creative Writing
Meets MN Transfer Goal Area 1 - Written Communication. Students will learn the tenets and methods of basic creative writing for poetry and fiction. They will study different genres in both poetry and fiction, and learn to emulate and draw inspiration from these examples. Students should come out of the class with the ability to express themselves through poetry or fiction, and an appreciation for works of the past and present.
Prerequisite(s): ENGL1302
(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.
(4 C: 2 lect/pres, 2 lab, 0 other)

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

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. (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.
(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 fled 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)
Prerequisite(s): ETEC1510
(8 C: 4 lect/pres, 4 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.
(2 C: 1 lect/pres, 1 lab, 0 other)

ETEC 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.
Prerequisite(s): ETEC1510 or concurrent registration
(4 C: 2 lect/pres, 2 lab, 0 other)

ETEC 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.
(4 C: 2 lect/pres, 2 lab, 0 other)

ETEC 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.
(4 C: 3 lect/pres, 1 lab, 0 other)

ETEC 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.
(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.
(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.
Prerequisite(s): ETEC2540
(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.
(4 C: 0 lect/pres, 0 lab, 4 other)

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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. (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 enterprise analysis. Sound financial record keeping is an integral component of this course.
(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 year end procedures for farm business analysis. Students improve accuracy in the following: farm enterprise analysis, tax planning and filing, and cash and liabilities checks.
(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.
(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 business goal setting, cash and enterprise accounting principles, and tax planning.
(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. (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.
(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.
(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.
(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.
(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.
(4 C: 0 lect/pres, 0 lab, 4 other)

FBMT 2152 - Integrating System Information for Financial Planning
This course 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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(2 C: 0 lect/pres, 0 lab, 2 other)

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FBMT 2208 - Special Topics - General Farm Management
This course covers special topics of interest in general farm management.
(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.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2210 - Special Topics-Marketing
This course covers special topics of interest in marketing.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2211 - Special Topics - Marketing
This course covers special topics of interest in marketing.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2212 - Special Topics - Marketing
This course covers special topics of interest in marketing.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2213 - Special Topics - Marketing
This course covers special topics of interest in marketing.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2214 - Special Topics - Marketing
This course covers special topics of interest in marketing.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2220 - Special Topics - Crops
This course covers special topics of interest in crops.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2221 - Special Topics-Crops
This course covers special topics of interest in crops.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2222 - Special Topics - Crops
This course covers special topics of interest in crops.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2223 - Special Topics-Crops
This course covers special topics of interest in crops.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2224 - Special Topics- Crops
This course covers special topics of interest in crops.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2230 - Special Topics - Livestock
This course covers special topics of interest in livestock.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2231 - Special Topics-Livestock
This course covers special topics of interest in livestock.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2232 - Special Topics-Livestock
This course covers special topics of interest in livestock.
(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.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2234 - Special Topics - Livestock
This course covers special topics of interest in livestock.
(1 C: 0 lect/pres, 0 lab, 1 other)

FBMT 2235 - Special Topics-Livestock
This course covers special topics of interest in livestock.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2236 - Special Topics - Livestock
This course covers special topics of interest in livestock.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2237 - Special Topics - Livestock
This course covers special topics of interest in livestock.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2238 - Special Topics - Livestock
This course covers special topics of interest in livestock.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2239 - Special Topics-Livestock
This course covers special topics of interest in livestock.
(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.
(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.
(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.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2930 - 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.
(3 C: 0 lect/pres, 0 lab, 3 other)

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

FBMT 2931 - 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.
(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 2932 - 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. (3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 2933 - 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.
(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 2934 - 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.
(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 2935 - 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.
(3 C: 0 lect/pres, 0 lab, 3 other)

FBMT 2950 - 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.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2951 - 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.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2952 - 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.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2953 - 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.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2954 - 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.
(2 C: 0 lect/pres, 0 lab, 2 other)

FBMT 2955 - 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.
(2 C: 0 lect/pres, 0 lab, 2 other)

FNCR 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.
(3 C: 3 lect/pres, 0 lab, 0 other)

FNCR 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.
(1 C: 1 lect/pres, 0 lab, 0 other)

FNCR 1206 - Professional Expectations I
Finance and Credit industry expected skills, abilities, and character traits are identified and discussed. Strategies to demonstrate and document the student's ability and willingness to meet these expectations are presented.
(1 C: 1 lect/pres, 0 lab, 0 other)

FNCR 1207 - Professional Expectations II
Students will learn from experts in the banking, finance, collections, investment, insurance, credit, and real estate industries. Industry presentations will provide students with insight into the current issues of their respective industries and discuss what students can do to be successful in those industries.
Prerequisite(s): FNCR1206
(1 C: 1 lect/pres, 0 lab, 0 other)

FNCR 1208 - Professional Expectations III
Students will prepare a portfolio demonstrating mastery of the skills, abilities, and character traits required to be successful in the finance and credit industry.
Prerequisite(s): FNCR1207
(1 C: 1 lect/pres, 0 lab, 0 other)

FNCR 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. (3 C: 2 lect/pres, 1 lab, 0 other)

FNCR 1240 - Supervision
This course concentrates on the managerial functions of planning, organizing, staffing, leading, and controlling, including goal setting, time management, motivation techniques, communications, problem solving, and decision making.
(3 C: 2 lect/pres, 1 lab, 0 other)

FNCR 1250 - Credit Law
This course reviews our legal system and contract law covered in BUSM 1275. Focus is then placed on laws dealing more specifically with credit extension, reporting, billing, and collections; bank loan documentation, negotiable instruments, and bankruptcy; real estate, employment, insurance and probate.
(3 C: 3 lect/pres, 0 lab, 0 other)

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FNCR 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.
(3 C: 2 lect/pres, 1 lab, 0 other)

FNCR 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.
(3 C: 2 lect/pres, 1 lab, 0 other)

FNCR 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.
(4 C: 0 lect/pres, 0 lab, 4 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.
Prerequisite(s): READ0304 and ENGL0304 or 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.
(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.
(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.
Prerequisite(s): GBUS1320, GBUS1324
(1 C: 1 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

GERO 1300 - Introduction to Gerontology
Meets MN Transfer Goal 7 - Human Diversity. This course explores the biological, social, psychological and economic changes that accompany the aging process. Students will explore societal factors affecting resources available to the elderly and possible roles they might fill as family members or professionals caring for the elderly.
(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.
(3 C: 3 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, deburr, and thread gas piping for the HART field.
(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.
Prerequisite(s): HART1514, HART1518
(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.
(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.
(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.
(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.
Prerequisite(s): HART1502, HART1510, HART1514, HART1518
(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, condenser, compressor and metering devices. Also charging, evacuating and reclaiming residential a/c systems.
Prerequisite(s): HART1514, HART1518
(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.
Prerequisite(s): HART1514, HART1518
(2 C: 1 lect/pres, 1 lab, 0 other)

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

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.
Prerequisite(s): HART1514, HART1518
(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.
(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.
Prerequisite(s): HART1502, HART1510, HART1514, HART1518
(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.
(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.
Prerequisite(s): HART1502, HART1540
(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.
Prerequisite(s): HART1502, HART1540
(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.
Prerequisite(s): HART2506, HART2510
(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.
Prerequisite(s): HART2506, HART2510
(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.
Prerequisite(s): HART1502, HART1540
(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.
Prerequisite(s): HART2506, HART2510, HART2522, HART2530, HART2540
(3 C: 2 lect/pres, 1 lab, 0 other)

HART 2530 - Commercial 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. Prerequisite(s): HART1502, HART1540
(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.
Prerequisite(s): HART2506, HART2510, HART2522, HART2530
(2 C: 1 lect/pres, 1 lab, 0 other)

HART 2540 - Internship - Commercial
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. Prerequisite(s): HART1502, HART1540
(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.
(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.
Prerequisite(s): HASL1400
(3 C: 3 lect/pres, 0 lab, 0 other)

HASL 1408 - American Sign Language III
Meets MN Transfer Goal 8 - Global Perspective. Continuation of American Sign Language expansion of intermediate vocabulary, grammar and visual language with increased speed and clarity of fingerspelling and signing.
Prerequisite(s): HASL1404
(3 C: 3 lect/pres, 0 lab, 0 other)

HASL 1412 - American Sign Language IV
Meets Mn Transfer Goal 8 - Global Perspective. 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.
Prerequisite(s): HASL1408
(3 C: 3 lect/pres, 0 lab, 0 other)

HLTH 1402 - Nursing Assistant
The student will be introduced to 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. This course is intended to prepare students for employment as Nursing Assistants. The Federal and State OBRA laws and MN Department of Health requirements are met in this course.
(3 C: 2 lect/pres, 1 lab, 0 other)

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HLTH 1404 - Home Health Aide
This course is intended to prepare Nursing Assistants as Home Health Aides. The Federal and State OBRA Laws and MN Department of Health requirements are met in this course.
(1 C: 1 lect/pres, 0 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.
(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1430 - Introduction to Health Careers
This course will provide an introduction and review of a variety of health care careers and their respective work settings to the beginning health care student. An overview of health occupations will provide a foundation from which the student will be able to decide upon furthering their health care career plans and goals. This course will focus on information essential to the success of the healthcare technician at SCTC. Discussion of working with others, communication skills, legal and ethical responsibilities, cultural considerations in the healthcare industry, problem solving, decision making, and basic college skills will be provided.
(2 C: 2 lect/pres, 0 lab, 0 other)

HLTH 1440 - Medical Terminology
This course presents a study of basic medical terminology. Prefixes, suffixes, word roots, combining forms, special endings, plural forms, symbols, and abbreviations will be covered. Emphasis is placed on spelling, definition, usage, and pronunciation. Students will learn the rules for separating medical terms into their word parts.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(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.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(4 C: 4 lect/pres, 0 lab, 0 other)

HLTH 1448 - Infection Control
This course will cover the scientific concepts related to the causes of disease, disease transmission, preventive measures, and how the body responds and protects itself from disease. Common infectious and communicable diseases will be studied. Students will learn about personal protective equipment (PPE) and protection from communicable disease in the health care setting.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(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. The six basic nutrients as well as cultural aspects are explored when determining nutritional needs through the lifespan. The current recommended dietary guidelines and food pyramid are covered in this course.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(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 evaluating total care of clients and helps the student contribute to the nutritional well-being of clients.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(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.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

HPER 1310 - Life Wellness
This course is designed to provide the groundwork for students to be able to design their own total fitness program. This course provides information that is relevant to each person's particular fitness goals, showing students how to alter their programs as their fitness needs change. Individual physical limitations, weight problems and cardio-vascular fitness levels are all significant parts of this course design.
(2 C: 1 lect/pres, 1 lab, 0 other)

HPER 1360 - Weight Training and Conditioning
This physical education course is an activity class, which emphasizes strength training development and also includes cardiovascular development through continuous aerobic activity for overall fitness.
(1 C: 0 lect/pres, 0.5 lab, 0.5 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.
(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.
(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.
(2 C: 2 lect/pres, 0 lab, 0 other)

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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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(2 C: 2 lect/pres, 0 lab, 0 other)

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HUMN 1300 - Introduction to the Humanities
Meets Mn Transfer Goal Area 6 - Humanities. Introduction to Humanities allows students to explore, celebrate, and experience the human need to create thought, visual and performing art, literature, and architecture.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 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.
Prerequisite(s): READ0304 and ENGL0304 or 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

HUMN 2350 - Film and American Culture
Meets MN Transfer Goal Area 6 - Humanities. This course examines contemporary American culture and society through film. We will investigate the culture in which we live and the movies our culture produces. By watching, discussing, and writing about these films, we will examine how motion pictures create a window into modern American society.
Successful completion of 20 credits of General Education courses by the start of the course.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

HUMN 2352 - Holocaust Field Studies
Meets MN Transfer Goal Area 6 - Humanities. This course will introduce students to the United States Holocaust Memorial Museum and give them an opportunity to tour the museum. The tour will give the students a chance to view primary documentation and actual Holocaust artifacts. Students will also have the privilege to meet and interact with a Holocaust survivor and hear his/her experience first hand.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(1 C: 1 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.
(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.
Corequisite(s): ICVT1443
Prerequisite(s): ICVT1422
(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.
Prerequisite(s): ICVT1422
(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.
Corequisite(s): ICVT2446
Prerequisite(s): ICVT1423, USCV1400
(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.
Prerequisite(s): ICVT1443, USCV1400
(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.
Prerequisite(s): ICVT2426, ICVT2446
(13 C: 0 lect/pres, 0 lab, 13 other)

NTS1150 - On Course
Strategies (including tools and skill development) to help students create greater success in college and in life are introduced in this course. The course provides an interactive environment for students to identify their motivations and opportunities for personal growth, engage in academic and career goal and decision making, and explore campus resources and services. Through these tools, skills, resources, and services, students are empowered to take ownership and control of their academic and personal life outcomes and experiences.
(1 C: 1 lect/pres, 0 lab, 0 other)

INTS 1160 - Academic Foundations
This course is designed as a foundation course for student success in college. Through a structured curriculum, students will become acquainted with the services and resources of St. Cloud Technical College and the tools and skills necessary to be successful in college. Through these services, resources, tools, and skills, students are empowered to take ownership and control of their academic and personal life outcomes and experiences.
(3 C: 3 lect/pres, 0 lab, 0 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.
Corequisite(s): LSCE1526
(3 C: 1 lect/pres, 2 lab, 0 other)

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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.
Prerequisite(s): LSCE1530, LSCE1502 or concurrent registration
(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.
(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 ("AutoCAD" and "Softdesk"). The student will input drafting commands to develop civil/survey drawings, store data and produce digital drawings.
Prerequisite(s): LSCE1510
(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.
(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.
Prerequisite(s): MATH0380 or 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.
Prerequisite(s): MATH1300, LSCE1510 or LSCE1510, TECH1500 or LSCE1510, LSCE1522
(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.
(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, radial topography, advanced traversing, triangulation, resection, areas, volumes, section breakdown and subdivision surveys. Field projects will use total station and data collections procedures.
Prerequisite(s): LSCE1506, LSCE2514
(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, water mains, buildings and some aspects of platting. Emphasis will be on both Total Station with data collection and traditional methods.
Prerequisite(s): LSCE2502, LSCE2522
(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.
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2514 - Civil CADD II
Students will focus on interactive Computer Aided Drafting and Design software applications as they relate to basic principles of drawing and design of civil/survey projects. Students will focus on coordinate geometry, mapping, digital terrain modeling, platting, detail drafting and design using CADD methods.
Prerequisite(s): LSCE1502, LSCE1514, LSCE1526
(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.
Prerequisite(s): LSCE1526
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2522 - Civil CADD III
Students will perform civil engineering and land surveying design tasks using advanced Autodesk engineering and surveying software. Topics include advanced principles of coordinate geometry, digital terrain modeling, roadway plan and profile, cross sections and earthwork design.
Prerequisite(s): LSCE2514
(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 Statues, county and city ordinances relating to platting, along with techniques for record research will also be discussed.
Corequisite(s): LSCE2514
Prerequisite(s): LSCE1502
(4 C: 3 lect/pres, 1 lab, 0 other)

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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. Corequisite(s): LSCE2522
Prerequisite(s): LSCE2518
(3 C: 1 lect/pres, 2 lab, 0 other)

MACH 1500 - Machine Tool Technology I - Modified Course for Tech Prep
This course will cover first level instruction in the setup and operation of common machine tools 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.
(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 band saws. 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.
(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 band saws 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.
(C: 0 lect/pres, 0 lab, 0 other)

MACH 1510 - 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.
Prerequisite(s): MACH1503
(4 C: 0 lect/pres, 4 lab, 0 other)

MACH 1511 - Machine Tool Technology III
This course will address the advanced operations and setups of milling machines, lathe and surface grinders. Machine safety and machine component identification are also 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 student will become familiar with advanced setup and operations on the lathe, milling machine, drill press and grinding machines. The student will also learn the care and use of different tooling used in the lathe, milling machines, and surface grinders.
Prerequisite(s): MACH1510, MACH1517
(5 C: 0 lect/pres, 5 lab, 0 other)

MACH 1514 - Introduction to Swiss Machining
This course is an introduction course to Swiss machining and programming. Upon completion of this course the student will become familiar with Swiss turning machine equipment, components, features, tooling, set-up and programming. Students will also work on advanced projects on manual equipment when assigned. Several units of advanced inspection procedures and equipment will be part of this course.
Corequisite(s): MACH1511
Prerequisite(s): MACH1512, MACH1517, MACH1510
(2 C: 0 lect/pres, 2 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.
Corequisite(s): MACH1503, MACH1510
(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.
Prerequisite(s): MACH1517, MACH1503
(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.
(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.
(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.
(2 C: 1 lect/pres, 1 lab, 0 other)

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

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.
(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.
(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.
(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.
(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.
Prerequisite(s): MACH2506
(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.
(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.
Prerequisite(s): MACH2502
(3 C: 1 lect/pres, 2 lab, 0 other)

MACH 2528 - Electrical Discharge Machining
This course is intended to give the student an opportunity to learn the area of electrical discharge machining. Students will setup, operate and program these machines to produce parts to blueprint requirements.
(2 C: 0 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.
Prerequisite(s): MACH2506, MACH2518 or may be taken in conjunction with this course
(2 C: 0 lect/pres, 2 lab, 0 other)

MACH 2532 - Swiss Turning Intermediate
This course is intended to give the student an opportunity to advance in learning Swiss turning practices and programming of these automated machines. Programming of these machines will be an integral part of this course.
Prerequisite(s): MACH1514
(2 C: 0 lect/pres, 2 lab, 0 other)

MACH 2533 - Advanced Electrical Discharge Machining
This course is intended to give the student an opportunity to learn advanced concepts and machining techniques associated with electrical discharge machines. Students will setup, operate and program these machines to produce parts to blueprint requirements.
Prerequisite(s): MACH2528
(2 C: 0 lect/pres, 2 lab, 0 other)

MACH 2537 - Swiss CNC Turning Advanced
This course is intended to give the student an in-depth experience in Swiss CNC turning. The student's time will be spent learning the programming software and advanced programming language necessary to complete multi-axis and multi-operations on the machine. The use of special Swiss CNC cutting tools will be emphasized. The use of high precision inspection tools such as optical comparators and high precision measuring tools will be an integral part of the course.
Prerequisite(s): MACH1514
(3 C: 0 lect/pres, 3 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.
(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.
(3 C: 3 lect/pres, 0 lab, 0 other)

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

MATH 0470 - Elementary Algebra
This course is an introductory course in the principles and applications of algebra. Topics covered include solving equations and inequalities, application of percents, graphs of equations, data analysis, graphing linear equations, exponents and scientific notations, operations on polynomials, factoring polynomials, solving quadratic equations be factoring, and rational expressions. A wide variety of examples and exercises are used to help the student connect the mathematical content with the real world.
Prerequisite(s): MATH0380 or Appropriate Accuplacer Score.
(3 C: 2 lect/pres, 1 lab, 0 other)

MATH 0480 - Intermediate Algebra
This course is an intermediate course in the principles and applications of algebra. Topics covered include division and factoring polynomials, rational equations, functions, systems of equations, radical expressions and equations, quadratic equations, and exponential and logarithmic functions. A wide variety of examples and exercises are used to help the student connect the mathematical content with the real world.
Prerequisite(s): MATH0470 or Appropriate Accuplacer Score.
(3 C: 2 lect/pres, 1 lab, 0 other)

MATH 0490 - College Algebra Prep
This course is designed for students who would like to independently review select topics in Intermediate Algebra. The student must start and finish the course within one semester or summer equivalent. This is a self-pace independent course with access to the instructor through e-mail, online office hours, and through face-to-face office hours. The course is delivered online, but the student will have to take the final exam in person on campus. The primary goal of this course is to provide a refresher to students who are on the borderline between College Algebra and Intermediate Algebra. The course topics are: Fractions, Linear Equations, Graphing, Exponents, Polynomials, Factoring, Rational Expressions, Radicals, Quadratic Equations, Functions, and Conic Sections.
Prerequisite(s): MATH0470 or Appropriate Accuplacer Score.
(2 C: 2 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.
Prerequisite(s): MATH0480 or LSCE1522 or MATH0490 or TECH1500 or Appropriate Accuplacer Score.
(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.
Prerequisite(s): TECH1500 or MATH1300 or LSCE1522
(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.
Prerequisite(s): MATH0470 or MATH0480 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

MATH 1350 - Introduction to Statistics
Meets MN Transfer Goal 4 - Mathematical/Logical Reasoning. This course is an introduction to the principles and applications of statistics that emphasizes working with data and statistical ideas. The primary goals of this course are to help individuals acquire a solid foundation in the basic principles of statistics and to show how statistics can be used to analyze and solve authentic real-world problems. This course uses data and examples from many disciplines and is applicable to any major. Topics include descriptive measures of empirical data, graphs and distributions, sampling and experiment design, probability and probability distributions, estimation, hypothesis testing, inference, correlation, and regression.
Prerequisite(s): MATH1300
(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.
(4 C: 2 lect/pres, 2 lab, 0 other)

MHTT 1506 - Mobile 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.
(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.
Prerequisite(s): TRAN1504
(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.
(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.
(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.
(3 C: 1 lect/pres, 2 lab, 0 other)

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

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.
Prerequisite(s): TRAN1504
(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.
(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.
(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.
Prerequisite(s): MHTT1502
(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.
Prerequisite(s): MHTT2502
(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.
Prerequisite(s): MHTT1502
(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.
(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.
Prerequisite(s): MHTT1522
(3 C: 1 lect/pres, 2 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.
Prerequisite(s): TRAN2514
(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.
(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.
Prerequisite(s): MHTT1526
(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.
(4 C: 1 lect/pres, 3 lab, 0 other)

MSNA 1200 - IT Essentials
Students 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 CompTIA A+ certification.
(3 C: 2 lect/pres, 1 lab, 0 other)

MSNA 1201 - Intro to Networking
The Introduction to Networking introduces first semester students to the internationally used terminology, basic concepts and standards of computer networking. Students will, through lecture and lab, learn the basic skills needed to manage, maintain, troubleshoot, install, operate and configure basic network infrastructure, and be able to describe networking technologies, basic design principles, adhere to wiring standards, and use testing tools. Upon completion of the course, students will also understand the requirements necessary to pass the CompTIA Networking+ certification exam.
(2 C: 1 lect/pres, 1 lab, 0 other)

MSNA 1202 - MS XP Professional 70-270
Students will study the skills needed to effectively manage the Windows operating environment. Topics include how to use functions and utilities, manage program properties, manage hardware devices, install operating system and applications and describe importance of DOS environment. This course will also prepare the student for the 70-270 exam.
(3 C: 2 lect/pres, 1 lab, 0 other)

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

MSNA 1204 - Cisco (Exploration) Fundamentals
This course provides students with the fundamental skills needed to be successful in any network-related degree program by introducing architecture, functions, components and models of networks and using OSI and TCP/IP layered models. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced, to provide a foundation for the curriculum.
(3 C: 1 lect/pres, 2 lab, 0 other)

MSNA 1206 - Cisco (Exploration) Switching and Wireless
This course provides a comprehensive theoretical and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Students learn about the hierarchical network design model and how to select devices for each layer. The course explains how to configure a switch for basic functionality and how to implement Virtual LANs, VTP, and Inter-VLAN routing in a converged network. The different implementations of Spanning Tree Protocol in a converged network are presented. Students will develop the knowledge and skills necessary to implement a WLAN in a small to medium network. This course is part of the four-part Cisco curriculum that prepares for the CCNA certification exam.
Prerequisite(s): MSNA1204 (3 C: 1 lect/pres, 2 lab, 0 other)

MSNA 1208 - 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 MS 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. The curriculum is a basic introduction to the CompTIA Server+ certification topics.
Prerequisite(s): MSNA1200, MSNA1202 or CMSC1281, CMSC1221
(3 C: 2 lect/pres, 1 lab, 0 other)

MSNA 1210 - Panduit Network Installation Essentials
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. It 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. Students successfully completing this course are eligible to earn Panduit Authorized Installer (PAI) global certification.
(3 C: 2 lect/pres, 1 lab, 0 other)

MSNA 1212 - MS Server 2003 70-290
This Microsoft Official Academic Course provides everything students need to build the knowledge and skills necessary to install, configure, administer, and support the primary services in the Microsoft Windows Server 2003 operating system and to prepare for the Microsoft Certified Professional Examination 70-290: Managing and Maintaining a Microsoft Windows Server 2003 Environment.
Prerequisite(s): MSNA1202 or CMSC1221
(3 C: 2 lect/pres, 1 lab, 0 other)

MSNA 2200 - MS Server 2003 - Implementing Network Infrastructure 70-291
The Microsoft Official Academic Course provides students the skills and knowledge needed to configure, manage, and troubleshoot a Microsoft Windows Server 2003 network infrastructure and to prepare for the Microsoft Certified Professional examination 70-291; Managing and Maintaining a Microsoft Windows Server 2003 Environment.
Prerequisite(s): CMSC1221, CMSC1226 or MSNA1202, MSNA1212
(3 C: 0 lect/pres, 0 lab, 3 other)

MSNA 2202 - MS Small Business Server 2003
Microsoft Small Business Server 2003 is the combination of Microsoft Server 2003 and Network Operating System (NOS) applications, including Exchange e-mail, SharePoint portal and document management, SQL database server and ISA Internet Server. Coursework includes installation, configuration of the server, as well as the NOS applications. This course will prepare students to maintain a Small Business Server to meet small and medium business information technology requirements.
Prerequisite(s): MSNA2200
(3 C: 2 lect/pres, 1 lab, 0 other)

MSNA 2204 - Wireless CWNA
This lecture and lab course is designed to expose wireless concepts to the 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.
Prerequisite(s): CMSC1276 or MSNA1206
(2 C: 1 lect/pres, 1 lab, 0 other)

MSNA 2206 - Network Security
This course is designed to expose security concepts to students. The student will recognize how to prevent hackers from entering their network, and if breached, detect the intrusion. Using current events and examples, the students will work through real-world 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. The course will help prepare the student for the Security+ certification.
Prerequisite(s): MSNA1204, MSNA1212 or CMSC1275, CMSC1226
(3 C: 2 lect/pres, 1 lab, 0 other)

MSNA 2208 - MSNA Practicum
Students will be assigned to an internal SCTC department, to practice previously learned knowledge and skills. They will maintain a log of their tasks and activities, which will be verified by their supervisors. Supervisors will, in coordination with the instructor, assess student performance.
(1 C: 0 lect/pres, 0 lab, 1 other)

MSNA 2211 - Linux
The Linux course introduces students to the knowledge and skills needed to manage all Linux distributions. Students will learn installation principles, manage and administer file systems and processes, configure network services and security, and perform other system administrative tasks. This course covers the objectives outlined by CompTIA for its Linux+ certification exam, an internationally recognized industry credential that offers proof of knowledge.
(3 C: 2 lect/pres, 1 lab, 0 other)

MSNA 2212 - Help Desk
This course provides students with the fundamentals to provide basic help desk services. Students, through case studies and hands-on projects, will learn to perform activities associated with real-world customer support operations. Focus will be on the development of interpersonal skills and communication with end-users, to troubleshoot and resolve real-world issues, and to identify user hardware and software requirements, based on present and future functional needs. Students will learn to determine user training requirements, and to develop training plans and written documentation for clients.
Corequisite(s): MSNA2208
(3 C: 2 lect/pres, 1 lab, 0 other)

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

MSNA 2215 - MSNA Internship
The MSNA Internship is the capstone course for students enrolled in the MSNA major. Students entering the internship have already demonstrated their knowledge and abilities to perform entry level computer and network installation, configuration, maintenance, administration and repair. The internship is viewed as an entry level experience in the information technology (IT) workplace, and should be performed in an organization outside of the college. The internship may be either paid or unpaid.
(2 C: 0 lect/pres, 0 lab, 2 other)

MSNA 2216 - Cisco (Exploration) Routing Protocols and Concepts
This course provides a comprehensive theoretical and practical approach to learning the technologies and protocols needed to configure and verify router equipment, and to design and implement a class IP addressing scheme for a network. Upon completion of the course, students will have learned advanced configuration commands, and be able to identify the characteristics of distance vector routing protocols. This course is part of the four-part Cisco curriculum that prepares students for the CCNA certification exam.
Prerequisite(s): MSNA1204
(3 C: 1 lect/pres, 2 lab, 0 other)

MSNA 2218 - Cisco (Exploration) Accessing the WAN
This course provides a comprehensive theoretical and practical approach to learning the technologies and protocols needed to configure and verify router equipment for connectivity to a Wide Area Network (WAN) and to the Internet. Students will learn how high bandwidth applications affect a network. They will learn to configure, verify and troubleshoot Dynamic Host Control Protocol (DHCP) and Domain Name Services (DNS) on a router. Students will also learn to verify PPP and Frame Relay connections on Cisco Routers, and to troubleshoot WAN implementations. This course is part of the four-part Cisco curriculum that prepares students for the CCNA certification exam.
(3 C: 1 lect/pres, 2 lab, 0 other)

MSNA 2220 - A+ Certification Prep- Essentials and 220-602
A two-day seminar is to prepare students for taking the CompTIA A+ Certification Tests Essentials and 220-602, demonstrating their knowledge of microcomputer hardware, operating systems and software.
Prerequisite(s): CMSC1281 or MSNA1200
(1 C: 1 lect/pres, 0 lab, 0 other)

MSNA 2222 - MS XP Pro 70-270 Cert Test Prep
A two-day seminar is to prepare students for taking the Microsoft Certification Test 70-270, demonstrating their knowledge of MS Windows XP Professional.
Prerequisite(s): CMSC1221 or MSNA1202
(1 C: 1 lect/pres, 0 lab, 0 other)

MSNA 2228 - Cisco CCNA Cert Test Prep
This two-day seminar will prepare students for taking the Cisco CCNA 640-802 certification exam and demonstrate their knowledge of the Cisco CCNA curriculum.
(1 C: 1 lect/pres, 0 lab, 0 other)

MUSC1320 - Music in World Culture
Meets MN Transfer Goal 6 - The Humanities No matter what career you choose our society is a global society. This course will examine cultural perspectives through traditional and popular musics from a cross section of the most influential countries from across the globe. No previous musical experience required.
(3 C: 3 lect/pres, 0 lab, 0 other)

MUSC1350 - Experiencing Live Music
Meets MN Transfer Goal 6 - The Humanities Musical creations have always been an expression of the values and perceptions of human beings. Music extends into many facets of life and touches all of our lives. This course will explore the nature of music through listening to live performances and through lectures and discussions relating to these performances. No musical background required.
(3 C: 3 lect/pres, 0 lab, 0 other)

MUSC1360 - Class Voice
Meets MN Transfer Goal 6 - The Humanities This course is for students with little or no voice training as well as those who wish to continue previous vocal training. Class Voice is designed to offer the opportunity to study the voice as an instrument in an individual and small group setting. Students will examine the history of voice and develop fundamental singing skills through in-class performance of standard vocal literature. These fundamentals will include principles of voice production, breathing, tone placement, resonance, articulation, and song interpretation.
(3 C: 3 lect/pres, 0 lab, 0 other)

PHIL 1310 - Introduction to Philosophy
Meets MN Transfer Goal Area 6 - Humanities and Fine Arts
Introduction to Philosophy explores the questions that arise from standard philosophical attempts at understanding human nature and experience: Are we minds and bodies? Just bodies? Just minds? What difference might it make? What is it to lead a good human life? What is knowledge? What can we know, and how do we know it? Is reality independent of our minds? Is there a God? Students will be introduced to classical philosophical treatises that offer answers to these fundamental questions, and will be challenged to develop analytic thinking skills to defend and articulate their own answers. In this course, neither fluency nor even passing acquaintance with the history and practice of philosophy is presupposed; curiosity, on the other hand, is.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

PHIL 1320 - Ethics
Meets Transfer Goal Areas 6 and 9 - Ethical and Civic Responsibility and The Humanities. This course explores the philosophical conceptions of morality and value. It addresses questions such as: how do we make ethical decisions? Where does our sense of right and wrong come from? Do the values we hold apply only to us as individuals, to us as part of a culture, or do they apply to all humans in all places and at all times? Through an examination of major ethical theories, both contemporary and classical, this course reveals the relationship between ethical theory and ethical practice, particularly as it relates to contemporary issues such as the death penalty, poverty, gay marriage, and war.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

PHIL 1340 - Introduction to Logic
Meets MN Transfer Goal Areas 2 and 4 - Critical Thinking and Mathematics. This course begins by exploring the principles of inductive and deductive reasoning. The course includes traditional Aristotelian logic and modern symbolic logic, validity, invalidity, and proofs. Students will study various methods for proving validity in deductive arguments as well as for recognizing informal fallacies in logical reasoning. Topics include the method of counter-example, symbolic translation, Venn diagrams, truth table, deductive fallacies and categorical syllogisms. Since this course can be taken to fulfill the Mathematical-Logical Reasoning general education requirement, students should expect a Math-like course, with exercises and exams.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

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

PHIL 1360 - Comparative World Religions
Meets Mn Transfer Goal Areas 6 and 8 - The Humanities and Global Perspective. Using a comparative framework, this course attempts to understand the nature of religion by looking at the historical and ideological formation of some of the world's most influential religious traditions. It explores ideas of ultimate meaning in different cultures and different times, and follows the development of these ideas in the long search for purpose in human existence. The primary goal is to comprehend better the varieties of religious experience in the world, with a particular emphasis on understanding the unfamiliar empathetically and the familiar objectively.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 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.
Prerequisite(s): TECH1500 or MATH1300 or MATH0480 or MATH0490 or Appropriate Accuplacer Score.
(4 C: 3 lect/pres, 1 lab, 0 other)

PLBG 1504 - 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. PEX water and heating distribution piping will be discussed and utilized. Students will also utilize and study water pumps. Safe methods of handling and installing piping in accordance with Minnesota State Plumbing Code and general industry accepted standards will be emphasized.
(5 C: 2 lect/pres, 3 lab, 0 other)

PLBG 1508 - Plumbing Calculations I
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.
(4 C: 2 lect/pres, 2 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.
(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.
Prerequisite(s): PLBG1510
(3 C: 3 lect/pres, 0 lab, 0 other)

PLBG 1518 - Blueprint Reading and Estimating I
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.
(4 C: 1 lect/pres, 3 lab, 0 other)

PLBG 1520 - Blueprint Reading and Estimating II
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 basic residential installations and remodels. Building on these skills, the student will gain knowledge of complex residential and commercial blueprint reading, pipe diagrams, isometric drawing and job cost estimating. Student will learn to interpret commercial building roof drain systems including how to size, draw and estimate the cost of a storm water disposal system.
Prerequisite(s): PLBG1518
(3 C: 1 lect/pres, 2 lab, 0 other)

PLBG 1524 - Plumbing Calculations II
The application of 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. Emphasis will be put on estimating plumbing jobs. Calculation of profit margin percentages as it relates to the plumbing industry.
Prerequisite(s): PLBG1508
(3 C: 1 lect/pres, 2 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.
Prerequisite(s): PLBG1504
(3 C: 1 lect/pres, 2 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.
(2 C: 0 lect/pres, 0 lab, 2 other)

PLBG 1544 - 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.
(1 C: 0 lect/pres, 1 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.
(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.
(3 C: 1 lect/pres, 2 lab, 0 other)

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PLTW 1504 - Digital Electronics Engineering
This course covers fundamental principles of digital electronics, number systems and Boolean Algebra. Topics include number conversion, logic simplification, logic gates and their applications, sequential logic, logic families, microprocessors and interfacing. A background in basic electronics is given to aid in the understanding of some of the material presented in this course. The student will learn how to connect logic gates to form functional devices using simulation and breadboards with integrated circuits. Finally, a capstone project of their own design will be simulated, built on a breadboard and presented.
(3 C: 1 lect/pres, 2 lab, 0 other)

POLS 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 2401 - Medical Surgical Nursing I
This course explores the basic conditions and diagnostics related to the human body systems. You will also recognize the concepts of transcultural nursing and the needs of the aging population. This course includes medical terminology, pathology, signs and symptoms, treatment and nursing interventions of acute and chronic disorders.
Corequisite(s): PRSG2409, PRSG2419, PRSG2429, PRSG2439
(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 2402 - Medical Surgical Nursing II
This course builds on content from Medical Surgical Nursing I and integrates concepts introduced in other program courses. This course includes medical terminology, pathology, signs and symptoms, treatment and nursing interventions of acute and chronic disorders. Theory and practice from previous course work will be incorporated as you cover conditions and diagnostics related to body systems.
Corequisite(s): PRSG2450, PRSG2460, PRSG2410
(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 2409 - Basic Nursing Concepts
In this course the student will acquire the theory base essential to building a foundation for the practice of Nursing. This course is developed in units and assists the students to move from knowledge to application.
(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 2410 - Advanced Nursing Role Concepts
In this course the student will synthesize learning that has occurred in prior Practical Nursing theory and lab classes. The student will focus on integrating topics and skills that relate to the graduate role. The student will acquire needed knowledge and will develop autonomy to assure success in the transitional process from student to beginning practitioner. The student will review test taking techniques and the format for a systematic review for the State Board Examination. Additionally, this course illustrates employer-employee and consumer relations along with successful completion of a service-learning project.
(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 2419 - Nursing Skills
In this course the student will develop psychomotor skills, which are applied to a diverse range of patient problems in a variety of health care settings. Skills include medication administration, data collection, reporting, recording and documentation, medical and surgical asepsis and nurse patient interactions. The student will also acquire skills specific to various body systems necessary to complete patient care. (3 C: 0 lect/pres, 3 lab, 0 other)

PRSG 2429 - Essentials of Clinical Pharmacology
In this course students will acquire introductory pharmacology information. Students will acquire the knowledge related to medications referencing and medication classifications including dose, expected action, side effects, and untoward effects and nursing implications. Students will study conversions and drug calculations and IV fluid rate calculations.
(2 C: 2 lect/pres, 0 lab, 0 other)

PRSG 2439 - Clinical Application I
In this course the student will implement the nursing process and nursing skills in simulation, sub acute and long term nursing care settings.
(3 C: 0 lect/pres, 3 lab, 0 other)

PRSG 2440 - Clinical Application II
In this course the student will have the opportunity to implement the nursing process and nursing skills in a variety of settings that may include: simulation, acute, sub acute and long term nursing care settings. The student will integrate the theory and skills from previous theory and clinical course in increasing complex nursing situations. (5 C: 0 lect/pres, 5 lab, 0 other)

PRSG 2450 - Family Health Nursing
This course uses a family centered approach to introduce the student to the concepts of ante partum nursing, principles of labor, delivery, postpartum and newborn nursing care. In addition, this course provides the student with an opportunity to identify the physiological and psychological responses of children and families to illness. Nursing care concepts and the application of the nursing process are reflected in home, hospital and community settings.
(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG 2460 - Mental Health Nursing
In this course the student will have the opportunity to build on their understanding of human behavior and therapeutic communication skills. The student will discover how key nurses have influenced mental health nursing of today. The student will also be introduced to basic information and nursing interventions that enables monitoring the cognitive affect and behavioral functioning of clients.
(2 C: 2 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: research methods, biological bases of behavior, cognitive mechanisms, sensation and perception, learning and behavioral adaptation, development, social influences, personality, and disorders.
Prerequisite(s): READ0304 and ENGL0304 or 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 contacts 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

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PSYC 1310 - Psychology of Women
Meets MN Transfer Goal 5 and 9- History/Social, Behavioral Sciences and 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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

PSYC 2310 - Abnormal Psychology
Meets MN Transfer Goal Area 5 - History, Social and Behavioral Sciences. This course explores the nature and causes of abnormal behavior and the terminology used in describing and discussing abnormal behavior. Students will examine current trends and research in the fields of mental health and psychopathology.
Prerequisite(s): READ0304 and ENGL0304 or 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.
(3 C: 2 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 technical courses. This course is developmental and does not fulfill a general studies requirement.
Prerequisite(s): READ0300 or EAP0331 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

READ 1110 - Study Strategies
Students develop study skills necessary for academic success in college. Students focus on developing personal study habits that aid the student in reaching a desired level of academic accomplishment. Topics include time management, stress management, learning styles, note taking, listening skills, memory, reading techniques, test-taking strategies and critical thinking.
Prerequisite(s): READ0304 or 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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(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.
(1 C: 1 lect/pres, 0 lab, 0 other)

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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.
Prerequisite(s): MATH0380 or 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.
(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.
Prerequisite(s): SAMG1200
(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.
Prerequisite(s): SAMG1210
(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. Prerequisite(s): BUSM1200
(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.
(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.
Prerequisite(s): SAMG1200
(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.
(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.
Prerequisite(s): SAMG1200, SAMG1210, BUSM1200
(3 C: 2 lect/pres, 1 lab, 0 other)

SOCI 1310 - Introduction to Sociology
Meets MN Transfer Goal 5 - History and the Social and Behavioral Sciences. This course introduces students to the basic concepts, theories, and perspectives of sociology. Social interaction, social structure, social relationships, and stratification are analyzed to deepen understanding of how individuals function within larger social contexts. Students will use sociological data, concepts and theories to think critically about social institutions.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

SOCI 1320 - Social Problems
Meets MN Transfer Goal Area 5 - History and the Social and Behavioral Sciences. This course introduces students to a sociological analysis of social problems. A variety of social issues are analyzed, including race, poverty, population, and inequality. Causes and consequences of social problems are explored to deepen an understanding of the impact of social problems on quality of life. Expect an emphasis on critical thinking as potential solutions are developed through the analysis of data and the application of sociological processes.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

SOCI 1350 - Sociology of Marriage and Family
Meets MN Transfer Goal Area 5 - History and the Social and Behavioral Sciences. This course analyzes Marriage and Family from a sociological perspective. The course examines how historical changes, social contexts, economics, gender roles, and social policies affect how we form and maintain families. Marriage and family are looked at from both theoretical and practical perspectives.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

SOCI 2305 - Environmental Sociology
Meets MN Transfer Goals 5 and 10 - History/Social, Behavioral Sciences and People and the Environment. Students will examine environmental issues from a sociological perspective. The focus will be on social, political, and economic factors which encourage or discourage protection of the natural life support systems of earth. What steps are going to be required to restore our damaged resources and create a sustainable society for future generations? Considering the implications of what we have studied, students will be encouraged to develop a personal philosophy.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

SPAN 1310 - Beginning Spanish I
Meets MN Transfer Goal Area 8 - Global Perspective
This is the first course in a two-semester sequence in Beginning Spanish. Beginning level vocabulary (colors, family, time, basic descriptions) is introduced and then is incorporated into elementary conversations and writing assignments. Grammar presented in the first semester includes present tense of regular and irregular verbs and the future tense. The course covers essential grammar, oral and listening practices, composition and reading. Students are also introduced to the cultures of Spanish-speaking countries, with an emphasis on the differences among them. Linguistic varieties as well as idiomatic differences among Spanish-speaking countries are also introduced.
(4 C: 4 lect/pres, 0 lab, 0 other)

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SPAN 1320 - Beginning Spanish II
Meets MN Transfer Goal Area 8 - Global Perspective
Beginning Spanish II is the second course in a two-semester sequence in Beginning Spanish. The vocabulary established in Beginning Spanish I is augmented to include vocabulary related to food, clothing, the human body and its diseases, traveling, and the environment. The increased vocabulary furthers the students' verbal and writing skills, as well as their comprehension of more complicated reading and listening assignments. Grammar studied in this semester includes the past tenses, the subjunctive, the command forms, the difference between por and para, direct, indirect and reflexive pronouns, and the comparative. Students continue to study the differences among Spanish-speaking countries, focusing on specific aspects (e.g. food, gender roles, educational system, health and politics). Linguistic varieties as well as idiomatic differences among Spanish-speaking countries continue to be discussed.
(4 C: 4 lect/pres, 0 lab, 0 other)

SPEC 2850 - Special Topics
This is a variable credit course, with 1-6 credits.
(C: 0 lect/pres, 0 lab, 0 other)

SSCI 1300 - Introduction to the Social Sciences
Meets MN Transfer Goal Area 5 - History, Social and Behavioral Sciences. This course provides students an overview of the core concepts and methods of the social sciences. Students examine their world and current national and international issues from the perspectives of anthropology, sociology, political science, history, psychology and economics.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 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.
(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.
Prerequisite(s): HLTH1440, BLGY2320 or HLTH1444, HLTH1440
(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.
Corequisite(s): SURG1400, SURG1404, SURG1424
(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.
Prerequisite(s): BLGY2320, HLTH1440 or HLTH1444, HLTH1440
(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.
Prerequisite(s): SURG1400, SURG1404, SURG1420, SURG1424
(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.
Prerequisite(s): SURG1442
(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.
Corequisite(s): EMSC 1480, SURG 1400, SURG 1404, SURG 1420, SURG 1424, 1442
Prerequisite(s): EMSC1480, SURG1424 must be taken in the semester immediately preceding SURG 1462
(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.
Corequisite(s): SURG1443
Prerequisite(s): SURG1462, SURG1442
(3 C: 0 lect/pres, 3 lab, 0 other)

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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.
(3 C: 2 lect/pres, 1 lab, 0 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.
Prerequisite(s): TECH1500
(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.
(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.
Prerequisite(s): TECH1530 or BUSM1200 or CPTR1300
(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.
(2 C: 0 lect/pres, 2 lab, 0 other)

TECH 1552 - Basic Metal Joining and Fabrication
This course covers basic welding procedures using arc welding and oxy-fuel equipment. One of the major topics of discussion will be safe use of this equipment. Time will be spent in the lab completing welds in various positions with different processes and electrodes. The processes to be covered in this class will be stick welding (SMAW), wire feed (GMAW), Tig (GTAW) Oxy-Acetylene welding, cutting and brazing along with an introduction to other equipment used in welding shops. Students in this course will be non-welding majors where welding may be a useful tool. Course instruction will stress the many situations where it is advisable to have a skilled welder engaged. Knowing your limitations is of the utmost importance.
(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.
(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.
(2 C: 0 lect/pres, 2 lab, 0 other)

THTR 1310 - Theatre Appreciation
Meets Mn Transfer Goal Area 6 - Humanities and Fine Arts. This course is designed through a broad survey of dramatic text/performance, to improve students' understanding and appreciation of Theatre and Humanity. Through explorations in dramatic literature, as well as recorded and live performance, students will gain insight into Theatre-past and present. We will survey the history of Theatre and the theatre of history, gaining a deeper appreciation of our individual roles in these entwined processes.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

THTR 1360 - Acting for Everyone/Beginning Acting/Acting I
Meets MN Transfer Goal 6 - The Humanities and Fine Arts. This course is designed, through explorations in the art and craft of acting, to heighten the student's self-awareness and to improve presentational skills, both individually and in collaboration. Through a series of exploratory exercises, written assignments, and performed presentations, students will engage with and create texts, sharpening analytical skills, and improving understanding of both self and humanity.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 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.
(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.
(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.
(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.
(1 C: 1 lect/pres, 0 lab, 0 other)

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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.
(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.
(2 C: 1 lect/pres, 1 lab, 0 other)

USCV 1402 - Cardiovascular Anatomy and Physiology
A study of the anatomy, physiology, and structural relationships of the human heart and vascular system. Focus on hemodynamics and electrocardiography.
Prerequisite(s): BLGY2310 (4 C: 3 lect/pres, 1 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.
(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.
(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, embryological development of the heart, fetal circulation, and congenital heart defects. Prerequisite(s): USCV1400, USCV1402
(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 safe use of this equipment. Time will be spent in the lab completing welds in various positions with different processes and electrodes. The processes to be covered in this class will be stick welding (SMAW), wire feed (GMAW), Oxy-Acetylene welding, cutting and brazing along with an introduction to other equipment used in welding shops. Students in this course will be non-welding majors where welding may be a useful tool. Course instruction will stress the many situations where it is advisable to have a skilled welder engaged. Knowing your limitations is of the utmost importance. (2 C: 1 lect/pres, 1 lab, 0 other)

WELD 1505 - Arc Welding Processes I
Students will study the safety concerns connected with the Shielded Metal Arc Welding (SMAW), along with an introduction into Gas Metal Arc Welding (GMAW-S), the types of power sources used with these two processes, and other related safety working conditions in the welding field. Time will be spent in the lab developing skills using the SMAW and GMAW-S processes. Welds will be made in the flat, horizontal, vertical and overhead positions. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(5 C: 1 lect/pres, 4 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 course covers 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.
(C: 0 lect/pres, 0 lab, 0 other)

WELD 1512 - Arc Welding Processes I
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.
Prerequisite(s): WELD1509
(2 C: 0 lect/pres, 2 lab, 0 other)

WELD 1515 - Thermal Welding and Cutting Process
This course covers the use of oxy-fuel equipment welding, cutting, brazing, and the use of the Plasma Arc Cutting (PAC) and Air Carbon Arc Cutting (CAC-A) processes. A very important part of this course will be discussing safety as related to the thermal welding and cutting equipment. Time will be spent in the lab developing skills using the thermal welding and cutting processes. Welds will be made in the flat, horizontal, vertical and overhead positions. Cuts will be made in the flat and horizontal positions. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 1 lect/pres, 2 lab, 0 other)

WELD 1520 - Metallurgy in Fabrication
This course covers the study of metals and how to join them in the fabrication of weldments. Physical and mechanical properties of alloyed materials as they apply to welding, cutting, forming, shaping and heat treating will be covered. A wide variety of equipment will be used during this course and several projects will be fabricated and researched. Types of equipment will include shear, ironworker, pan and finger brake, rolling equipment, track torches, carbon arc gouging, and plasma cutting equipment. Also included in this course will be layout procedures for various applications. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.
Prerequisite(s): READ0304 or Appropriate Accuplacer Score.
(3 C: 2 lect/pres, 1 lab, 0 other)

WELD 1529 - Print Reading and Math Applications
The Welding profession requires a good working knowledge of blueprint and math concepts using whole numbers, fractions, decimals and the metric system in conjunction with blueprints. To accurately layout and fabricate parts the welder will need basic knowledge of blueprint lines, dimensions, notes, and welding symbols. In many 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. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.
Prerequisite(s): MATH0380 or Appropriate Accuplacer Score.
(2 C: 2 lect/pres, 0 lab, 0 other)

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WELD 1533 - Fabrication Print Reading
This course brings all the fundamental component of welding blue prints together that make up structures in industry. The student will break down welding blue prints to develop the skill needed to fabricate individual component parts that will makeup welded structures. There will be discussions on the different welding blue prints and symbols in the various organizations in the welding field. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.
Prerequisite(s): WELD1529
(1 C: 1 lect/pres, 0 lab, 0 other)

WELD 1540 - Arc Welding Processes II
Students will study the fundamentals of the two wire feeding processes; Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW). Within this study the students will cover five major groups: Power Sources, Shielding Gases, Methods of Transfer, Electrodes, and Limitations. Time will be spent in the lab developing skills using the GMAW-S, GMAW-P, GMAW (spray), FCAW-G/GM, FCAW-S processes. Welds will be made in the flat, horizontal, vertical and overhead positions. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.
Prerequisite(s): WELD1505
(6 C: 1 lect/pres, 5 lab, 0 other)

WELD 1545 - Gas Tungsten Arc Welding
Students will study the safety concerns connected with the Gas Tungsten Arc Welding (GTAW) equipment. Within this study the students will cover five major groups: Power Sources, Shielding Gases, Current Selection, Torch Types, and Limitations. Time will be spent in the lab developing skills using the GTAW process for carbon steel, austenitic stainless steel, and aluminum. Welds will be made in the flat, horizontal, vertical and overhead positions. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.
Prerequisite(s): WELD1505
(4 C: 1 lect/pres, 3 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.
Corequisite(s): WELD1546
(3 C: 0 lect/pres, 3 lab, 0 other)

WELD 1558 - Fabrication, Inspection and Testing
Students will study the fundamentals of welding inspection processes and different types of testing that are conducted both destructively and non-destructively to ensure the soundness of the weldments. The students will also gain an understanding of the importance of researching companies to better prepare them in the resume development process, and interview with confidence. Time will be spent in the lab working with a wide variety of equipment to repair and fabricate new weldments. Written and Fundamental tests will be done in accordance with the American Welding Society (AWS) SENSE curriculum and code books.
Prerequisite(s): WELD1554, WELD1520
(3 C: 2 lect/pres, 1 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.
(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.
(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.
(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.
Prerequisite(s): WETT1506, WETT1510, WETT1502
(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.
Prerequisite(s): WETT1506, WETT1510, WETT1502
(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.
Prerequisite(s): WETT1518
(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.
Prerequisite(s): WETT1506, WETT1510, WETT1502
(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.
(3 C: 3 lect/pres, 0 lab, 0 other)

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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 contractors 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.
Prerequisite(s): WETT1502, WETT1506, WETT1510
(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.
Prerequisite(s): WETT1534
(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. (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.
Prerequisite(s): WETT1502, WETT1506, WETT1510
(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. Use of the D2L online learning environment will be utilized in this class.
Corequisite(s): WETT1546 Prerequisite(s): WETT1554, WETT1502, WETT1506, WETT1510, WETT1514, WETT1522, WETT1526, WETT1538, WETT1542 (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.
Prerequisite(s): WETT1502, WETT1506, WETT1510
(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.
Prerequisite(s): WETT1502, WETT1506, WETT1510
(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.
(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.
(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.
(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1569 - 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.
(1 C: 1 lect/pres, 0 lab, 0 other)

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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.
(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1573 - 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.
(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1574 - Ion Exchange/Reverse Osmosis
In this course the operator will gain knowledge and understanding in the operation of ion exchange and reverse osmosis water treatment systems. Operators will practice operating and maintaining treatment units in order to provide both safe and aesthetically desirable drinking water supplies.
(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1577 - 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.
(1 C: 1 lect/pres, 0 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.
(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 form occurring.
(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.
(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1586 - Distribution System Operation and Maintenance
This course is designed to train operators/students to effectively operate and maintain water distribution systems in a safe and effective manner. The course will provide information on system installation, excavation safety, locating and marking of utilities, proper operation of storage facilities, methods of mapping and record keeping and public relations.
(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.
(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1591 - 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.
(1 C: 1 lect/pres, 0 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.
(1 C: 1 lect/pres, 0 lab, 0 other)

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

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.
(1 C: 1 lect/pres, 0 lab, 0 other)

WETT 1596 - Iron and Manganese Treatment Techniques
This course is designed to train small water system operators to understand the sources of iron and manganese in drinking water supplies. Information will be presented on treatment techniques, test methods, impacts on and with-in treatment systems as well as chemical and physical processes utilized for removal. Students will review and discuss the effects of iron and manganese on the customers and heating systems throughout their service area. Critical evaluation of the secondary maximum contaminant levels will be explored. The course will also include exploration of aeration systems and chemical addition used in conjunction with filtration systems for the removal of iron and manganese.
(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.
Prerequisite(s): READ0304 and ENGL0304 or Appropriate Accuplacer Score.
(3 C: 3 lect/pres, 0 lab, 0 other)

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

Administration, Faculty, and Staff

Akerman, **Patricia** (pakerman@sctc.edu)..... (320) 308-5966
Librarian
AAS, Itasca Community College
AA, Itasca Community College
BA, College Of Saint Scholastica
MED, College Of Saint Scholastica

Akerson, **Joni** (jakerson@sctc.edu)..... (320) 308-6158
Safety & Health Officer

Allex, **James** (jallex@sctc.edu)..... (320) 308-6528
Auto Instructor
Diploma, St. Cloud Technical College

Anderson, **James** (janderson@sctc.edu) ..... (320) 308-5013
Accounting Instructor
BS, St. Cloud State University
MS, St. Cloud State University

Anderson, **Nicole** (nanderson@sctc.edu) ..... (320) 308-5994
Office & Administrative Specialist

Anderson, **Roseanne** (randerson@sctc.edu) ..... (320) 308-0978
Administrative Assistant, Dean of Trade & Industry
Diploma, St. Cloud Technical College

Andrews, **Carolyn** (candrews@sctc.edu)..... (320) 203-2386
Nursing Assistant Instructor
Diploma, Saint Anthony College Of Nursing
BS, College Of St Francis
MS, University Of Minnesota Twin Cities

Antony, **Richard** (rantony@sctc.edu) ..... (320) 308-5012
Civil Engineering Instructor
BS, St. Cloud State University
Diploma, St. Cloud Technical College
AAS, St. Cloud Technical College
MS, St. Cloud State University

Apel, **Vickie** (vapel@sctc.edu)..... (320) 308-5980
Vice President for Institutional Advancement

Aysta, **Alaine** (aaysta@sctc.edu)..... (320) 308-5175
Psychology Instructor
BS, University Of Minnesota-Duluth
MA, University Of Minnesota-Duluth
SGC, St. Cloud State University
SGC, St. Cloud State University

Barger, **Denise** (dbarger@sctc.edu)..... (320) 308-5156
Practical Nursing Instructor
BSN, Minnesota State University Moorhead

Bauer, **Jacqueline** (jbauer@sctc.edu)..... (320) 308-5486
Placement Coord/Recruiter

Baugh, **Anita** (abaugh@sctc.edu)..... (320) 308-5936
Director, Financial Aid
BS, Ball State University
MS, Southwest Minnesota State University

Beckl, **Robert** (rbeckl@sctc.edu)..... (320) 308-5387
PT Paramedicine Instructor
AA, Rainy River Community College
AAS, South Central Area Vocational-Technical School

Berg, **Judy** (jjacobsonberg@sctc.edu) ..... (320) 308-5096
Counselor
BS, St. Cloud State University
MS, St. Cloud State University

Bergquist, **Vi** (vbergquist@sctc.edu)..... (320) 308-5177
Dean of Library and Information Services
BA, University Of North Dakota-
MS, St. Cloud State University

Bernett, **Theresa** (tbernett@sctc.edu) ..... (320) 308-5403
Administrative Assistant, Dean of Health & Human Services

Bjork, **John** (jbjork@sctc.edu) ..... (320) 308-5757
Carpentry Lab Assistant
BA, Minnesota State University Moorhead

Blanchard, **Robert** (rblanchard@sctc.edu) ..... (320) 308-5094
Electrical Instructor
Diploma, St. Cloud Technical College
BA, Minnesota Bible College

Blanchette, **Kevin** (kblanchette@sctc.edu) ..... (320) 308-5101
Math Gen Ed Instructor
MS, St. Cloud State University

Blommer, **Christine** (cblommer@sctc.edu) ..... (320) 308-5923
Administrative Assistant, Sr. VP of Administration

Borgert, **Catherine** (cborgert@sctc.edu)..... (320) 308-0973
General Education Instructor
BS, St. Cloud State University
MS, St. Cloud State University

Broker-Relph, **Margaret** (pbrokerrelph@sctc.edu)..... (320) 308-5052
PT Dental Assistant Instructor
Diploma, St. Cloud Technical College
BS, St. Cloud State University
AAS, St. Cloud Technical College

Brunn, **Susan** (sbrunn@sctc.edu)..... (320) 308-5927
Admissions Representative
AAS, St. Cloud Technical College
BA, Concordia University, St. Paul

Buchanan, **Mark** (mbuchanan@sctc.edu)..... (320) 308-6642
Sales & Management Instructor
AAS, Wisconsin Indianhead Technical College
BS, University Of Wisconsin-Stout

Burand, Elizabeth (eburand@sctc.edu)..... (320) 308-0059
Biology Instructor
BS, University of Wisconsin, LaCrosse

Burklund, **Bradley** (bburklund@sctc.edu)..... (320) 308-5033
Farm Mgmt Instructor
BS, University Of Wisconsin
MED, University Of Minnesota

Butkowski, **Kim** (kbutkowski@sctc.edu)..... (320) 308-5563
PT Dental Assist Instructor
Diploma, St. Cloud Technical College

Carkhuff, **Lois** (lcarkhuff@sctc.edu) ..... (320) 308-6598
Registration Assistant
AAS, St. Cloud Technical College

Cation, **Susan** (scation@sctc.edu) ..... (320) 308-3382
General Maintenance Worker

Christenson, **Steven** (schristenson@sctc.edu) ..... (320) 308-5079
Plumbing Instructor
Diploma, St. Cloud Technical College

Cimenski, **Steve** (scimenski@sctc.edu)..... (320) 308-5036
Automotives Instructor
Diploma, St. Cloud Technical College
BS, Bemidji State University

Classen, **Sharon** (sclassen@sctc.edu)..... (320) 308-5028
Customer Service Specialist Int-Bookstore

Clodfelter, **Terry** (tclodfelter@sctc.edu)..... (320) 308-5232
Ecology/Environmental Science Instructor
BS, University Of Georgia
MA, Ball State University
MS, Minnesota State University, Mankato

Dahl, **John** (jdahl@sctc.edu)..... (320) 308-5012
Civil Engineering Instructor
Diploma, Dunwoody Institute
BS, University Of Minnesota
MS, St. Cloud State University

Dahlstrom, **Duane** (ddahlstrom@sctc.edu) ..... (320) 308-5572
Business Manager

Denne-Morgan, **Diane** (dmorgan@sctc.edu) ..... (320) 308-6522
Customized Training Rep, Custom Training
Diploma, Rasmussen College-St Cloud
BA, Concordia University, St. Paul

DeRung, **Dale** (dderung@sctc.edu) ..... (320) 308-5047
Auto Body Instructor
Diploma, Willmar Community College

Dingman, Rita (rdingman@sctc.edu)..... (320) 308-5921
Surg Tech Instructor
AAS, St. Cloud Technical College
Diploma, St. Cloud Technical College

Doetkott, **Renee** (rdoetkott@sctc.edu) ..... (320) 308-6032
Nursing Instructor
Diploma, St. Cloud School Of Nursing
BS, Minnesota State University, Mankato

Dombrovski, **Mary** (mdombrovski@sctc.edu) ..... (320) 308-5214
Accounting Instructor
AAS, St. Cloud Technical College
BS, University Of Wisconsin-Platteville

Edlund, Lori (ledlund@sctc.edu) ..... (320) 308-5386
Nursing Instructor
BS, College of St. Catherine

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 of Enrollment Mgmnt
BS, St. Cloud State University
MA, College Of Saint Scholastica

Engel, **Susan** (sengel@sctc.edu)..... (320) 308-5186
English Instructor
BA, St. Cloud State University
MS, St. Cloud State University
MA, St. Cloud State University

Fabel, **Randy** (rfabel@sctc.edu)..... (320) 308-6048
Carpentry Instructor
BS, St. Cloud State University
MSED, Southwest Minnesota State University

Fabian, **Sandra** (sfabian@sctc.edu) ..... (320) 308-5908
Associate Dean, Academic and Innovative Partnerships
Diploma, Ridgewater College
BA, Minnesota State University Moorhead
MA, St. Marys University

Falkofske, **James** (jfalkofske@sctc.edu)..... (320) 308-5171
Director of Online Learning
BS, University Of Wisconsin-Stout
MS, University Of Wisconsin-Stout
MS, University Of Wisconsin-Stout

Feddema, **Lana** (lfeddema@sctc.edu)..... (320) 308-1595
Registrar
Diploma, St. Cloud Technical College
AA, Lake Superior College
BES, St. Cloud State University

Felling, **Mona** (mfelling@sctc.edu)..... (320) 308-5025
Computer Science Instructor
AAS, St. Cloud Technical College
AA, Anoka-Ramsey Community College

Fenton, **Diana** (dfenton@sctc.edu)..... (320) 308-5235
Biology Instructor
BS, North Dakota State University
MS, University Of Minnesota-Mpls/St. Paul
MS, St. Cloud State University

Fiereck, **Jeri** (jfiereck@sctc.edu)..... (320) 308-6007
Assessment Coordinator

Flatley, **Thomas** (tflatley@sctc.edu)..... (320) 308-3382
General Maintenance Worker

Foseid, **Joseph**..... (320) 308-3382
Repair Worker
Diploma, St. Cloud Technical College

Foster, **Scott** (sfoster@sctc.edu)..... (320) 308-5187
Sociology Instructor
AA, Central Lakes College
BA, Bemidji State University
MA, University Of North Dakota

Fraser, **Andrew** (afraser@sctc.edu) ..... (320) 308-5342
Web Developer

Friedl, **Thomas** (tfriedl@sctc.edu) ..... (320) 308-3382
General Maintenance Worker

Friedrich, **Kathleen** (kfriedrich@sctc.edu)..... (320) 308-5066
Customized Training Rep, Custom Training
BS, College of St. Catherine

Fritz, **Rose** (rfritz@sctc.edu)..... (320) 308-6470
Account Clerk, Senior
CEC, Rasmussen College-St Cloud

Gaches, **Salle** (sgaches@sctc.edu) ..... (320) 308-5959
Assistant Director of Financial Aid

Gapinski, Laura (lgapinski@sctc.edu) ..... (320) 308-5923
Account Clerk
AAS, Rasmussen College

Gilbride, **Kathleen** (kgilbride@sctc.edu)..... (320) 308-5940
Customized Training Rep, Custom Training
BS, Winona State University
AAS, St. Cloud Technical College
MS, Minnesota State University Moorhead

Gilmore, **Steven** (sgilmore@sctc.edu)..... (320) 308-5059
Plumbing Instructor
BS, St. Cloud State University

Goodwin, **Sandie** (sgoodwin@sctc.edu)..... (320) 308-5174
Account Clerk, Bookstore
AAS, St. Cloud Technical College

Green-Quayle, **Laurie** (lgreenquayle@sctc.edu)..... (320) 308-5921
Surg Tech Instructor
Diploma, Anoka Technical College

Griffey, **Stacy** (sgriffey@sctc.edu)..... (320) 308-5091
Customer Service Specialist, Int., Admissions
BA, St. Cloud State University

Gruber, **Iris** (igruber@sctc.edu)..... (320) 308-5090
Administrative Assistant, VP of Student Affairs

Gunderson, **Jeffrey** (jgunderson@sctc.edu) ..... (320) 308-0971
Sonography Instructor
CEC, United Hosp Grd Frk Clin Prog Rad-T
CEC, University Of Iowa Col Of Med
BS, University Of St. Francis

Hall, **Joan** (jhall@sctc.edu)..... (320) 308-5565
Administrative Assistant, Dean of General Education

Haller, **John** (jhaller@sctc.edu)..... (320) 308-5922
Director of Student Life & Athletics
BA, St. Cloud State University
MA, University Of Missouri-Kansas City

Hallermann, **Jeffery** (jhallermann@sctc.edu) ..... (320) 308-5918
Mechanical Design Tech Instructor
Diploma, St. Cloud Technical College

Harris, **Sharon** (sharris@sctc.edu)..... (320) 308-3709
Account Clerk

Haugen, **Ronald** (rhaugen@sctc.edu)..... (320) 308-5063
Accounting Instructor
BS, Minnesota State University Moorhead

Haus, **Charles** (chaus@sctc.edu)..... (320) 308-5111
Welding Instructor
Diploma, St. Cloud Technical College

Helens, **Joyce** (jhelens@sctc.edu)..... (320) 308-5017
President
BA, Saint Martins College
MA, Portland State University

Hendrickson, **Lois** (lhendrickson@sctc.edu) ..... (320) 308-5080
Counselor
BS, University Of Minnesota
MS, St. Cloud State University

Henkemeyer, **Barbara** (bhenkemeyer@sctc.edu) ..... (320) 308-5906
Dental Hygiene Program Faculty
AS, Minnesota State University, Mankato
BS, Minnesota State University, Mankato
MS, St. Cloud State University

Heurung, **Blake** (bheurung@sctc.edu)..... (320) 308-5589
Maintenance Worker Emergency Medical Services

Hiemenz, **Karen** (khiemenz@sctc.edu)..... (320) 308-5017
Administrative Assistant to the President
Diploma, St. Cloud Technical College

Hiestand, **Nathaniel** (nhiestand@sctc.edu)..... (320) 308-5009
Assistant Director of Student Life
BA, Saint Johns University

Hinnenkamp, **Ruth** (rhinnenkamp@sctc.edu)..... (320) 308-5957
Accounting Technician, Custom Training
AAS, St. Cloud Technical College

Hirdler, **June** (jhirdler@sctc.edu) ..... (320) 308-5011
Administrative Assistant, Custom Training

Hixson, **James** (jhixson@sctc.edu)..... (320) 308-5670
Computer Science Instructor
BS, University Of Minnesota
AAS, St. Cloud Technical College

Hnatko, **Alan** (ahnatko@sctc.edu) ..... (320) 308-5072
Psychology Instructor
BA, University Of Minnesota-Duluth
MS, St. Cloud State University

Hollenhorst, **Mark** (mhollenhorst@sctc.edu)..... (320) 308-5120
Accounting Instructor
BA, Saint Johns University

Holstad, **Deborah** (dholstad@sctc.edu) ..... (320) 308-3227
Human Resources Director
BA, St. Cloud State University

Hooper, **Janice** (jhooper@sctc.edu) ..... (320) 308-5015
Practical Nursing Instructor
AAS, Hibbing Community College
BSN, New York University

Hotz, **Geraldine** (ghotz@sctc.edu) ..... (320) 308-5065
Health Information Technology Instructor
AAS, Fergus Falls Community College
BES, St. Cloud State University
MA, College Of Saint Scholastica

Huls, **Janet** (jhuls@sctc.edu) ..... (320) 308-5064
Food Service Worker

Hunt, **Janice** (jhunt@sctc.edu) ..... (320) 308-5512
Account Clerk Senior, Business Office

Ihnen, **Karin** (kihnen@sctc.edu) ..... (320) 308-5211
Child & Adult Care Education Instructor
BS, University Of Minnesota Twin Cities
MAST, University Of Minnesota

Jahnke, **Robin** (rjahnke@sctc.edu) ..... (320) 308-0975
Physics Instructor
BS, University Of Wisc
MS, University Of Wisc

Jensen, **Mary** (mjensen@sctc.edu)..... (320) 308-6077
Administrative Assistant, Custom Training
Diploma, St. Cloud Technical College

Jochum, **Jilleen** (jjochum@sctc.edu) ..... (320) 308-6471
Accounting Officer

Johnson, **David** (djohnson@sctc.edu) ..... (320) 308-5044
Mechanical Design Tech Instructor
Diploma, Faribault Technical College

Johnson, **Jed** (jjohnson@sctc.edu) ..... (320) 308-5975
Architectural Instructor
Diploma, St. Cloud Technical College

Jones, **Kelly** (kjones@sctc.edu) ..... (320) 308-5564
Speech Instructor
BA, North Dakota State University
MA, North Dakota State University

Kantor, **Cindy** (ckantor@sctc.edu) ..... (320) 308-6641
Administrative Assistant Dean of Business
AA, St. Cloud State University
AAS, St. Cloud Technical College
CERT, St. Cloud Technical College

Kapitzke, **Robert** (rkapitzke@sctc.edu)..... (320) 308-5195
Philosophy Instructor
BS, United States Air Force Academy
MA, University Of Florida
PHD, Indiana University-Bloomington

Kasimor, **Mary** (mkasimor@sctc.edu)..... (320) 308-5099
Writing Instructor
BA, St. Cloud State University
MS, St. Cloud State University
MA, St. Cloud State University

Keller, **Kristina** (kkeller@sctc.edu) ..... (320) 308-5538
Dean of Business
BS, University Of Minnesota-Crookston
MBA, St. Cloud State University

Kelley-Bowman, **Cheryl** (ckelley-bowman@sctc.edu) . (320) 308-5548
Customized Training Rep, Custom Training
BA, College Of Saint Benedict
MA, Concordia University, St. Paul

Kidder, **Randall** (rkidder@sctc.edu)..... (320) 308-5916
Heat & Air Instructor
Diploma, Northwest Technical College-Moorhead

Kippley, **Margaret** (mkippley@sctc.edu) ..... (320) 308-5179
Practical Nursing Instructor
BS, St. Cloud State University
MS, University Of Minnesota

Kircher, **Brian** (bkircher@sctc.edu)..... (320) 308-0901
Electrical Instructor
Diploma, St. Cloud Technical College

Kline, **John** (jkline@sctc.edu) ..... (320) 308-5411
Med/Hvy Truck Instructor
Diploma, St. Cloud Technical College

Kloos, **Lori** (lkloos@sctc.edu) ..... (320) 308-5026
Senior VP for Administration
BS, Minnesota State University Moorhead

Klug, **Gerianne** (gklug@sctc.edu)..... (320) 308-1591
General Education
BA, St. Cloud State University
MS, St. Cloud State University

Knapek, **Wendy** (wknapek@sctc.edu) ..... (320) 308-5919
Administrative Assistant, Dental Clinic

Kotschevar, **Linda** (lkotschevar@sctc.edu)..... (320) 308-5028
Central Services Administrative Specialist, Bookstore
BA, St. Cloud State University

Kraipowich, **Jennifer** (jkraipowich@sctc.edu)..... (320) 308-6491
Human Relations Instructor
AA, Central Lakes College
BS, St. Cloud State University
MS, St. Cloud State University

Kramer, **Bradley** (bkramer@sctc.edu)..... (320) 308-5010
General Education Instructor
BA, St. 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** (ekuebler@sctc.edu)..... (320) 308-3382
Electrician

LaNave, **Kevin** (klanave@sctc.edu) ..... (320) 308-6456
Service Learning Coordinator
BA, Saint Johns University-New York

Larison, **Terri** (tlarison@sctc.edu) ..... (320) 308-3700
Practical Nursing Instructor
AAS, Ridgewater College
AS, Ridgewater College
BS, Minnesota State University, Mankato

LeBlanc, **Mary** (mleblanc@sctc.edu)..... (320) 308-5051
Dental Hygiene Instructor
BS, University Of South Dakota
AA, University Of South Dakota

Leuthard, **Penny** (pleuthard@sctc.edu) ..... (320) 308-0979
Advertising Instructor
Diploma, Minnesota State Comm. & Tech. College, Moorhead

Leyk, **Donna** (dleyk@sctc.edu) ..... (320) 203-2384
Nursing Instructor
Diploma, St. Cloud School Of Nursing

Lindgren, **Melissa** (mlindgren@sctc.edu)..... (320) 308-5310
Dental Clinic Coordinator
AAS, St. Cloud Technical College

Lindsey, **Melissa** (mlindsey@sctc.edu) ..... (320) 308-5024
English Instructor
BA, Moody Bible Institute
MA, St. Cloud State University

Lindt, **Carol** (clindt@sctc.edu)..... (320) 308-5919
Dental Lab Assistant

Loch, **Gary** (gloch@sctc.edu)..... (320) 308-5336
Diversity Coordinator

Lorenz, **David** (dlorenz@sctc.mn.us)..... (320) 308-6024
Carpentry Instructor
BS, St. Cloud State University

Lourey, **Diane** (dlourey@sctc.edu)..... (320) 308-6155
Writing Instructor
BS, St. Cloud State University
MS, St. Cloud State University

Lourey, **Jessica** (jlourey@sctc.edu)..... (320) 308-5197
Sociology Instructor
BA, St. Cloud State University
MA, St. Cloud State University
MS, St. Cloud State University

Lundblad, **Julie** (jlundblad@sctc.edu) ..... (320) 308-5076
General Education Instructor
BA, Crown College
BS, Bemidji State University
MA, Bemidji State University

Mackereth, **Kimberly** (kmackereth@sctc.edu)..... (320) 308-1541
Customer Services Specialist Intermediate Admissions
AAS, St. Cloud Technical College

Mannie, **Patricia** (pmannie@sctc.edu)..... (320) 308-5410
Dental Hygiene Instructor
BS, Old Dominion University
MS, St. Cloud State University

McAllister, **Eric** (emcallister@sctc.edu) ..... (320) 308-5931
Welding Instructor
Diploma, St. Cloud Technical College

McClintock, **David** (dmcclintock@sctc.edu) ..... (320) 308-5032
Information Technology Specialist 1
AAS, St. Cloud Technical College

McEwen, **Michelle** (mmcewen@sctc.edu) ..... (320) 308-5965
Cashier, Business Services
AAS, St. Cloud Technical College

McGuire, **Jeanne** (jmcguire@sctc.edu)..... (320) 308-5034
Child & Adult Care Instructor
BA, College of St. Catherine
MA, St. Thomas College

McGuire, **Patrick** (pmcguire@sctc.edu) ..... (320) 308-6010
Cardiovascular Tech Instructor
Diploma, St. Cloud Technical College
AA, National University
BS, National University
AAS, Excelsior College

Mergen, **Robert** (bmergen@sctc.edu) ..... (320) 308-5902
Electrical Instructor
BS, St. Cloud State University

Meyer, **Susan** (smeyer@sctc.edu) ..... (320) 308-5973
Account Clerk, Purchasing

Middendorf, **Sarah** (smiddendorf@sctc.edu) ..... (320) 308-5301
Admin Assistant, Custom Training

Mies, **Jody** (jmies@sctc.edu) ..... (320) 308-5061
Civil Eng/Land Surv. Instructor
CERT, St. Cloud Technical College

Miller, **Lisa** (lmiller@sctc.edu)..... (320) 308-6521
Registration Assistant
Diploma, St. Cloud Technical College

Mishow, **Jerold** (jmishow@sctc.edu) ..... (320) 308-3382
Plant Maintenance Engineer

Missaghi, **Soheyl** (smissaghi@sctc.edu)..... (320) 308-5409
General Education Instructor
BA, St. Cloud State University
MA, St. Cloud State University

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, St. Cloud State University
CERT, St. Cloud Technical College

Nadeau, Larry (lnadeau@sctc.edu) ..... (320) 308-5304
Customized Training Rep, Customized Training

Neubauer, Carolyn (cneubauer@sctc.edu) ..... (320) 308-5573
Customized Training Rep., Customized Training
AAS, University Of South Dakota
BSE, Dakota State College

Neuwirth, Nancy (nneuwirth@sctc.edu)..... (320) 308-
College Lab Assistant
AAS, St. Cloud Technical College

O'Keefe, **Thomas** (tokeefe@sctc.edu) ..... (320) 308-6154
Finance & Credit Instructor
BA, St. John's University
MBA, University of St. Thomas

O'Leary, **Brad** (boleary@sctc.edu)..... (320) 308-5000
General Maintenance Worker

Olson, Carolyn (colson@sctc.edu)..... (320) 308-5156
Director of Nursing
MS, University of Minnesota, Twin Cities
BSN, Minnesota State University, Moorhead

Olson, Kristin (kolson@sctc.edu) ..... (320) 308-6173
Sonography Instructor
CERT, Mayo School of Health Sciences
CERT, United Hospital, Grand Forks

Opatz-Osgood, **Clare** (cosgood@sctc.edu)..... (320) 308-5395
General Education Instructor
BS, St. Cloud State University
MA, Northern Illinois University

Palm, **Jeff** (jpalm@sctc.edu)..... (320) 308-5924
Advertising Instructor
BA, Concordia College
MA, North Dakota State Univ

Parry, **Marge** (mparry@sctc.edu) ..... (320) 308-5028
Central Services Administrative Specialist Sr., Bookstore
Diploma, St. Cloud Technical College

Peterson, **Bruce** (bpeterson@sctc.edu)..... (320) 308-6639
Dean of Trades & Industry
BS, Bemidji State University

Peterson, **Kelly** (kpeterson@sctc.edu)..... (320) 308-5000
General Maintenance Worker

Peterson, **Rita** (rpeterson@sctc.edu) ..... (320) 308-5031
Dental Assisting Instructor
BS, University Of Minnesota

Petters, **Carol** (cpetters@sctc.edu) ..... (320) 308-5060
Lab Assistant, LPN Program
Diploma, St. Cloud Technical College

Possail, **Sarah** (spossail@sctc.edu)..... (320) 308-5074
Information Technology Specialist 2
BA, Dordt College

Provost, **Marcia** (mprovost@sctc.edu)..... (320) 308-5478
Financial Aid Assistant
Diploma, Anoka Technical College

Raeker, **Alcuin** (araeker@sctc.edu)..... (320) 308-5902
Electrical Instructor
Diploma, St. Cloud Technical College
BS, St. Cloud State University

Ramanathan, **Gajendranathan** (gramanathan@sctc.edu)..... (320) 308-6594
Accounting Instructor
AB, University Of Toledo
BBA, University Of Toledo
MBA, University Of Toledo

Rausch, **Jason** (jrausch@sctc.edu) ..... (320) 308-5669
Information Technology Specialist 3
AAS, Alexandria Technical College

Rauschendorfer, **Charles** (crauschendorfer@sctc.edu). (320) 308-5901
Automotives Instructor
CEC, National Institute Of Careers
BACH, St. Cloud State University

Redmond, **Keith** (kredmond@sctc.edu)..... (320) 308-5952
WETT Instructor
AAS, Vermilion Community College
BS, Bemidji State University

Rehnke, **Gary** (grehnke@sctc.edu) ..... (320) 308-5995
Information Tech Specialist 3
Diploma, Anoka Technical College

Reid, **Susan** (sreid@sctc.edu) ..... (320) 308-6031
Chemistry Instructor
BA, Saint Olaf College
MS, Ohio State University-Main Campus

Reigstad, **Gregory** (greigstad@sctc.edu) ..... (320) 308-0977
TRIO Director, adjunct faculty
BA, University Of Minnesota
MA, Minnesota State University, Mankato

Rhodes, **Anne** (apiercerhodes@sctc.edu) ..... (320) 308-5046
Interpreter
AAS, Saint Paul College

Richardson, **Jan** (jrichardson@sctc.edu) ..... (320) 308-5178
Practical Nursing Instructor
BA, College Of Saint Scholastica
MA, Bethel Col and Sem

Rieber, **Larry** (lrieber@sctc.edu) ..... (320) 308-5954
Custom Training Coordinator, Customized Training
AAS, Alexandria Technical College

Roiger, **Deborah** (droiger@sctc.edu) ..... (320) 308-5050
Anatomy and Physiology Instructor
BS, St. Cloud State University
MA, St. Marys University

Ruuska, **David** (druuska@sctc.edu) ..... (320) 308-5088
Machine Tool Instructor
BS, Northern Michigan University
MA, University Of Michigan, Ann Arbor

Sadoski, **David** (dsadoski@sctc.edu)..... (320) 308-5029
Computer Science Instructor
AAS, St. Cloud State University
BES, St. Cloud State University

Saiko, **Sheila** (ssaiko@sctc.edu) ..... (320) 308-5668
Scholarship & Database Admin OAS, Sr.

Salner, **Anna** (asalner@sctc.edu) ..... (320) 308-5993
Personnel Officer
AAS, Rasmussen College-Eden Prairie

Salzbrun, **Tammy** (tsalzbrun@sctc.edu) ..... (320) 308-5037
Food Service Worker

Schaaf, **Roxanne** (rschaaf@sctc.edu) ..... (320) 308-6022
Assistant Director Enrollment Management.
Diploma, St. Cloud Technical College
AAS, St. Cloud Technical College

Scheffler, **Eldon** (escheffler@sctc.edu) ..... (320) 308-5978
Advertising Instructor
Diploma, St. Cloud Technical College

Schewe, **Geralyn** (gschewe@sctc.edu)..... (320) 308-6009
Sales & Mgmt Instructor
Diploma, Pipestone Area Vocational Technical Inst.

Schirmers, **Daniel** (dschirmers@sctc.edu)..... (320) 308-0901
Electrical Instructor
Diploma, St. Cloud Technical College

Schlicht, **Susan** (sschlicht@sctc.edu) ..... (320) 308-5956
Psychology Instructor
BS, St. Cloud State University
MS, St. Cloud State University
EDD, University Of Minnesota

Schmidt, **Mary** (mschmidt@sctc.edu)..... (320) 308-5230
Speech Instructor
BA, South Dakota State University
MA, South Dakota State University

Schmidtbauer, **Beverly** (bschmidtbauer@sctc.edu) ..... (320) 308-5406
Customer Services Specialist, Sr., Admissions

Scholla, **James** (jscholla@sctc.edu)..... (320) 308-5252
College Bookstore Supervisor
AAS, Mankato Area Vocational Technical Institute

Schramel, **Jamie** (jschramel@sctc.edu) ..... (320) 308-3382
General Maintenance Worker

Schroeder, **Phillip** (pschroeder@sctc.edu)..... (320) 308-5580
Vice President of Student Affairs
BA, University Of North Dakota
MLS, University Of Minnesota

Schug, **Patricia** (pschug@sctc.edu)..... (320) 308-5926
Administrative Asst., Placement
Diploma, St. Cloud Technical College

Schumer, **Annette** (aschumer@sctc.edu)..... (320) 308-5480
Personnel Aide

Shand, **Rebecca** (rshand@sctc.edu) ..... (320) 308-0970
Sales & Mgmt Instructor
BS, University Of Minnesota
MED, University Of Minnesota

Shermock, **Carolina** (cshermock@sctc.edu)..... (320) 308-5040
Administrative Assistant, Custom Training
Diploma, Duluth Community College Center

Shrestha, **Prabesh** (pshrestha@sctc.edu)..... (320) 308-5501
Campus Card Coordinator

Simonson, **Julie** (jsimonson@sctc.edu)..... (320) 308-5464
Human Resources Assistant

Simpson, **Timothy** (tsimpson@sctc.edu) ..... (320) 308-5537
Anatomy & Physiology Instructor
BA, St. Cloud State University
MD, University Of Minnesota

Sjoberg, **Joy** (jsjoberg@sctc.edu) ..... (320) 308-0974
General Education Instructor
BS, St. Cloud State University
MA, St. Cloud State University

Slee, **Heather** (hslee@sctc.edu) ..... (320) 308-5983
Writing Center Coordinator

Spain, **William** (bspain@sctc.edu) ..... (320) 308-5952
WETT Instructor
BES, St. Cloud State University

Sprangers-Bolan, **Jane** (jsprangers@sctc.edu)..... (320) 308-5236
Biology Instructor

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 College
MA, University Of Minnesota

Steinkamp, **Janet** (jsteinkamp@sctc.edu)..... (320) 308-5933
Interim Dean of Health Sciences
BA, Mesa State College
MA, University of Northern Colorado

Storkamp, **Stephen** (sstorkamp@sctc.edu)..... (320) 308-5944
Print & Image Instructor
CERT, St. Cloud Technical College
BES, St.. Cloud State University

Sundet, **Juanita** (jsundet@sctc.edu)..... (320) 308-5485
Administrative Assistant

Tasto, **Arnold** (atasto@sctc.edu) ..... (320) 308-5915
Med/Hvy Truck Instructor
CERT, Ridgewater College
BS, St. Cloud State University

Theis, **John** (jtheis@sctc.edu)..... (320) 308-5045
Executive Director, Custom Training
BA, St. Cloud State University
MS, St. Cloud State University
PHD, University Of Minnesota Twin Cities

Theisen, **Jason** (jtheisen@sctc.edu)..... (320) 308-6012
Director of Facilities

Thiesen, **Kenneth** (kthiesen@sctc.edu)..... (320) 308-5925
Farm Business Management Faculty
BS, South Dakota State University
MS, Southwest Minnesota State University

Tholl, **Mary** (mtholl@sctc.edu)..... (320) 308-5067
Enrollment Management Clerk
Diploma, St. Cloud Technical College

Thoma, **Mark** (mthoma@sctc.edu)..... (320) 308-5094
Construction Electrician Instructor
AAS, St. Cloud Technical College

Thomas, **James** (jthomas@sctc.edu)..... (320) 308-5037
Culinary Arts Instructor
CERT, St. Cloud Technical College

Thompson, **Leroy** (lthompson@sctc.edu)..... (320) 308-5047
Auto Body Instructor
AS, St. Cloud State University
BS, St. Cloud State University
MS, St. Cloud State University

Town-Gunderson, **Jessica** (jtowngunderson@sctc.edu) (320) 308-5073
Sales & Mgmt Instructor
BS, St. Cloud State University

Trousil, **Julie** (jtrousil@sctc.edu)..... (320) 308-6618
Registration Assistant
AAS, St. Cloud Technical College

Trutwin, **Patrick** (ptrutwin@sctc.edu)..... (320) 308-3382
General Repair Worker

Van Hove, **Thomas** (tvanhove@sctc.edu)..... (320) 308-5566
EMS Instructor

Vasek, Michelle (mvasek@sctc.edu)..... (320) 308-64393
Customized Training Rep, Customized Training

Vennes, **William** (bvennes@sctc.edu)..... (320) 308-5992
Architectural Instructor
BS, University of North Dakota
AAS, University Of North Dakota
MS, St. Cloud State University

Vossen, **Kimberly** (kvossen@sctc.edu)..... (320) 308-6011
Information Tech. Specialist 2
Diploma, St. Cloud Technical College
AAS, St. Cloud Technical College

Weseloh, **Harold** (hweseloh@sctc.edu)..... (320) 308-5974
General Education Instructor
BA, St. Cloud State University
MA, St. Cloud State University

Weyer, **Roger** (rweyer@sctc.edu)..... (320) 308-5082
Carpentry Instructor
CERT, St. Cloud Technical College
BES, St. Cloud State University

Whipple, **Steven** (swhipple@sctc.edu)..... (320) 308-5953
Dean of General Education
BA, Southwest Minnesota State University
MFA, University Of North Carolina At Greensboro

Wiethoff, **Janice** (jwiethoff@sctc.edu)..... (320) 308-5007
Administrative Assistant, Custom Training
CERT, Minneapolis Community and Technical College
AA, Minneapolis Community and Technical College

Wiethoff, **Robert** (rwiethoff@sctc.edu)..... (320) 308-5989
College Lab Assistant, Computer Center
Diploma, Hennepin Technical College
Diploma, St. Cloud Technical College

Willis, **Jebb** (jwillis@sctc.edu)..... (320) 308-6507
Finance and Credit Instructor
BS, St. Cloud State University
MAST, University Of Minnesota

Wilson, **Terry** (twilson@sctc.edu)..... (320) 308-5921
Surg Tech Instructor
BS, St. Cloud State University
MA, St. Marys University

Wittowski, **Barbara** (bwittowski@sctc.edu)..... (320) 308-6599
Administrative Assistant, Educational Partnership

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, **Bradley** (bwright@sctc.edu)..... (320) 308-5405
Paramedicine Instructor
BES, St. Cloud State University

Wright, **Kimberly** (kwright@sctc.edu)..... (320) 308-6640
Dental Hygiene College Lab Assistant
Diploma, St. Cloud Technical College

Young, **Roger** (ryoung@sctc.edu)..... (320) 308-5955
Electronics Instructor
BS, St. Cloud State University

Zimmerman, **Joyce** (jzimmerman@sctc.edu)..... (320) 308-5064
Food Service Supervisor

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C & L Distributing

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Mechanical Design & Technology Faculty

Randy Kidder
Heating, A/C, & Refrigeration Faculty

Mike Lehn
Automotives Faculty

Foundation Staff

Vickie Apel
Vice President of Institutional Advancement
Executive Director SCTC Foundation

Karen Hiemenz
President's Assistant

Sheila Saiko
Scholarship & Database Coordinator

Glossary

Academic Advisor
An academic advisor is a faculty member assigned to advise a student and act as a resource.

Academic Forgiveness
Some colleges or universities offer students an opportunity to disregard grades that they obtained in the past according to specific guidelines. The policy only applies to the institution where it is granted and does not apply to financial aid eligibility. Previous credits and grades that a student has earned are ignored in the calculation. The courses, however, remain on the transcript.

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.

Advanced Placement (AP)
Courses offered in high school and exams that cover the material taught in AP courses. Students who pass the AP exam with a minimum score can have credit awarded at colleges and universities according to institutional policies.

Alumnus/Alumni
A person or persons who attended or graduated from a particular school.

Articulated College Credit (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. Classes in which material is learned in an active or applied manner, usually in high school.

Assessment
Assessment is a way of evaluating students' present skills, such as in English, reading and math so students are placed into appropriate level courses. Assessment is based on placement scores that are used as a guide for proper course placement to maximize student success.

Associate in Arts (AA)
An Associate in 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 in Applied Science (AAS)
An Associate in 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, from at least 3 goal areas.

Associate in Science (AS)
An Associate in 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, from at least 6 goal areas.

Audit
Students participate in a course but are not required to take exams or quizzes, or complete assignments. Students do not receive grades or credit for audited courses. Students pay to attend the class and registration for audit requires the permission of the instructor.

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 book containing course descriptions, program and general education requirements, college policies, procedures and standards, and student rights and responsibilities. Catalogs may be available online.

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, registration information, academic policies, support services, etc. Not all courses are taught each term. Class schedules may be available online.

CLEP
The College-Level Examination Program or CLEP provides students of any age with the opportunity to demonstrate college-level achievement through a program of exams in undergraduate college courses.

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.

Counselor
A professionally trained staff member who helps students with education, career, and/or personal concerns. Counselors may also teach career or personal enrichment classes.

Credit
The value assigned to a course. Usually one credit equals one 50-minute class period per week. A course that is assigned 3 credits would meet for three 50-minute periods per week.

Credit by Exam
An examination designed to demonstrate knowledge in a subject where the learning was acquired outside the classroom.

Credit for Prior Learning
Credit awarded to a student who demonstrates knowledge and/or proficiency in a subject through an exam or evaluation of a portfolio.

Curriculum
The content and competency level of each credit course as approved by the Academic Affairs and Standards Council led by faculty members.

Dean
The highest officer of an academic division of study.

Degree
An award given to students that have successfully completed a specified number of collegiate level credit courses and experiences.

Degree Audit Reporting System (DARS)
Allows electronic evaluation of a student's academic record toward their academic goal. A student or advisor can use a DARS report to know what requirements remain to be completed.

Department
The organizational unit established by the College. For example, Transportation Technology.

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. A drop is not recorded on the student's transcript and there is a refund for the course.

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
Money charged by a college (in addition to tuition) for services or equipment provided to a student. Fees may be charged for health services, athletic centers, registration, parking, lab equipment, computers, etc.

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
Federal, state, college, and private programs help students pay for college costs. Financial aid can be in the form of grants, loans, or college work-study programs. Grants are often described as "free money" and are awarded to students by the state and federal governments based on criteria that must be met.

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 a minimum of 15 semester credits in general education to satisfy the requirements for the Associate in 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.

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 not completed. Needs faculty approval. An incomplete grade is changed to "F" when the assignments are not completed within the specified time.

Internship
Class credit given to students who work at jobs on or off campus. The jobs give them practical experience in their major. Internships may or may not be paid.

Lecture
A common method of instruction in college courses, when a faculty member conveys information by speaking to a class.

Letter Grades
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; "AU", audit for no credit or grade; (NC) failing.

MnSCU
The Minnesota State Colleges and Universities system comprises 32 colleges and universities, including 25 two-year colleges and seven state universities. The system is separate from the University of Minnesota.

Matriculate
To apply for a degree program, to be accepted in that program, and to enroll in classes.

Official Transcript
An official transcript is the only document receiving institutions will accept to determine transfer of courses. The transcript must be sent directly from one institution to another or may be in a sealed envelope. If the envelope is opened, the transcript becomes unofficial.

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. Minimum requirements for enrolling in a course.

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 registrar manages course schedules and is responsible for maintaining course registration software, the student database and academic records and transcripts.

Registration
Actual enrollment of a student into specific courses after student has been admitted to the college.

Section
A number given to each class offered in a single subject matter.

Semester
A system dividing the academic year into two parts of approximately 16 week segments.

Student ID
Card issued to identify a student. The student ID number is typically used for access to registration and student records.

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 will contain additional information which reflects the creative work of the faculty member. Each student enrolled in a course shall receive a course syllabus.

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
A list of all the courses/credits a student has taken with the grades that the student earned in each course. A college or university will often require a high school transcript when a student applies for admission.

Transfer Credit
Course credit that is accepted from or by another college or university to meet program requirements.

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
The procedure in which a student officially removes himself/herself from taking a class, or from an institution. Tuition my or may not be refunded, depending on the date of withdrawal or other extenuating factors. Students withdrawing from one or more courses must notify the college or university in writing and request that they be officially withdrawn. Refunds, if any, are based on the refund schedule set forth in the catalog.

Withdrawal Grade (W)
A grade given so that students may drop courses when they have good reasons for doing so. “W” grades do not lower grade point averages.