St. Cloud Technical College

GENERAL CATALOG
2003–2004

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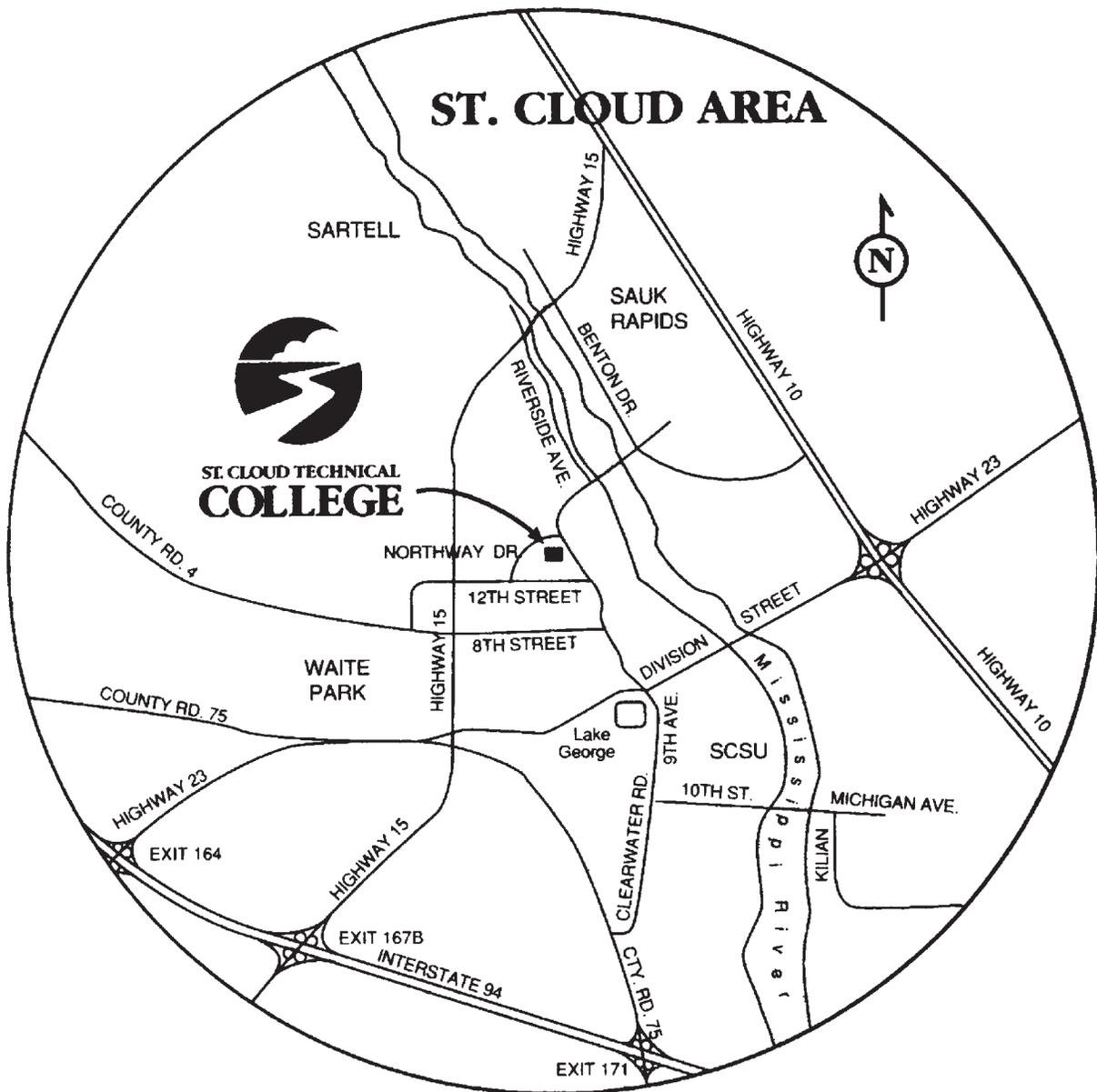**St. Cloud, MN 56303-1240**

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

St. Cloud Technical College is a learning community that is committed to creating a positive and supportive environment that welcomes diverse opinions and ideas for students, faculty, and staff of all cultures.

The College does not tolerate racism, harassment, or any derogatory remarks about race, sexual orientation, class, age, gender, or physical limitations. The best and most effective learning environment for tomorrow's leaders is multicultural.

Where to begin for information and tours:

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

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

- From the southeast on I-94, take the St. Augusta exit #171, travel County Road 75 north approximately 1 mile to Clearwater Road. Turn right and follow Clearwater Road until it becomes Ninth Avenue, which will take you through the city to our campus.

- From the west on I-94, take the Highway 15 exit, then follow Highway 15 north to 12th Street. Turn right and follow 12th Street east until you reach Northway Drive. Follow Northway Drive to our campus.

- From the north on Highway 10, take the Highway 15 exit. Take the Benton Drive exit, turn left on Benton Drive through Sauk Rapids. Turn right at First Street South, go across the Mississippi River bridge, continue straight ahead on Ninth Avenue to our campus.

- From the south on Highway 10 or the east on Highway 23, at the cloverleaf follow Highway 23 West/Division Street to the Ninth Avenue North exit. Turn right and follow Ninth Avenue north to our campus.

- From the south on Highway 15 or southwest on Highway 23, follow Highway 15 north to 12th Street. Turn right and follow 12th Street east until you reach Northway Drive. Follow Northway Drive to our campus.

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VISION

A message from the President

St. Cloud Technical College remains steadfast in our vision to be the College of choice for quality education focused on highly-skilled employment and life-long learning. We continue to work closely with our advisory committees that are made up of key individuals from business and industry. These partnerships assist us in continually improving and enhancing programs to reflect current and future trends in the marketplace.

St. Cloud Technical College is a dynamic learning community that includes students, faculty, staff and the many friends that support our efforts through the SCTC Foundation. The SCTC Foundation surpassed its goal to raise $5 million this past year, with a total of $5.4 million. These funds will be used primarily to provide financial support for students as tuition costs continue to esculate.

We are proud to be a part of Central Minnesota's economic vitality. We placed 98-99 percent of our graduates in the fields they prepared for in their majors. (See 1999-2001 Placement Reports.) We value our relationships with business and industry and recognize the need to provide continuing education through door15 at St. Cloud Technical College.

The College faculty and staff embrace our core values and mission and appreciate the continued support of this outstanding Central Minnesota community.

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 experiences

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.

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

St. Cloud Technical College is accredited by
The Higher Learning Commission of the
North Central Association of Colleges and Schools.
ADA Accessible Facility
Affirmative Action/Equal Opportunity Educator and Employer
PS1056

ACCREDITATIONS

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

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

- **Automotives, Auto Body Repair and Medium/Heavy Truck** by the National Automotive Technician Education Foundation (NATEF), 101 Blue Seal Drive, Suite 101, Leesburg, VA 20175. Telephone: (651) 215-5800.

- **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: (321) 440-2676.

- **Dental Hygiene** 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: (321) 440-2676.

- **Electrical Construction Technology** by the Minnesota Board of Electricity, 1821 University Avenue, Suite S-128, St. Paul, MN 55101.

- **Emergency and Safety Education** by the Minnesota Emergency Medical Services Regulatory Board (EMSRB) to reach First Responder and Emergency Medical Technician-Basic and an approved program for the American Heart Association and National Safety Council courses.

- **Graphic Communications** by the Print Ed Accreditation through the Graphic Arts Education and Research Foundation, 1899 Preston White Drive, Reston, VA 20191. Telephone: (703) 264-7200.

- **Nursing Assistant** by the Minnesota Department of Health. Telephone: (651) 215-8813.

- **Paramedicine** by the Minnesota Emergency Medical Services Regulatory Board (EMSRB) nationally accredited by the "Committee on Accreditation of Educational Program for the EMS Professions" (CoAEMSP).

- **Practical Nursing** by the Minnesota State Board of Nursing. Telephone: (612) 617-2270.

- Surgical Technology by the American Medical Association, Allied Health Program, 515 North State Street, Chicago, IL 60610-4377. Telephone: (718) 960-1136.

- **Water Environmental Technology program** 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 AND ACADEMIC INFORMATION

ADMISSIONS POLICY

St. Cloud Technical College grants admission to all persons 16 years of age or older regardless of race, creed, color, veterans status, religion, gender, physical ability, age, national origin, marital status, sexual orientation or public assistance status or membership or activity in a local commission.

The 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. Completion of a high school diploma or the Test of General Education Development (GED) certificate.

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 may be required.

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

4. Applicants using English as a second language will be required to take an English language proficiency test before registration.

PROGRAM COMPLETION OPTIONS:

A student's choice to earn a certificate, diploma or Associate of Applied Science (AAS) degree. Selecting the right option before registering will save time and money—making the student's education and career experiences more enjoyable. The following options apply:

Certificate

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

Diploma

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

Associate of Applied Science Degree

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

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

Academic Advising

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

Questions? Counselors are available by appointment for consultation. Call 320-308-5926 or 1-800-222-1009 to schedule a meeting with a program advisor.

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.

ADMISSIONS PROCEDURES

Priority will be given to completed applications received at least four weeks before the first day of classes. See Records and Registration section for step by step process.

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. Consider applying early for your program.

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, if he or she chooses to do so. 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.

International Students' 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 Registration Office.

2. A $20.00 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.

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.

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, 2003, and for Spring Semester, November 30, 2003. Students must also schedule an appointment for ACCUPLACER testing and a meeting with the PSEO Counselor at SCTC to discuss procedures and social aspects of using the program.

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

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

Students must pass all three areas and may retest only once. There is a $5.00 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 still 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 would need to pay tuition and book costs of college readiness courses.

To complete application to the college PSEO students must submit a completed SCTC Graduation Plan and PSEO Notice of Student Registration form. (These forms are obtained at

the meeting with the PSEO counselor.) PSEO students are accepted to courses and majors on a space available basis. Students enrolling in high school and the College will be classified as an Undeclared Major and are limited to a maximum of 11 credits per semester. Some courses and majors may be blocked from PSEO student enrollment due to associated technology costs.

Students will need to meet each semester with their college advisor to select courses and with the PSEO counselor to provide a PSEO notice of student registration. The college will set course registration deadlines each semester. PSEO students will need to bring their college fee statement to the PSEO counselor, by the due date of tuition payment. The student will then receive a voucher to use as payment for books in the college bookstore. All books must be acquired by the 15th day of a course. Books must be returned to the campus bookstore if a student withdraws from a course(s) within the first 10 days of the semester.

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

Students requesting supplemental support services may access 2.5 hours a week of supportive instruction. If additional accommodations are required the school district and the Technical 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.

SPECIAL STUDENT ADMISSION

Persons who are interested in registering for selected courses, but are not interested in pursuing a diploma or degree, are designated by the College as special students. Special students are not required to complete the usual application or to submit high school transcripts. Students who have completed 16 credits as a special student must declare a major.

TRANSFER STUDENT ADMISSION PROCEDURES

To apply as a transfer student, 12 quarter or semester credits must have been completed with a "C" average or better at a regionally accredited college-level institution. Students who have earned less than 12 quarter or semester credits should apply as a first year student. Students who have earned college credits only through post-secondary education 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 $20.00 non-refundable application fee attached to the application form.

3. An official academic transcript from each previously attended college or university should be sent directly to the Office of Records and Registration.

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

TECH PREP STUDENT ADMISSION PROCEDURES

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

Acceptance of Tech Prep Certificates

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

Acceptance of Articulation Agreements
Non-member Districts

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

STUDENT SERVICES

ACADEMIC ACHIEVEMENT CENTER (AACE)

The Academic Achievement Center (AACE) offers free help for students who have academic needs. The AACE instructors assist students with their understanding of course materials and with other accommodations based on individual student needs. Tutoring is provided on an individual or small group basis. Students may request the services or be referred by a counselor, instructor or advisor. Students who have special needs relating to academic, environmental or testing accommodations may request services such as: note takers, scribes, taped texts, and testing arrangements.

Assistance is offered in, but not limited to:

- Accounting
- Basic and technical math
- Business math
- Computer software
- Electronics
- English grammar
- Learning styles
- Physics
- Reading comprehension
- Study skills
- Technical writing
- Terminology
- Test anxiety
- Vocabulary/Spelling

Student tutors may be arranged to assist in the skill areas of specific programs.

CAREER CENTER

While the primary responsibility of obtaining employment rests with the graduate, the Career Center provides active support in helping graduates initiate their careers.

Placement services include:

- Advertising part-time jobs for current students
- Advertising full-time jobs for graduates
- Arranging on campus interviews with employers
- Hosting the annual Job Fair
- All leads are posted on the St. Cloud Technical College web site. All other Placement services are available lifelong to students and graduates free of charge.

The Career Center can be reached at (320) 308-5926.

Career Exploration and Development

Career Exploration. A course designed for students who are not enrolled in a program of study and are uncertain about their career choice.

Career Development. A course designed for students in their last two semesters. The course focuses on skills needed to find and obtain career related employment.

Basic Skills Assessment. This test is required of all new students. An accurate assessment of achievement in reading comprehension, writing, and numeric functions will help a person know how their basic skills compare to entry-level requirements of their program of study.

Career Interests. An inventory of interests compares a student's interests to those of persons employed in over one hundred occupations. This inventory is a starting point for exploring careers that match your individual interests.

Occupational Research. The Minnesota Career Information System (MCIS) is a computer-based method of exploring career preferences and learning about the details of specific occupations and educational programs. Other exploration resources include a variety of books and catalogues available in the Career Center.

Career Exploration Online at www.ISEEK.org for self assessments of interests and values at no cost to you.

CHILD CARE

Child care is available for students who are currently enrolled in a program on campus. Parents must enroll their children before they are allowed to attend the day care. Enrollment and fee structure information may be obtained by calling the Campus Playhouse at (320) 308-5972. The center operates from 6:00 A.M. to 6:00 P.M. The campus child care center is accredited by the National Association for the Education of Young Children.

COLLEGE READINESS ASSESSMENT

St. Cloud Technical College requires all degree, diploma, certificate seeking, and undeclared students, unless exempted, to complete a MnSCU approved test before registering for classes. A letter and brochure about the test will be mailed once the application has been accepted. The test must be completed within 45 days of acceptance. Failure to take the test within this time frame may result in cancellation from your program of choice. College readiness courses will be required of students earning scores below the minimum standards.

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

• Completed 12 or more college level quarter credits, or eight or more semester credits, with grades of "C" or above from another 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 for students who meet these exemption conditions. If a student earned these credits more than five years ago we encourage them to take the test.

• An ACT score 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 for students who meet these criteria.

Students meeting these conditions should send a letter requesting to be exempted from testing. The letter must contain: a copy of the student's college transcript(s), full name, social security number, current mailing address, phone number and signature

sent to:
    St. Cloud Technical College
    Assessment Center
    1540 Northway Drive
    St. Cloud, MN 56303-1240
Students will be informed in writing.

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 1-800-222-1009 ext.5089 or (320) 308-5089 to schedule a test designed for non-native English speakers.

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

The college and programs may require tests in addition to basic academic skills testing. A $5.00 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.

COUNSELING: PERSONAL, ACADEMIC, CAREER

The mission of the Counseling Office is to facilitate students' academic, career, and personal success. It provides a variety of services including

personal assessment to aid students or prospective students in choosing an appropriate program of study and counseling to assist in the completion of their programs.

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

Appointments are preferred. The Counseling Office can be reached at (320) 308-5089 or (320) 308-5926.

FINANCIAL AID

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

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

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

FINANCIAL AID DEFINITIONS

Award Year

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

Cost of Education

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

Expected Family Contribution

An amount, determined by a formula called Federal Methodology, that indicates how much of your resources and your family's resources should be available to help pay for school. The Expected Family Contribution (EFC) is used in determining your eligibility for federal and state financial aid. If you have unusual expenses that may affect your ability to pay for school, be sure to notify your financial aid administrator.

FAFSA

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

Financial Aid

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

Financial Need

Financial need is the difference between the cost of education and the expected family contribution calculated by the federal processing center.

TYPES OF FINANCIAL AID

GRANTS

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

Federal Pell Grant

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

Minnesota Grant

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

Federal Supplemental Educational Opportunity Grant (FSEOG)

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

Post-Secondary Child Care Grant

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

WORK-STUDY PROGRAMS

**Federal Work-Study (FWS) and
State Work-Study (MNWS)**

These programs employ students both on and off campus. These programs provide for up to 20 hours of employment per week, usually after school and in the evening during the school year.

LOANS

Loans are financial aid that must be paid back. You must complete loan entrance counseling online for SCTC at www.mapping-your-future.org/oslc. When you leave the college you will need to
complete loan exit counseling online at www.mapping-your-future.org/oslec. Types of loans include:

Subsidized Federal Stafford Loan

Unsubsidized Federal Stafford Loan

Federal PLUS Loan Program

Students Educational Loan Fund (SELF)

OTHER SOURCES OF FINANCIAL ASSISTANCE

SCTC Foundation

Division of Rehabilitation Service

Minnesota Indian Scholarship Program

Veteran Benefits & Veteran Orphan Benefits

Minnesota Migrant Counsel

Services for the Blind

Private Scholarships – available from high school counselors or public libraries.

ENROLLMENT STATUS

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

The Minnesota State Grant Program requires 15 credits to be a full time student.

How Financial Aid Gets Paid

All financial aid is divided equally into term amounts except workstudy earnings which are paid to the student worker every two weeks. Students may participate in the workstudy programs during the summer months.

Tuition may be paid with grants and loans. The fee statement will show if financial aid has been credited against tuition. A schedule of grant payout dates will be published and posted by the Business Office.

Satisfactory Academic Progress Standards

Federal law requires that a recipient of state or federal financial aid make satisfactory progress towards a degree or certificate to remain eligible for aid.

Students bear primary responsibility for their own academic progress and for seeking assistance when experiencing academic difficulty. Students are encouraged to keep a file of their grades and transcripts.

In compliance with federal law and to implement college policy, St. Cloud Technical College has established and will apply the following standard of academic progress to all students who receive financial aid:

Qualitative Standard

All students are required to maintain a 2.0 cumulative grade point average (GPA).

Quantitative Standard

All students are required to successfully complete a minimum of 67 percent (67%) of cumulative registered credits.

Financial Aid Maximum Timeframe or Maximum Credits

All students are expected to complete their program within an acceptable period of time. Financial aid recipients may receive aid until they complete all of their required coursework or until they have attempted 150% of the required course-work in their program. Any transfer in credits will be subtracted from the number of required credits needed to complete the program.

Implementation

Academic progress will be monitored as follows:

1. All students with registered credits during a term will be evaluated at the end of the term.

2. Any student who fails to meet minimum satisfactory academic progress requirements for one term will be placed on probation for one term, commencing immediately.

3. A student on probation who fails to meet

minimum satisfactory academic progress requirements for a consecutive term will be subject to suspension, commencing immediately.

St. Cloud Technical College may immediately suspend a student in certain circumstances, such as:

- A student who was previously suspended and whose academic performance falls below acceptable levels during a subsequent term.

- A student who registers for, but does not earn any credits for two consecutive terms.

- A student who demonstrates an attendance pattern that abuses the receipt of financial aid.

Financial Aid Appeals

A student who fails to make satisfactory academic progress and is suspended from financial aid has the right to appeal based on unusual or extenuating circumstances (e.g. death in the family, student's injury or illness, student's dependent injury or illness, etc.)

Appeals must be submitted in writing on a form available in the Financial Aid Office. The appeal must include an explanation of the circumstances that affected academic progress. If requested, the appeal must include supporting documentation beyond written explanation. Appeals must be submitted to the Financial Aid Office. The Financial Aid Committee will review the appeal.
A written decision on the appeal will be provided to the student. The decision will be final.

A suspended student, who has not successfully appealed, may return to school without financial aid. After successful completion of one half-time semester, the student may request reinstatement of financial aid for the next term. Successful completion means passing all classes that term with a "C" grade or better in each class. The student remains on probation until he/she reaches the 2.0 GPA and 67% completion rate.

Reinstatement

A student who has been suspended from financial aid may return to the college, and receive financial aid, after the appeal has been approved. The

student will be granted another term of probation. Progress will be evaluated after the new probation term.

Incomplete, Withdrawal, and Repeat of Courses

Students who receive an incomplete and who do not satisfactorily complete the course within the required time frame will receive an "F" for the course. Students earning a grade of "F" in a required course must repeat that course satisfactorily prior to graduation. Students may repeat courses at the regular tuition rate. Repeated courses will affect the GPA and completion rate.

Students may drop from a class within the add/drop period each term. After this time and before the last day to withdraw from a class, students will receive a "W". "W" grades affect the completion rate, but not the GPA.

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 Technical College and St. Cloud State University have a cooperative agreement to provide housing for technical college students in St. Cloud State University residence halls. For the same price that university students pay, technical college students may receive the many benefits and services provided in the residence halls. Space is limited and available on a first-come-first-served basis. For information call either:

St. Cloud Technical College
(320) 308-5089

St. Cloud State University
(320) 308-2166

INTRAMURAL 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.

Students may receive a free membership to the Whitney Recreation Center and YMCA.

The college offers men's and women's varsity athletic competition in co-rec volleyball, basketball and golf. Students compete against teams from other colleges in the Midwest region. Students who compete on these teams must carry six credits.

The Office of Student Activities offers intramural sports each term through a cooperative agreement with St. Cloud State University. Activities are offered on both the technical college campus and state university campus. Event schedules and rosters are available in the Student Center.

Other activities funded by the student activity fee include: guest speakers, entertainers, field trips, discounted tickets, Job Fair and many other events.

LOCKERS

Students may rent a locker for a non-refundable processing fee per academic year (Fall and Spring semesters or any portion thereof). This privilege is extended to students on the basis that the locker is to be kept in good condition. The college reserves the right to inspect lockers for articles threatening the health and safety of the college community as well as to obtain the return of college property.

Students are asked to keep the locker combination number confidential. Locker assignments are available through the Admissions Office. The college is not responsible for lost items.

Students may also rent lockers for summer session for a fee. Summer session lockers will be designated in a specific area of the college.

All lockers are to be emptied at the end of the term (spring or summer). The college is not responsible for articles left in lockers beyond the end of the term.

The fees will be posted annually at www.sctc.edu/fees.

NON-TRADITIONAL CENTER

The Non-Traditional Center, room 1-123, is available to provide support to students enrolled in St. Cloud Technical College and to persons interested in exploring career choices and college attendance, especially in careers and programs non-traditional to their gender. The center offers the following:

- Academic, career, and personal counseling.
- Resource information about financial issues, parenting, adult development, and career and educational options.
- Support groups and seminars to help provide encouragement to persons returning to school, especially to adult students, single parents, and those exploring or enrolling in programs non-traditional to their gender.
- Referrals to community agencies and services with some community agencies providing direct services on-site.
- Career assessment, computer-based career exploration, and counseling services.
- Study area equipped with computers, telephone, and other supportive features.

ORIENTATION AND REGISTRATION

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

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

PUBLIC TRANSPORTATION

St. Cloud Transit Commission (MTC) will provide FREE Metro Bus transportation for all currently enrolled St. Cloud Technical College students. Students must show Student ID to the driver when boarding the bus. Student ID is valid at any time, on any fixed route Metro Bus, for unlimited rides.

REGISTRATION & STUDENT RECORDS

The Office of Records and Registration is responsible for maintaining the student record system and for the distribution of course registration materials. This office is additionally responsible for the release of transcripts and the awarding of degrees, diplomas, and certificates.

Any questions regarding adding and dropping classes, transfer of credit and graduation, should be directed to the Office of Records and Registration. The web site, and hallway TV monitors provide important registration information.

Registration Process

1. Review course information at 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 allow access to the WEB registration system.

3. Prepare a schedule worksheet to make certain that no time conflicts exist.

4. Follow registration instructions listed.

5. Submit immunization records.

6. Fulfill all financial obligations to the college, including parking tickets.

7. Return all overdue materials to the Library.

8. Students who are on academic probation must see a counselor in the Counseling Office or their academic advisor prior to registration.

PRIORITY REGISTRATION

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

Returning Students

Students who have "stopped out" (not attended classes) for one semester may register based on the number of credits they have completed after meeting with their academic advisor.

Registering for general education courses at St. Cloud State University.

This alternative is available for students pursuing an Associate of Applied Science degree wishing to take courses that are not available at St. Cloud Technical College. Technical college students registering during the assigned priority period may register for up to eight credits per semester. Students register for SCSU classes in person at the Office of Records and Registration at St. Cloud Technical College. Necessary information and publications are available in the SCTC Office of Records and Registration. New first term students must register for at least one technical course on the technical college campus prior to registration for any SCSU general education courses. Some students will not be eligible to pre-register for SCSU classes their first term but may register as special students at SCSU.

STUDENT IDENTIFICATION CARDS

Student IDs are required for the following:

- YMCA
- Library check-out
- Whitney Recreation Center

The cost for the Student ID card is $5.00 per academic year. Cards may be obtained in the Admissions Office.

STUDENT RIGHTS AND RESPONSIBILITIES

Refer to the Student Handbook or www.sctc.edu.

STUDENTS WITH DISABILITIES

St. Cloud Technical College complies with The Americans with Disabilities Act, 1990, 1998, PL93-112 Rehabilitation Act of 1983 and Minnesota Human Rights Legislation, 1987. It states 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 a public entity." The college also assures compliance with Title II of the Americans with Disabilities Act (ADA) which provides that no 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 a public entity.

The college assures that students with officially documented disabilities will be offered accommodations in procedures, practices, and policies that may deny equal access to individuals

with disabilities, unless a fundamental alteration in the program requirements could result. Equal access to communications originated from the college is also assured. To support these assurances, the college will provide, upon student request, the necessary supplemental support, 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.

Sufficient advance notice is required by qualified students when requesting accommodations and/or modifications. Requests should be directed to the Special Needs Counselor at (320) 308-5959 or (800) 222-1009 (ext.5959).

A case-by-case determination will be made to establish eligibility for services and the nature and extent of such services. Students able to document a disability through a recent clinical assessment will be provided services and/or adaptive equipment determined to be necessary and most effective at no cost to the student. "Recent clinical assessments" include, but are not limited to, current officially signed and dated Assessment Summary Reports (ASR's), psychological evaluations, doctors' physical limits evaluations, audiograms, and letters from appropriately trained physicians, psychiatrists, psychometrists, or psychologists. High school Individual Education Plans (IEP's) can be included as additional information. All documentation and resulting service plans are confidential and are kept in a "need-to-know-only" file separate from the student's general file, either hard copy or electronic.

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

Support Services/Accommodations Guidelines

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

SUCCESS CENTER: STUDENT SUPPORT SERVICES

The Success Center is a student support program that offers a variety of free academic services. The Center is funded by the U.S. Department of Education's TRIO grant.

We can help students graduate successfully from St. Cloud Technical College by:

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

Students Served

We serve St. Cloud Technical College students who have a serious commitment to academic excellence and completing their college curriculum within a timely manner. We specifically serve:

- Low income students
- Students with disabilities
- First generation college students whose parents do not have a bachelor degree

Programs and Services Offered

A dedicated team of academic coordinators, counselors and retention specialists works with

students in planning their academic program, monitoring their academic progress in each course and helping them to get good grades in their courses.

Summer Institute

Selected new students attend a Summer Institute to improve their skills in reading, writing, math and study skills before they take classes.

These courses are tuition-free for qualifying students. A number of workshops, visits, and team building activities are also offered as part of the Institute.

Academic Assistance and Counseling

For students enrolled in the Success Center, an academic advisor will be assigned to work with them and develop their education plan to make sure they graduate with good grades. The advisor will closely monitor academic progress in each course.

Tutoring and Group Study Opportunities

We arrange tutors for students who need help in their courses free of cost and offer group study opportunities to students enrolled in the Success Center.

Assistance in Financial Aid

We will assist students in getting financial aid through the Financial Aid Office and the Success Center offers supplemental grant aid.

Peer Mentoring

Students work with peer mentors who introduce them to a wide variety of resources, faculty and staff at the college.

Transfer to Four Year Colleges

We will work with students to provide necessary contacts and information if they are planning to transfer to any four year college or university after completing their academic program at St. Cloud Technical College.

Career Planning and Mentoring

A counselor will work with students in developing their career plans.

Students will work with professional mentors who will guide them in developing their professional skills.

Workshops and Events

The Success Center also offers a number of workshops throughout the year on career planning, financial aid, study skills, communications and transfer to four year colleges. Cultural events are also organized.

Enroll Today in the Success Center

To enroll in the Success Center, stop by Room 1-121.

VETERANS ASSISTANCE

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

STUDENTS WITH DISABILITIES: SUPPLEMENTAL SUPPORT SERVICES

In keeping with State and Federal laws related to college and program access for students with disabilities, the following services and information apply:

CONTACT INFORMATION

Admissions Contact: Bob Thienes
Title: Disability Services Counselor
Telephone: (320) 308-5959 or (800) 222-1009 or (320) 308-5988 (TTY).

ADMISSIONS

Equal Opportunity Educator
Type of testing required: Accuplacer (CPT)
Tuition cost/credit: Set yearly by Legislature; check with SCTC for current rates.

ACADEMIC ACHIEVEMENT CENTER (AACE)

* Remedial and Related Math
  Kaye Schmainda and Mary Stangler
  Room 1-109 – (320) 308-5945
* Communications and Remedial Related Reading, Learning Disabilities,
  Sharon Oliver
  Room 1-127 – (320) 308-5920

INTERPRETERS FOR HEARING IMPAIRED

Anne Pierce-Rhodes (320) 308-5046(v), 300-308-5988 (TTY)

ACADEMIC ASSISTANCE AVAILABLE

* Early Registration – Early Syllabus
* Course selection/program advising
* Course accommodations/modifications: notetakers, taped text, proofreaders, scribes
* Course load adjustment
* Test accommodations: extended time, oral exams
* Tutoring: resource room, remedial peer student tutors

OTHER SERVICES AVAILABLE

* Assessment Services
  – Career Interest
  – Basic Skills Assessment: Reading, Writing, and Numerical skills
* Advocacy and Referral Services
* Non-Traditional Center

HELPFUL SECONDARY INFORMATION

School transcripts, IEP, transition plan, accommodations needed, diagnostic testing of achievement and aptitude, psychological testing, list of strengths and weaknesses, personal interview with special needs staff and program instructor.

DESCRIPTION OF HOUSING

A housing list is available upon request. Accessible housing accommodations are provided through agencies in the community.

SPORTS/ACTIVITIES AVAILABLE

On and off campus activities are arranged each term by the Student Activities Coordinator.

RIGHTS UNDER THE LAW

If students feel that their rights under ADA/504 have not been met, they may file a grievance with the SCTC ADA Coordinator. Refer to the Student Handbook.

ALTERNATE FORMATS

Alternate formats of college materials, i.e., audio tapes, large print, braille, etc., are available by contacting the ADA Coordinator.

GENERAL POLICIES AND PROCEDURES

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 SCTC 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.

ALCOHOL/DRUG FREE ENVIRONMENT

According to Public Law 101-226, St. Cloud Technical College must inform students of its policy concerning drugs and alcohol. The college policy concerning drugs and alcohol is:

- Students are prohibited from manufacturing, possessing, distributing, and/or using illegal drugs and alcohol in the college buildings, on the grounds of the college, in college vehicles or during college sponsored activities except as expressly permitted by college policy. If a student violates this policy, the student could be arrested and prosecuted. In addition, the student could be expelled from the college and lose his/her financial aid.

- Alcohol may be used in laboratory and classroom instruction/experiments as appropriate to achieve course outcomes. The Chancellor may grant approval for use of alcohol at specific, college sponsored, special events.

- Because St. Cloud Technical College is concerned about the health of its students and their ability to learn, we intend to strictly enforce this policy. However, we also understand that some students may need help with a problem with drugs or alcohol.

- If the student, or a friend of the student, has such a problem, the student may speak with a campus counselor. The counselor can assist the student in dealing with the problem and make a referral to sources for additional help.

CELL PHONE POLICY

During class time students are expected to be actively participating in the learning process, so an instructor may request that all cell phones and pagers be placed on non-ring mode. At evaluation times no cell phones/pagers are allowed.

CHANGE OF ADDRESS

Students are required to report any change of address or telephone number to any student services office in person. It is important that the college has correct information regarding both local and permanent address in the event of an emergency, for billing purposes, schedules and grades. A picture ID will be required to process the request.

COMPUTER USE

The college has computers available for students' use at a number of campus locations, including the Student Computer Lab and the Library. The college has established policies specific to programs using laptop computers. Before students are allowed to use the computers and access the college network, they are required to read and sign the Computer and Technology Use Policy. This policy is available in the Student Computer Lab.

DATA PRACTICES POLICY

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

Education records covered by this policy are those official student files maintained by the Offices of Records and Registration, Admissions, and Financial Aid. In addition to files, records are

maintained in a computer database, laser disk, or microfilm.

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

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

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

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

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

GRIEVANCE PROCEDURE

Definitions

Appeal. A request for reconsideration of a grievance application of a policy or procedure.

Complaint. An oral claim by a student alleging improper, unfair, arbitrary or discriminatory treatment.

Grievance. A written claim raised by a student, alleging improper, unfair, arbitrary, or discriminatory action by an employee involving the application of a specific provision of a college rule/regulation or a board policy or procedure.

Retaliation. Retribution of any kind taken against a student for participating in a complaint or grievance.

Student. An individual student, a group of students, or the student government.

General Statement of Policy

Students have the right to seek remedy for a dispute or disagreement through the grievance procedure. No retaliation of any kind shall be taken against any student for participation in a complaint or grievance. These procedures shall also protect data privacy rights.

1. Students with complaints should discuss them with the involved parties if possible.

2. If the complaint remains unresolved, students should discuss the complaint with the appropriate academic dean. A complaint may constitute a grievance, if not resolved, and if the complaint falls within the definition of a grievance.

3. All grievances must be submitted in writing. *Written grievances* should be submitted within twenty (20) business days of the first event giving rise to the grievance to the Vice President for Academic and Student Affairs or the Vice President of Facilities and Finance.

A response to the grievance will be made in writing within ten (10) working days. If students do not receive responses to their grievance within ten (10) working days, they may proceed to the next level of appeal.

Appeals

1. If the grievance is not resolved, the same written material should be updated and presented for appeal to the following people in the order shown:

   • *President of the College*
   The decision is final and binding unless the grievance involves a MnSCU policy or actions of the college president.

   • *Chancellor of MN State Colleges and Universities*
   When the grievance involves a MnSCU policy or actions of the college president. Decision is final and binding. Final settlement will be based on all available facts presented in the written grievance, discussion and investigation. Students will be given a personal hearing at each step in the above procedure. All persons who are involved will be given an opportunity to be heard.

2. When a grievance is resolved at any step, the final decision will be given in writing to the student.

3. If the nature of the grievance is determined to be one of discrimination based on Title IX, it will proceed through the same levels (1-2).

4. If a student is not satisfied with the results of the grievance proceedings, an appeal can be filed directly with the president of the college. The grievance procedure and appeals process are outlined in the preceding section.

Grievance Procedure for Americans with Disabilities Act (ADA)

1. Students with complaints should discuss them with the involved parties if possible.

2. If the complaint remains unresolved, students should discuss the complaint with a special needs counselor in the Counseling Office at (320) 308-5926.

3. If a student's rights have not been met based on ADA guidelines, the student can file a grievance directly with the ADA Coordinator, Director of Human Resources at (320) 308-3227.

4. If a student is not satisfied with the results of the grievance proceedings, an appeal can be filed directly with the president of the college. The grievance procedure and appeals process are outlined in the preceding section.

HIV/AIDS POLICY

St. Cloud Technical College recognizes that infection with the Human Immunodeficiency Virus (HIV) and the subsequent diagnosis of Acquired Immunodeficiency Syndrome (AIDS) has the potential to interfere with the educational process. SCTC recognizes AIDS to include a diagnosis of the end-stage disease AIDS along with symptomatic or asymptomatic conditions within the spectrum of HIV infection. While it is recognized that there is no evidence that the virus is transmitted in casual contact settings such as schools, there are students in given programs at high risk due to exposure to body fluids. Therefore, the role of the educational system is to respect the rights of individuals with HIV infection regarding education, privacy and freedom from discrimination; to respect the rights of others if the system to be educated in a safe environment; and to educate administrators, staff, and students about preventing the risk of HIV transmission.

Access

Staff and students will be provided easy access to specific information, counseling, and assistance in locating and using health care and social services. Initial contact may be made to the appropriate college personnel; this may include counselors, advisors, or faculty. Any adjunct support services needed will be mobilized at the request of the individual.

Handicap/Disability

Infection with HIV and a subsequent diagnosis of AIDS is viewed as a potentially disabling condition through the Americans With Disabilities Act. An individualized plan for education and career/personal development will be developed for each student with a handicapping condition in order to reduce barriers to learning and to maximize the health of the student.

Discrimination

The exclusion of people with HIV/AIDS for any reason constitutes unwarranted discrimination. Therefore, St. Cloud Technical College will not consider the existence of any form of the HIV infection in the initial admissions decision.

Safety Precautions

The environmental precautions for handling all body fluids potentially infected with a bloodborne pathogen such as HIV will comply with the Federal Occupational Safety and Health Administration's Bloodborne Pathogen Standard (codified under 29 CFR 1910.1030). Students enrolled in educational programs where blood and other body fluids may be part of the educational program are encouraged to discuss their HIV status with program faculty.

Data Practices/Confidentiality

The privacy rights of staff and students will be protected. No person, group, agency, insurer, employer, or institution will be provided medical information of any kind without the prior specific written consent of the person with HIV/AIDS. The knowledge that staff or students have a chronic infectious disease, such as HIV, will be confined
to those persons with written permission as stated above.

Screening/Testing for the Presence of the AIDS Virus

Mandatory screening for the presence of HIV as a condition of employment or enrollment is not warranted. St. Cloud Technical College, however, strongly encourages voluntary HIV screening for students, specifically, but not limited to, those in health programs. Information regarding test results will not be made available to anyone without the specific written consent of the individual.

Enrollment and Attendance of Students with HIV/AIDS

Students with HIV/AIDS may continue their education until such time that their health deteriorates sufficiently to interfere with performance. Determinations for special precautions and needs will be made on a case-by-case basis. The principles cited in the CDC Workplace guidelines (1989) and CDC Foster Care and Education Guidelines (1985) will be followed.

IMMUNIZATION POLICY

1. A statement of immunization is required. No student may remain enrolled in St. Cloud Technical College unless the student has submitted to the Admissions Office a statement that the student has received appropriate immunization against measles, rubella, mumps, and tetanus. This statement must indicate the month and year of each immunization given. Instead of submitting a form, a student may provide an immunization record maintained by their high school or health care provider.

2. Minnesota law M.S. 135.A.14 affects students born after 1956. Exemption: students graduated from a Minnesota high school after 1997 are not required to provide documentation.

3. Statement of immunization must be received no later than the 45th day of the semester. Failure to provide the form may result in cancellation from your program of choice.

MINNESOTA STATE RESIDENCY

Definition of Domicile

A person's true, fixed and permanent living place. Domicile is the place to which a person intends to return after temporary absences. A person may have only one domicile at a time.

Determination of In-State Tuition

Students shall be eligible to pay in-state tuition if they meet the criteria of M.S. 135A.031, subd. 2.

Demonstrating Domicile

Students may establish eligibility for in-state tuition by demonstrating domicile in Minnesota before the beginning of any semester. Students have the burden of proving domicile for purposes of in-state tuition.

1. Students who seek to qualify for in-state tuition must first meet the following threshold requirements:
   a. Students must have resided in Minnesota for at least one calendar year immediately prior to applying for in-state tuition.
   b. Residence in Minnesota must not be merely for the purpose of attending a college or university.

2. Each of the following additional facts and

circumstances will be considered when responding to a petition for in-state tuition. No one of these factors is either necessary or sufficient to support a claim for in-state tuition.

a. Continuous presence in Minnesota during period when not enrolled as a student.

b. Sources for financial support are generated within Minnesota.

c. Domicile in Minnesota of family, guardian, or other relatives or persons legally responsible for student.

d. Ownership of a home in Minnesota.

e. Permanent residence in Minnesota.

3. The following circumstances, standing alone, shall not constitute sufficient evidence of domicile to affect eligibility for in-state tuition under these regulations but may be considered as part of the demonstration of the facts and circumstances listed above.

a. Voting or registration for voting.

b. The lease of living quarters.

c. A statement of intention to acquire a domicile in Minnesota.

d. Domicile of student's spouse in Minnesota.

e. Automobile registration.

f. Other public records, e.g., birth and marriage records.

Exceptions. Individuals in the following categories shall qualify for in-state tuition rates:

1. Graduate students appointed to graduate assistant positions.

2. Students who qualify under a Board-approved agreement between a governmental subdivision and a college or university.

3. Colleges and universities may adopt a policy to exempt high ability students who are in the top 15 percent of their high school class or who score above the 85th percentile on a nationally-normed, standardized achievement test and who reside in states that do not have reciprocity agreements with Minnesota.

4. Students who qualify under a college or university affirmative action program consistent with law and approved by the Chancellor or designee.

5. Non-immigrant Japanese students who have completed a program of study of at least one academic year at Akita campus and have been recommended by the provost for transfer to a Minnesota state college or university and who retain their legal visa status.

6. Students who are recognized as refugees by the Office of Refugee Resettlement of the U.S. Department of Health and Human Services.

7. Colleges and universities may adopt a policy to exempt non-immigrant international students classified under 8., U.S.C. 1101 (a) (15) (B), (C), (D), (F), (H), (J), and (M).

8. U. S. military personnel on active duty assignment in Minnesota, and their spouses and dependent students.

Domicile

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.

NONDISCRIMINATION POLICY

General Statement of Policy

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

Harassment of an individual or group on the basis of the above has no place in a learning or work environment and is prohibited. Sexual violence has no place in a learning or work environment. Further, the college shall work to eliminate violence in all its forms. Physical contact by designated college staff members may

be appropriate if necessary to avoid physical harm to persons or property.

This policy is directed at verbal and physical conduct that constitutes discrimination/ harassment under state and federal law and is not directed at the content of speech. In cases in which verbal statements and other forms of expression are involved, the college will give due consideration to an individual's constitutionally protected right to free speech and academic freedom.

Harassment may include, but is not limited to, verbal harassment or abuse, implied or overt threat(s), or physical act(s) of aggression, etc., which have the effect of substantially or unreasonably interfering with an individual's employment, education, use of college services or participation in college activities. For the purposes of this policy, college services include, but are not limited to transportation, food services, counseling services, and employee/student assistance. For the purposes of this policy, college activities include, but are not limited to extra-curricular activities and field trips.

It shall be a violation of this policy for any student, faculty member, administrator, other college personnel, or persons having business at or visiting the college to harass a student, faculty member, administrator, other college personnel, or persons having business at or visiting the college through conduct or communication of a sexual nature or regarding disability and race as defined by this policy.

The college will act to investigate all complaints, either formal or informal, verbal or written of any form of violence to discipline or take appropriate action against any member of the college

SECURITY AND CRIME AWARENESS

On-campus criminal behavior should be reported immediately to the Vice President of Finance and Facilities. This office will coordinate the response including contact of appropriate law enforcement agencies.

In the event of an emergency, call 911.

Non-emergency, call Campus Security, St. Cloud State University, 308-4357.

Information describing the number of reported on-campus crimes is available from the Vice President of Finance and Facilities. These crimes include:

Criminal Offenses	2000	2001
Murder	0	0
Rape	0	0
Robbery	0	0

Criminal Offenses	2000	2001
Aggravated Assault	0	0
Sex Offense (non-forcible)	0	0
Burglary	3	0
Motor Vehicle Theft	4	0

Arrests for following crimes	2000	2001
Liquor Law Violations	0	0
Drug Abuse Violations	0	0
Weapons Possession Violations	0	0

For further details please see the Campus Security Report.

STUDENT CODE OF CONDUCT

St. Cloud Technical College is committed to the creation and maintenance of an academic community which fosters the intellectual, personal, social, and ethical development of its students.

The college expects that each student will obey the laws enacted by federal, state and local governments. In addition, there are certain rules and regulations governing student conduct which have been established by St. Cloud Technical College and the Minnesota State Colleges and Universities Board (MnSCU).

A complete copy of the Code of Conduct is available in the Student Handbook.

TITLE IX

Title IX is the Education Amendment of 1982 which states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any education program or activity receiving federal financial assistance..." Public Law 92-318 Section 504-Rehabilitation Act of 1973.

Student grievance procedure will be used for complaints of discrimination on the basis of disability, race, color, national origin, sex, or age. The grievance procedure complies with the Section

504 implementing regulation at 34 CFR 104.7 (b). Students need to follow Student Grievance Procedures which are listed.

TOBACCO USE

This policy on the use of tobacco is not intended to deny tobacco users their prerogatives, but rather to limit the potential adverse effects of tobacco use on others. Tobacco use is only allowed in specifically designated areas. Violators of the Tobacco Use Policy will be fined $30.00. The following rules apply:

- Tobacco use is permitted outside of the college facilities at doors 6, 8, 9, 11, 12, 16, and 17.

- No tobacco use is permitted outside of the college facilities at the door marked 1, the front entrance of the college, and doors marked 2, 3, 5, 7, 10, 14, and 15.

- Persons violating the Tobacco Use policy in the designated "No Smoking" areas noted above will be fined $30.00.

- Non-payment of fines will result in withholding registration privileges and transcripts.

- Receptacles will be placed at each entrance to the college to provide a safe place for disposing of cigarettes before entering the building.

- Additional receptacles will be placed outside the doors designated as smoking areas, and smokers are encouraged to smoke at least 30 feet from the building to prevent smoke from entering the building.

- The President may approve the use of tobacco products at college sponsored ceremonial events.

- All members of the college community will be responsible for compliance with the policy as defined above.

ACADEMIC POLICIES

ACADEMIC ADVISING

Academic advising is an integral part of education. The goal of academic advising is to assist students in making responsible decisions as they develop an educational plan that is compatible with their interests, abilities, and career goals. Academic advising is an ongoing and collaborative process and requires that the student and advisor meet following acceptance and once each semester.

Students may expect that their advisors:

- Have knowledge of the college curriculum requirements and are able to provide accurate information;
- Are informed about college policies, procedures, support services, and resources;
- Are reasonably available for consultation by having established office hours and/or appointment times;
- Have knowledge of career opportunities and appropriate advanced educational programs in their fields; and
- Will refer the student to specialized institutional and community resources when necessary.

Advisors may expect that the student:

- Will make and keep appointments;
- Will prepare for advisor appointments by giving thoughtful consideration to life/career goals, field of study, and personal interests;
- Will keep his or her advisor informed when there are changes in objectives, course selection, academic plans, or progress;
- Will maintain up-to-date personal records of academic progress and will resolve discrepancies on official grade reports and/or other college documents;
- Recognizes that he or she bears the ultimate responsibility for the development and implementation of his or her academic plan of study, including meeting graduation requirements; and
- Will contact his or her advisor on the following occasions:
  - Class Selection/Registration

- Adding/Withdrawing a class
- Change of Major
- Academic Probation
- Applying for Graduation

Advisor Assignment and Changes
Students are assigned faculty advisors. Students normally remain assigned to the same advisors as long as they are enrolled in the same major. Either the student or the advisor may request to be reassigned by contacting the Admissions Office.

ACADEMIC APPEAL

Students may file an academic appeal if they feel they have extenuating circumstances that have affected their ability to follow college procedure in any of the following areas:

- Appeal transfer of a "D" course
- Dropping courses during the defined drop/add period
- Withdrawing from the college during the defined withdrawal period
- Grading
- Graduation Requirement Adjustment
- Required Course Substitution
- Pre-requisite Equivalency
- Transfer of Credit Appeal
- Tuition Payment

Student must complete the Academic Appeal form available in the Registration Office and attach any additional documentation that supports their request. The completed form must be returned to the Business Office. The form will be forwarded to the appropriate academic dean, or the Appeals Committee for review. Students will be informed in writing of the committee's decision regarding the appeal. If the student wishes to appeal the decision made by the Appeals Committee they can forward their request to the Academic Appeal Council (AAC). If the Academic Appeal Council is unable to reach a decision, or if the student wishes to appeal the ruling of the AAC, the appeal will be forwarded to the Vice President of Academic and Student Affairs. If the student wishes to appeal the ruling of the Vice President of Academic and Student

Affairs, the appeal will be forwarded to the President whose decision is final.

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 two years prior to re-enrollment

• must complete one term of full-time enrollment or equivalent with a grade point average of at least 2.0

• must petition the Academic Policy Appeal Committee in the Office of Records and Registration for academic forgiveness.

The Academic Forgiveness Committee will meet to review any student appeals received. If academic forgiveness is granted, the Office of Records and Registration will make the following changes to the student's academic transcript:

1. All grades earned in courses taken prior to the date of forgiveness will be annotated with an * denoting academic forgiveness.

2. No credit will be granted for any coursework taken prior to the date of forgiveness.

3. No grades received prior to the date of academic forgiveness will be used in computing the student's cumulative grade point average.

4. No coursework taken prior to the date of academic forgiveness may be used toward completion of graduation requirements.

Academic forgiveness procedures may vary in the case of a student who has previously graduated from the college. The petition is made in writing to the Academic Policy Appeal Committee located in the Registration Office.

ACADEMIC HONORS

A full-time degree seeking student who attains a grade point average of 4.0 for any term will be placed on the President's List. A full-time degree seeking student who attains a grade point average of 3.5 to 3.99 will be placed on the Dean's List.

Students graduating with a 4.0 average will receive the President's Award for Outstanding Scholastic Achievement.

ADD/DROP/WITHDRAWAL FROM CLASS

Students may add or drop courses by using the WEB registration system through the fifth business day (6:00 pm) of a full semester course and through the third business day of a half semester course. If a course begins outside the defined free add/drop period, a student has the right to attend the first session of the course and has until the close of the next business day to drop with a full refund. Students may add full-term courses to their schedule by using a course Add Form and obtaining the instructor's signature. Return the form to the Office of Records and Registration.

• Students withdrawing from full term courses after the five day Add/Drop period, half semester courses after the three day Add/Drop period, or short term courses after the one day Add/Drop period will receive a grade of "W". Students must complete the withdrawal form in the Registration Office.

• No student may withdraw from a full term course after the 12th week of the semester or after 75% of the class for shorter courses.

• No tuition refunds will be processed by the Business Office for full term courses withdrawn from after the five day Add/Drop period, short term courses after the three day Add/Drop period, or after 80% of the course is over (whichever is shorter), unless the student completely withdraws from the college within the refund period.
*See Withdrawal from College.

Withdrawal From College

Students must officially and totally withdraw from the college in order to be eligible for a refund. Withdrawal forms are available in the Admissions Office. A student may not withdraw simply by non-attendance. 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 tuition and fees for

those courses.

- A 100% refund of tuition and fees shall be provided to a student who withdraws from the college:

  – through the 5th business day of the term, OR

  – before 6% of the scheduled class sessions have elapsed (whichever is shorter).

- A 75% refund of tuition and fees shall be provided to a student who withdraws from the college:

  – after the 5th business day and through the 10th business day, OR

  – before 12% of the scheduled class sessions have elapsed (whichever is shorter).

- A 50% refund of tuition and fees shall be provided to a student who withdraws from the college:

  – after the 10th business day and through the 15th business day, OR

  – before 18% of the scheduled class sessions have elapsed (whichever is shorter).

- A 25% refund of tuition and fees shall be provided to a student who withdraws from the college:

  – after the 15th business day and through the 20th business day, OR

  – before 24% of the scheduled class sessions have elapsed (whichever is shorter).

- No refund of tuition or fees shall be provided to a student:

  – after the 20th business day of the term, OR

  – after 24% of the scheduled class sessions have elapsed (whichever is shorter).

No withdrawals are allowed after the 12th week of the semester or after 75% of the course schedule is completed (whichever is shorter).

Student-Initiated Class Withdrawal

It is the student's responsibility to ensure that unwanted courses are dropped from their schedule. Students who fail to drop their courses appropriately will be obligated to pay related tuition and fees. Students should not assume that their instructors have dropped them from the class roster due to lack of attendance. Students who stop attending classes without informing the Admissions Office will be re-admitted on a space available basis.

Instructor-Initiated Class Withdrawal

An instructor is authorized to drop any student who fails to attend during the first five days of the semester. The academic deans office will drop the names of students submitted by that instructor.

Military Leave

Students who are members of any branch of the U.S. military reserves and who are unable to complete a semester due to having been called to active duty, shall to the extent possible, be provided the following options:

1. The student may be given a full refund of tuition. Students receiving financial aid who choose this option should be made aware that they may be liable for any required refunds of state or federal financial aid funds.

2. The student may be given a grade of incomplete in a course and complete it upon release from active duty. Course completion may be accomplished by independent study or by retaking the course without payment of tuition. Under federal financial aid policies, a course that is retaken this way may not be counted towards a students enrollment load.

3. If, in the instructor's judgment, the student has completed sufficient course work to earn a grade of C or better, the student may be given credit for completion of the course.

ADVANCED STANDING

Advanced standing means course credits granted on the basis of proficiency. If the source is college coursework, the transfer of credit procedure is followed. The following sources are also approved for use to fulfill diploma/degree requirements:

• Prior Learning Assessment

• Test-Out Credit/Challenge Examination

• Company coursework as listed in The National Guide to Educational Credit for Training Programs

• Military Credit as indicated in the Guide to the Evaluation of Educational Experiences in the Armed Services

• Advanced Placement Examinations

• CLEP – College Level Evaluation Program

• IB – International Baccalaureate

• Tech Prep

ATTENDANCE POLICY

Students are expected to attend all classes and to demonstrate competency through hands-on experience or classroom participation. In case of absence, the students are responsible for arranging for completion of class work. Faculty members communicate their attendance policy in writing, in the course syllabus. Student attendance is recorded by faculty and is part of the permanent records.

AUDITING CLASSES

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

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

"Course Audit Application Forms" must be obtained from the Office of Records and Registration and returned during the free drop/add period. Students are responsible for obtaining the required signatures. Incomplete forms will be returned to the student.

In no case may students receive credit for a course which was audited unless the course is retaken for credit.

COLLEGE READINESS COURSES

College readiness courses are designed to assist students to develop or review essential prerequisite academic skills. These course numbers will always begin with a zero. Some college readiness courses or another demonstration of proficiencies are prerequisites to required general studies courses.

Individual programs have established course placement recommendations or requirements based on scores earned in the basic academic skills test. These may include successful completion of college readiness coursework prior to admission to a major or enrollment in specific classes. The purpose of developmental coursework is to insure that those entering courses or programs have the prerequisite skills in writing, reading, and math to be successful.

Students may demonstrate proficiency in one of the following ways:

• Successfully completing an assessment test administered by the Admissions Office.

• Transferring equivalent post-secondary coursework.

• Completing the prescribed college readiness courses.

All college readiness courses, including English and Math, are graded P/NC indicating a passing grade or no credit awarded.

College readiness coursework cannot be used to fulfill program graduation requirements or calculated in the GPA.

Additional instructional support services are available in the Academic Achievement Center.

COURSE BY ARRANGEMENT

In extreme cases of schedule conflicts or unusual course demands, students, with the approval of the Academic Dean, 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. 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

Policy

St. Cloud Technical College students may apply to obtain course credit based on previous relevant life/work experience. The experience shall be:

- From employment or workshop learning.
- Recent and relevant.
- Of satisfactory performance.
- Students must demonstrate college level learning through a portfolio process.

A. **Hour/Credit Ratio**
College credit granted shall not be based on hours of experience but on relevant college level learning attained. Learning must meet standards as set by course syllabi.

B. **Maximum Number of Credits Granted**
The maximum number of credits awarded for prior learning may be one third or less of the number required for the student's major program.

C. **Recency**
The life/work experiences must have taken place within five (5) years prior to the request date.

D. **Self-employment/volunteer work**
Students may submit self-employment and/or volunteer experience for consideration. The major program faculty will establish criteria for evaluating such experience on a case-by-case basis. A life learning paper may be required as part of the portfolio.

E. **Grade**

Credit awarded for college level learning shall be noted on the official student transcript with a grade of "CR".

F. **Cost**
A non-refundable credit fee shall be assessed prior to evaluation for each course for which college credit is being requested.

Procedures

Prior Learning Assessment Portfolio Review

A. Compile a portfolio which consists of:
- A completed Verification of Work Experience form.
- A completed Request for Credit Based on Life/Work Experience form.
- Student transcript and current term schedule and program planner.
- Cover letter explaining how prior learning meets standards as set by course syllabi.
- An up-to-date resume.
- Applicable course syllabi and learning performance objectives.
- Detailed record of each learning performance objective and how it was met. Record should be done in outline form reflecting both experience and learning. The order of learning performance objectives must correspond to the sequence presented in the course syllabi. Those objectives not met must be stated as such.
- Seminar/workshop content outlines and completion certificates.
- Relevant work samples, letters of recommendation, licenses.

B. Pay non-refundable fee assessed for each course for which credit is being requested. Fees must be paid in the Business Office.

C. Submit documents to Office of Records and Registration.

D. Registrar will forward the portfolio to a faculty member trained in prior learning assessment. The student will receive a written response within thirty (30) days.

E. Appeals may be forwarded to the Vice President of Academic and Student Affairs.

Appeals will be answered in writing within ten (10) working days.

F. The Office of Records and Registration will retain permanently all documents used to verify the credit award for experiential learning.

All documents submitted must be typed. Incomplete portfolios will be returned to the student without being evaluated.

Forms

Request For Credit forms are available at the Office of Records and Registration.

CREDIT LOAD

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

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

Students are classified according to course credits earned: freshmen = 0 – 29 credits, sophomore = 30 or more 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 health majors)
"F" = Failing
"I" = Incomplete

"N/C" = No Credit
"IP" = In progress
"P" = Passing
"W" = Withdraw
"CR" = Credit by examination
"AU" = Audit

A "P" indicates a "C" or better which means satisfactory progress.

A "W" grade indicates withdrawal. This can be given between the 5th day and the end of the week. See Course Bulletin for more information.

The "CR", credit by examination, is granted to students with advanced standing, test-out or credit by examination.

Grade Changes

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

Repetition of Courses

A student who receives a grade of "D" or "F" 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). Courses with grades of C or better may be repeated only with the appropriate dean's prior approval.

No courses or grades will be removed from the transcript. The lowest grade will be annotated by parenthesis to denote "repeat" and will not be used in computing the grade point average.

To correct the GPA, the student should inform the Office of Records and Registration. All course attempts will remain in the student's permanent academic record.

Note: Students may repeat courses at their own discretion. However, financial aid or veteran's assistance may not fund the satisfactorily completed courses.

GRADES OF 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 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 quarterly and cumulative basis. A semester example is shown below.

Grades	Grade Points		Credits		Total Grade 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

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

• Satisfactorily complete the required curriculum.

• Diploma students must earn 1/3 of the technical /program credits at St. Cloud Technical College. AAS students must earn a minimum of 20 technical/program credits from St. Cloud Technical College.

• Maintain a minimum cumulative grade point average of 2.0. All health majors must earn a grade of "C" or better in all required courses.

• Satisfy all general and specific requirements of the college including fulfillment of all financial obligations.

• Complete an Application for Graduation Form at least one (1) semester prior to the anticipated date of graduation. Forms are available in the Office of Records and Registration.

• Students taking courses from SCSU must satisfy all requirements at that institution.

• Students may petition exceptions to technical program graduation requirements by officially requesting course substitutions using an academic policy appeal form. Forms are available in the Office of Records and Registration. The Academic Appeals Committee meets regularly to review appeals.

• Students who have received student loans must participate in exit counseling.

Health Major Satisfactory Progress

All health majors must earn a grade of "C" or better in all required courses. Students earning any grade less than "C" will be required to repeat the course.

Dental Assisting/Dental Hygiene

• Failure to earn a grade of "C" or better in a course will result in suspension from the Dental Assisting and Dental Hygiene program.

• Students seeking readmission to the program will be required to reapply.

• Upon reacceptance into the program, students will be required to repeat courses to earn a grade of "C" or better.

Practical Nursing

(Please see "Practical Nursing Handbook" for special procedures.)

• Failure to earn a grade of "C" or better on the second attempt will result in termination from the Practical Nursing program.

Internships, Practicums and

CLINICALS

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.

LAPTOP LEASING POLICY

In the Fall 2003, certain programs, as specified in the catalog, will require students to lease computers. This policy is to ensure that every student will have access to a new laptop computer and necessary software for use in class and outside of the classroom. The lease agreement protects students from costs related to accidental damage and subsequent loss of computer access during their course of study. The lease program has resulted in greater student technical competency and guaranteed hardware and software compatibility.

Appeals

Students with extenuating circumstances may appeal this policy. Appeals must be submitted at least one week prior to the start of the semester. All necessary information contained on the appeals checklist must be completed. The student will be notified of the decision regarding the appeal no later than the first day of class for that semester.

Appeals Process for Laptop Computer Leasing

(must be completed and submitted at least one week prior to semester start)

- Obtain appeals form from Registration Office, a program instructor or division administrative assistant.
- Complete form, answer all questions and provide a complete explanation as to why you are appealing the laptop policy.

- Academic Deans, as a committee, and in consultation with the appropriate faculty member(s) will make the decision to accept or reject the appeal.
- Students will be notified via email or letter no later than the first day of class.

MIDTERM PROGRESS

Student reports of unsatisfactory work (i.e., "D", "F" and "U") of students are made by all instructors at the end of the first 8 weeks of the semester. A grade of "D" is considered unsatisfactory although it may be a passing grade. The appropriate academic dean's office will mail unsatisfactory reports to students who have been reported as doing unsatisfactory work. These reports are also sent to the academic advisors to be used for advisement purposes. Unsatisfactory progress reports do not remain on the student's permanent record. It is also the student's responsibility to keep informed of his/her own performance in a class.

A "D" is not a passing grade for the Health majors, or CMSC courses.

PREREQUISITES

Students who fail the first course of a sequence cannot take the following courses in that sequence until a passing grade is obtained. Prerequisites for a course must be met before the course is taken unless permission to omit the prerequisite is obtained from the advisor and the instructor. Prerequisites may be met either by completing the required course or by achieving satisfactory scores on the Accuplacer test, or by passing an appropriate challenge examination, or by obtaining Credit for Prior Experiential Learning. Check with the Office of Records and Registration or with an advisor for information about testing-out. (See Credit by Exam or Advanced Standing.)

REFUNDS, WITHDRAWALS, AND WAIVERS POLICY

Refunds for Dropped Classes

Students are entitled to attend one class session without obligation. St. Cloud Technical College has established a period of five business days after the start of the term as a no-obligation drop period. Students are obligated for any classes dropped after this period. If a course begins outside the defined drop/add period, a student has the right to attend the first session of the course and has until the next business day to withdraw with a full refund. If a student is obligated for a dropped class, the college or university may apply the amount of the tuition for the dropped class to the cost of an added class for the current term.

A due date for tuition is established each semester. St. Cloud Technical College may drop all classes for students who have not made any payments of current term receivables by the payment due date, do not have a financial aid deferment and have not made payment arrangements.

For short courses the president shall establish the no-obligation drop and refund period. A short course is defined as one that is less than three weeks.

May term and Summer term will vary by course.

Refunds for Withdrawals

St. Cloud Technical College will refund tuition for students who totally withdraw in accordance with the following schedule. This schedule does not apply to students who are subject to the requirements of the federal pro-rata regulations.

A. 100% refund of tuition and fees shall be provided to a student who withdraws from the College:
    – through the 5th business day of the term, OR
    – before 6% of the scheduled class sessions have elapsed (whichever is shorter).

B. A 75% refund of tuition and fees shall be provided to a student who withdraws from the College:
    – after the 5th business day and through the 10th day of the term, OR
    – before 12% of the scheduled class sessions have elapsed (whichever is shorter).

C. A 50% refund of tuition and fees shall be provided to a student who withdraws from the College:
    – after the 10th business day and through the 15th day of the term, OR
    – before 18% of the scheduled class sessions have elapsed (whichever is shorter).

D. A 25% refund of tuition and fees shall be provided to a student who withdraws from the College:
    – after the 15th business day and through the 20th day of the term, OR
    – before 24% of the scheduled class sessions have elapsed (whichever is shorter).

E. No refund of tuition fees shall be provided to a student:
    – after the 20th business day of the term, OR
    – after 24% of the scheduled class sessions have elapsed (whichever is shorter).

Waivers

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

•   Employee Benefit Provided by a Bargaining Agreement
•   Death of a Student
•   Medical Reasons
•   College Error or Unsatisfactory Service
•   Employment Related Conditions
•   Significant Personal Circumstances
•   Student Leader Stipends
•   Course Conditions *
*   A course condition exists when the location or timing of the course results in the student not being able to use the services intended by a fee.

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

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. It also provides structured opportunities for students to a) reflect on their service experience, b) gain a better understanding of course content, c) enhance the understanding of community needs and responsibilities.

Research supports the impact of service learning on the following:

- meeting learning outcomes
- student personal and interpersonal development
- student understanding and applying knowledge
- students improvement in critical thinking skills
- student perspective increased
- student citizenship skills increased

Students across the country say they enjoy and benefit from service learning. "We learn these theories in school... but until we really apply them or see them in action, they're not real." Service to the community fulfills requirements for admission to some University programs and is looked upon favorably by employers. For a list of courses and instructors that incorprate Service Learning, contact the Office of Education Transition (320) 308-5908.

Transfer Guidelines for St. Cloud Technical College

Accreditation

St. Cloud Technical College will consider for transfer those courses taken from colleges and universities that are accredited by recognized accrediting agencies.

Age of Credits

There is a 10-year time limit for general education coursework, unless a diploma/degree was earned. Transfer of general studies and technical courses shall be allowed for courses that have been completed within 5 years.

Course Content

Courses approved for transfer must match at least 75% of the content and goals of the course syllabus for which the student is seeking transfer. Content and goals from several courses can be combined to reach the 75% match.

Grade Point Average

Grades earned at other institutions shall not be used in computing the GPA at St. Cloud Technical College.

Grade Requirements

Courses for which students receive a grade of "C" or higher shall be considered for transfer. Students who have maintained a 2.0 GPA at another institution and wish to appeal the transfer of credits must submit an academic appeals form, available in the Office of Records and Registration, to the Business Office.
See the Academic Appeal Policy for additional information.

Number of Credits

The number of credits granted shall not exceed the number of credits awarded by the sending institution.

Semester Conversion

The following formula is used to calculate the conversion: 3 quarter hours become 2 semester hours and 4 quarter hours become 2.67 semester hours (4 x .667=2.668).

Residency Requirements:

Diploma students must earn 1/3 of the technical/program credits at SCTC. AAS students must earn a minimum of 20 technical/program credits at SCTC.

Transfer Information
Minnesota State Colleges and Universities (MnSCU)

Minnesota's Transfer Curriculum

The Minnesota Transfer Curriculum is the means by which students transfer their complete lower division general education at one public college or university to meet lower division general/liberal education requirements at any public college or university in Minnesota. The transfer curriculum commits all public colleges and universities in the state of Minnesota to a broad educational foundation that integrates a body of knowledge and skills with study of contemporary concerns—all essential to meeting individuals' social, personal, and career challenges. The competencies people need to participate successfully in this complex and changing world are identified by areas of emphasis.

For a list of courses included in the Minnesota Transfer Curriculum that are offered at St. Cloud Technical College, please go to the following web site:

http://www.mntransfer.org/MnTC/review/stcloud2.html

Admission of Transfer Students

Minnesota's public colleges and universities are working to make transfer easier. Students can help if they plan ahead, ask questions, and use pathways created by transfer agreements.

Preparing for Transfer

Students currently enrolled in a college or university should:

- Discuss plans with the campus transfer specialist.
- Call or visit the intended transfer college. Obtain the following materials and information:
  – college catalog
  – transfer brochure
  – information on admissions criteria and on materials required for admission; e.g. portfolio, transcripts, and test scores. Note that some majors have limited enrollments or their own special requirements; such as a higher grade point average, information on financial aid, how to apply and by what date.

- After reviewing these materials, the student should make an appointment to talk with an advisor or counselor at the college or program he or she wants to enter. The student should be sure to ask about course transfer and admission criteria. If not currently enrolled in a college or university, the student should begin by meeting with a transfer specialist or an admissions officer at the intended transfer college to plan the necessary steps.

Understanding How Transfer of Credit Works

- The receiving college or university decides which credits transfer and whether those credits meet its degree requirements. The accreditation of both the sending and the receiving institution can affect the transfer of the credits earned.

- Institutions accept credits from courses and programs like those they offer. They look for similarity in course goals, content, and level.

- Not everything that transfers will apply toward graduation. Baccalaureate degree programs usually count credits in three categories: general education, major/minor courses and prerequisites, and electives. The key question is, "Will your credits fulfill requirements of the degree or program you choose?"

- If a student changes career goal or major, it might not be possible to complete all degree requirements within the usual number of graduation credits.

Applying for Transfer Admission

- Application for admission is always the first step in transferring. The student should fill out the application as early as possible prior to the deadline.

- The student should request that an official transcript be sent from every institution attended. A high school transcript or GED test scores might be required as well.

- Complete Request to Transfer Form.

- The student should recheck to be certain the college or university has received all the necessary paperwork. Most colleges make no

decisions until all required documents are in the student's file.

- If the student has heard nothing from the intended college of transfer after one month, he or she should call to check on the status of the application.

- After the college notifies the student that he or she has been accepted for admission, transcript of credits will be evaluated for transfer.

- A written evaluation should tell which courses transfer and which do not. How courses specifically meet degree requirements may not be decided until the student has arrived for orientation or has chosen a major.

- Students with questions about their evaluation should call the Office of Records and Registration and ask why judgments were made about specific courses. Many concerns can be cleared up if students understand why decisions were made. If the student is not satisfied, he or she can appeal.

Your Rights as a Transfer Student

- A clear, understandable statement of an institution's transfer policy.

- A fair credit review and an explanation of why credits were or were not accepted.

- A copy of the formal appeal process. Usual appeal steps are:
  1. Student fills out an appeal form and supplies supplemental information provided to reviewers. (A syllabus, course description, or reading list can help.)
  2. Department or committee will review.
  3. Student receives, in writing, the outcome of the appeal.
  4. At the student's request, a review of eligibility for financial aid or scholarships.

For help with transfer questions, see the campus transfer specialist.

Unsatisfactory Progress

Academic Progress

Students will be expected to maintain a cumulative grade point average (GPA) of 2.0. Any student who does not maintain the cumulative GPA 2.0 academic requirement will, at the end of the term, be placed on academic probation. The student must meet with a counselor or their program academic advisor to set-up a plan which emphasizes the assistance available through the college to help the student.

1. If the student, who has been placed on probation, fails to maintain a 2.0 GPA the following semester, the student will be suspended from the college for a period of one semester in which their program major regularly holds courses.

2. Students who have been suspended for failure to maintain a 2.0 GPA must remain out of the college for a period of one semester before being readmitted on probation. Students must complete the application process to be readmitted for the program of their choice. To be readmitted to the college, students must reapply and be accepted into the major. They must also meet with a counselor to develop a success plan.

3. Students readmitted on probation must maintain a grade point average of 2.0. Students will remain on probation until their cumulative GPA is 2.0.

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 a 2.0. Some programs of study have program handbooks (i.e., Practical Nursing, etc.) which outline additional or more rigorous academic program requirements.

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

ACADEMIC RESOURCES

INTERACTIVE TELEVISION CENTER

Central Minnesota Distance Learning Network provides additional course opportunities to students through two-way interactive television classrooms. This network expands opportunities for students in the areas of accounting, legal secretary, practical nursing, and many other programs.

The network makes daytime and evening classes available five days a week.

The network is also available to students for organizational events with other network colleges.

LIBRARY

The Library provides library, audio-visual services, Internet access, Internet subscription, Internet databases, and expanded reference services through its membership in Central Minnesota Libraries Exchange and MINITEX. Emphasis is placed on materials which support the variety of curricular offerings at the college.

CAMPUS FACILITIES

THE BOOKSTOP

The BookStop is located across from the College Cafeteria/Commons and offers a wide variety of goods and services, books (new and used), college clothing, computer software, school supplies, cards and gift items, beverages and candy.

The BookStop also sells postage stamps, bus permits, movie passes, and provides faxing and copying services.

Days and Hours

Monday–Thursday	8:00 am – 5:00 pm
Friday	8:00 am – 4:00 pm

Extended hours are announced at the beginning of each term.

Textbooks

All textbooks being returned must be accompanied by a dated sales receipt issued by The BookStop for a full refund within the first 15 calendar days of the term.

Textbooks purchased after the 15th calendar day of the term must be returned within 24 hours and accompanied by a dated sales receipt for a full refund.

Used Book Buy

Used Book Buy periods occur at the end of each term. Students receive cash for their books. No receipt is required.

Personal Checks

Checks will be accepted only for the amount of purchase. Checks must be complete with current address and phone number. Two forms of ID will be required. No two party checks will be accepted.

Refunds

The refund policy is enclosed with every book purchase.

Merchandise must be returned to The BookStop in saleable condition at the time a refund is requested. Final approval of a refund will be determined by the bookstore manager.

All refunds on purchases will come through the mail and take approximately two weeks.

COLLEGE CAFETERIA/COMMONS

A variety of food is served in the cafeteria. Daily specials and vending machines are available. Students are expected to clear their own tables.

Days and Hours

Monday–Friday	7:45 am – 3:00 pm

BUSINESS SERVICES

HEALTH SERVICE FEE

All students must pay a health service fee of $ .35/credit. These funds purchase an accident insurance policy, $5,000 limit, no deductible which covers students on campus and at all off-campus college sponsored events including internships and supervised occupational experiences.

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

MSCSA FEE

The Minnesota State College Student Association is the recognized student association for Minnesota technical college students. A $ .30 per credit fee is charged to each student and credited to the association for state-wide representation.

PARKING REGULATIONS

Everyone using the parking lots between 7:00 am and 10:00 pm is required to purchase a parking permit. Permit prices are:

Annually June 1–May 31	$90.00
Fall, Spring terms	$50.00
Summer term	$35.00
Daily	$1.00

Permits may be purchased in the Business Office. If a person has a current handicapped sticker, there is no charge for parking in the SCTC parking lot.

Student parking will be limited to Lot A, Lot C, and Lot D. Vehicles without a permit will receive a ticket. Parking permit refunds may be obtained from the Business Office on the same prorated basis used to refund tuition upon withdrawal from college. In order to receive the refund, the permit must be returned at the time the refund is requested. Replacements for damaged permits may be purchased for $2.00 upon presentation of the old permit. No discounts or refunds will be given for lost or stolen permits.

Motorcycle permits will be issued at no extra charge provided a regular permit has been purchased.

The purchase of a permit does not guarantee the availability of a parking space at all times. Unpaid parking tickets will be recorded and will prohibit a student from registering for classes and obtaining transcripts.

The following offenses will result in Fines:

Parking in prohibited area	$15.00
Parking on grass area	$15.00
Misuse of Handicapped Parking	$200.00

(Handicapped placard or handicapped license plate must be displayed to be eligible to park in the college lot.)

Altered/Forged permit	$60.00
Blocking of Fire Lane	$15.00

All fines are subject to change.

Motorcycles should be parked in areas designated as "Motorcycle Parking."

Visitor parking is designated for guests only. Visitor permits are available at the Information Center.

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.

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 so as 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 when:

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

Appeals Procedure for a SCTC Parking Ticket

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

Senior Citizen

Residents 62 years or older may register tuition-free for any hour-based courses except for courses designed and offered specifically and exclusively for senior citizens (prerequisites must be met). Exceptions may apply. State law says the senior citizen may take a course "when space is available after all tuition-paying students have been accommodated." This means senior citizens must wait until the first class meeting to register at the class site. Senior citizens are responsible for all lab, book, and material fees. Senior citizens registering for credit-based courses are required to pay a $9.00 per credit fee unless the class is audited. Audited classes are tuition free.

Student Activity Fee

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

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/fees.

Transcript Fee

Students may obtain an official transcript of their grades by completing a request for transcript form and paying $7.00 for each transcript requested.

Business Office Hours:

August–May	
Monday–Thursday	7:30 am – 5:00 pm
Friday	7:30 am – 4:00 pm
June–July	
Monday–Thursday	7:30 am – 5:00 pm

Tuition and Fee Policy

Tuition Rates Per Credit

Tuition rates and fees are subject to change according to MnSCU and/or college policies. Please check with the Business Office for current credit tuition schedules.

Tuition Deferment Policy

This policy is designed for those students who must defer tuition payments and who do not qualify or are not eligible for agency funding, loans or grants.

The student will complete and sign an Administrative Tuition Deferment Agreement available from a college approval officer located in the Business Office.

No student will be allowed to register for a new term if deferred payments from a previous term are not paid in full. Payments may be deferred for only the current term, and the entire balance must be paid in full by the end of that term. A $30 processing fee will be charged for each deferment agreement. All student fees must be paid at the time of the deferment agreement.

Tuition Payment

Tuition is due in full approximately 14 calendar days from the start of the term (check your registration booklet for the exact date). Students whose tuition is unpaid could be denied entrance

to class and their enrollment terminated. If a student does not attend classes at St. Cloud Technical College, but fails to formally withdraw, they will be responsible for the full tuition amount due.

Students are responsible to ensure that financial aid and agency awards are credited properly to their accounts. Tuition is not paid and registration is not complete until the balance is -0-.

Students will be allowed to add courses to their schedules through the drop/add period. Students taking courses from St. Cloud State University will receive a separate fee statement from SCSU for all registered courses and be financially obligated to pay tuition separately at St. Cloud State University. The cost of the SCSU course will not be reflected on your bill from St. Cloud Technical College. If tuition is not paid in full, a hold will be placed on the student's account. The student will be unable to register or receive an official transcript until tuition is paid.

STUDENT ACTIVITIES AND ORGANIZATIONS

CAMPUS MINISTRY SERVICES

Ecumenical Campus Ministries represent the united service of several campus pastors to St. Cloud Technical College and St. Cloud State University. Sharing of personnel and resources allows more efficient fulfillment of the common goals of campus ministry. Students are invited to participate in services and activities offered by the ministries at either SCTC or SCSU. Services and activities include personal and religious counseling, films, special programs, and information.

COLLEGE CLUBS AND SERVICE ORGANIZATIONS

The following are the recognized student clubs/organizations on campus. Further information regarding the club can be received by contacting the club/organization advisor.

ADAA (American Dental Assistants Association)

Terry Anderson, Dental Instructor

AD FED (American Advertising Federation)

Jeff Palm, Advertising Instructor

ADDA (American Drafting and Design Association)

Dave Johnson, CAD Instructor

BPA (Business Professionals of America)

Jim Anderson, Accounting Instructor

CACE (Child & Adult Care and Education)

Sue Schlicht, Child & Adult Care and Education Instructor

CMBA (Central Minnesota Builders Association)

Jim Larson, Architectural Construction Technology Instructor

CMPP (Central Minnesota Printing Professionals)

Steve Storkamp, Graphic Communications Instructor

DECA (Distributive Education Clubs of America)

Rebecca Shand, Sales and Management Instructor

ISA (Instrumentation Society of America)

Roger Young, Instrumentation and Process Control Technology Instructor

MESA (Minnesota Electrical Student Association) Student Chapter

Don Leonard, Construction Electrician Instructor

SADHA (Student American Dental Hygienists Association)

Barb Henkemeyer, Dental Hygiene Instructor

VICA Auto Body (Vocational Industrial Clubs of America)

Dale DeRung, Automobile Collision Repair Technician Instructor

VICA Auto Service (Vocational Industrial Clubs of America)

Steve Morgan, Auto Service Technician Instructor

VICA Culinary Arts (Vocational Industrial Clubs of America)

Jay Thomas, Culinary Arts Instructor

VICA Heating and Air (Vocational Industrial Clubs of America)

Randy Kidder, Heating and Air Instructor

***VICA Medium/Heavy Truck (Vocational* Industrial Clubs of America)**

Arnie Tasto, Medium/Heavy Truck Technician Instructor

WAMM (Minnesota Wastewater Operator's Association, Water Environment Federation, American Waterworks Association, Minnesota Wastewater Association, Minnesota Rural Water Association)

Keith Redmond, Water Environment Technology Instructor

STUDENT SENATE

Student body leadership is centered in the Student Senate. It directs and coordinates all student activities and sponsors special events. The president and vice president are elected during spring term. The treasurer, secretary and legislative liaison are elected each fall. Representatives are elected or appointed by the recognized student clubs fall term.

The Student Senate Executive Board has regulatory powers over all clubs and service organizations.

St. Cloud Technical College and all students are members of the Minnesota State College Student Association.

EMERGENCY PROCEDURES

EMERGENCY TELEPHONE CALLS

In the case of emergency phone calls, we will directly contact the student, if possible, in his/her classroom area. We will not page a student using the intercom system. College personnel will determine if the phone call is an emergency or non-emergency situation.

FIRE ALARMS

Students should know the fire alarm procedures for their location in the building.

1. Leave immediately and proceed outdoors with last person closing door.

2. Walk fast but do not run.

3. The first person out props the door open or holds it open.

4. Stay outside until the recall alarm sounds a signal to return.

5. Obey the fire signal even if there is reason to believe the signal was set off accidentally.

6. Clear the area for possible fire trucks or ambulances and move beyond roadways and traffic lanes.

INCLEMENT WEATHER POLICY

In the event it is necessary to close the college due to extreme weather conditions or any other emergency situations, the following procedures will be followed:

1. In all cases, students are urged to use good judgement on whether to report to the college based on their individual situations.

2. Inclement weather announcements relative to St. Cloud Technical College will be made on the following stations:
   - KASM Radio AM – 1150 (Albany)
   - KCLD Radio FM – 104.7 (St. Cloud)
   - KLTF Radio AM – 960 (Little Falls)
   - KNSI Radio AM – 1450 (St. Cloud)
   - KWLM Radio AM – 1340 (Willmar)
   - WCCO Radio AM – 830 (Minneapolis)
   - WHMH Radio FM – 101.7 (Sauk Rapids)
   - WJON Radio AM – 1240 (St. Cloud)
   - WVAL Radio AM – 800 (Sauk Rapids)
   - WWJO Radio FM – 98.1 (St. Cloud)

3. The absence of an announcement concerning the college means that it is in session. The college never announces that it is open.

NON-EMERGENCY SITUATIONS OF CONCERN

Suspicious or intoxicated individuals

1. Call **9-251-1200...Police.**

2. Notify the Campus Security as soon as possible at 308-3333.

For further details, please see the Campus Security Report.

NON-MEDICAL EMERGENCIES

Threatening, irrational behavior, assault, etc. Call **911 ... Police.**

1. Identify nature of emergency.

2. Direct police to nearest building entrance (all outside doors are numbered) and room number nearest incident. Provide escort at entrance to avoid confusion.

3. Attempt to keep others from becoming involved.

4. Notify the Campus Security as soon as possible at 308-3333.

Tornado warning procedure

The safest areas are:

1. Hallways away from large glass areas.

2. Classrooms and offices away from outside walls and windows.

3. Bathrooms.

In the event of a tornado warning or drill, the second floor must be completely evacuated. Students and staff will proceed to the first floor hallway.

Things to do:

1. Close hallway door.

2. Do not stop to open or close windows.

3. Sit down in designated area. Leave a passage open in the center of the hallway.

The tornado warning will be announced over the intercom system instructing the staff to proceed with a tornado emergency. Do not leave the building until the all clear has been announced.

Medical Emergencies

Call 9-911...Ambulance

1. Identify nature of emergency.

2. Direct emergency personnel to nearest building entrance (all outside doors are numbered) and room number. Provide escort at entrance to avoid confusion.

3. Assist as possible. Use common sense.

4. Notify the Campus Security as soon as possible at 308-3333.

5. Injury/incident reports need to be filed immediately for any accident involving personal injury. Report forms are available in the Business Office.

dOOR15 OF ST. CLOUD TECHNICAL COLLEGE

door15 of St. Cloud Technical College was formerly known as Customized Training and Development.

OUR MISSION:

To be the first choice provider for flexible education and lifelong learning. We build long-term relationships with regional business partners and individuals to help them meet their continuing education, workforce training and organizational development needs.

COURSE OFFERINGS

door15 of St. Cloud Technical College offers hour based open enrollment, on-line, customized, and credit courses.

- **Hour based open enrollment courses** are non-credit courses that are open to the general community. These courses may apply toward continuing education, professional development, certification or advanced requirements of a trade or profession. Examples include the five-week Over-the-Road Truck Driving Program, MnDOT Truck Re-Certification, and Health and Human Services CEU (continuing education unit) courses.

- **On-line open enrollment courses** include over 4,000 options through our ACT and ED2GO partnerships. Examples include Beginning and Advanced Database Applications, Introduction to Electrical Theory and Strategic Management Planning.

- **Customized courses** are specifically designed to meet the continuing education and training needs of our public and private sector, regional business partners and employers. These courses may be hour based or credit, and held at the business site, on campus or on-line. Examples include the St Cloud Technical College Satellite LPN Program, the Gold'n Plump Leadership Program and the Coborns Self-Study Program.

- **Credit courses** are part of an academic career program. When successfully completed, they may be applied, either as required or elective credits, toward a degree or diploma at St Cloud Technical College. It may be possible to transfer the credits to other post-secondary institutions.

- **Emergency Services and Public Safety Education** is a division of door15 of St. Cloud Technical College. The health and safety related programs and courses are offered as open enrollment, customized or credit and in collaboration with local hospitals, police and ambulance personnel and fire fighters. Course examples include First Aid, CPR, First Responder, Fire Fighting, and Emergency Medical Technician.

DAYS AND HOURS

door15 of St. Cloud Technical College office hours are:

Monday–Thursday   7:30 am – 5:00 pm
Friday   7:30 am – 4:30 pm

Phone: 320-308-5039 or
1-800-222-1009, ext. 85039.

Visit us at www.sctc.edu/center

PROGRAM MAJORS

COMMUNICATION & MARKETING TECHNOLOGY
Advertising
Advertising Web Page Designer
Credit and Finance
Culinary Arts
Farm Business Management
Graphic Communications
Sales and Management Careers
    Sales and Management
    Sales and Management Associate
Supervisory Management

CONSTRUCTION TECHNOLOGY
Architectural Construction Technology
Carpentry
    Cabinetmakers Apprentice Certificate
    Carpenters Assistant Certificate
    Residential Framer Assistant Certificate
Electrical Construction Technology
Heating, Air Conditioning and Refrigeration Technology
    Heating, Air Conditioning, and Refrigeration – Commercial
    Heating and Air Conditioning – Residential
Land Surveying/Civil Engineering Technology
Plumbing
Water Environment Technologies

dOOR 15
Long Term Care Connection (Practical Nursing)
Supervisory Management
    Organizational Development Certificate
    Quality and Productivity Certificate
    Supervisory Leadership Certificate

HEALTH AND HUMAN SERVICES
American Sign Language *
    Interpretor/Transliterator
Child & Adult Care and Education
    Child Development Careers Education -– Certificate
Dental Assistant
Dental Hygiene
Echocardiography
Emergency Medical Services *
Invasive CardioVascular Technology
Nursing Assistant/Home Health Aide

Paraprofessional Educator (pending approval)
Paramedicine
Practical Nursing
    Health Care Technician - Certificate
Public Welfare Financial Worker
Sonography
Surgical Technology

INFORMATION TECHNOLOGY
Accounting Careers
    Accountant
    Accountant Microcomputer Specialist
    Accounting Clerk
Administrative Support Careers
    Administrative Secretary
      Legal Option
      Medical Option
    Office Technology Assistant
      Legal Option
      Medical Option
    Office Assistant
    Receptionist
Computer Careers
    Computer Programmer
    Database Administrator/Developer
    Microcomputer Programmer
    Microcomputer Support and Network Administration
    Web Page Programmer
Credit and Finance

MANUFACTURING TECHNOLOGY
Computer-Aided Drafting and Design
    Computer-Aided Design and Manufacturing – Advanced Certificate
Electronics
    Industrial Electronics
    Instrumentation & Process Control
Machine Tool Technology
Welding

TRANSPORTATION TECHNOLOGY
Automobile Body Collision Technology
Automotive Service Technician
Medium/Heavy Truck Technician

* Series of courses

ACCOUNTING CAREERS

Associate of Applied Science Degree
Diploma

St. Cloud Technical College

PROGRAM LENGTH

ACCOUNTANT – AAS Degree. . . . . 72 Credits
ACCOUNTANT – Diploma . . . . 65 Credits
ACCOUNTANT MICROCOMPUTER SPECIALIST – Diploma . 48 Credits
ACCOUNTING CLERK – Diploma . . . . 34 Credits

PROGRAM DESCRIPTION

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

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

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

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

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

CAREER OPPORTUNITIES

This program is designed to prepare students as accountants in private accounting, industrial enterprises, and government agencies.

ACCOUNTANT
AAS Degree

Technical Studies

ACCT1215	Accounting Principles I	4
ACCT1216	Accounting Principles II	4
ACCT1217	Cost Accounting I	4
ACCT1218	Computerized Accounting I	3
ACCT1219	Spreadsheets – Microsoft Excel	2
ACCT1220	Payroll Accounting	2
ACCT2219	Computerized Accounting II	3
ACCT2226	Intermediate Accounting I	4
ACCT2227	Intermediate Accounting II	4
ACCT2228	Cost Accounting II/Managerial Accounting	4
ACCT2230	Income Tax I	4
ACCT2231	Income Tax II	2
ACCT2234	Auditing	3
BUSM1215	Business Writing	2
BUSM1260	Applied Business Math/Calculators	3
BUSM1267	Introduction to Business	2
BUSM1275	Business Law	2

General Education

COMM1300 Analytical Writing		4
COMM1320 Intro to Speech Communications		3
CPTR1300 Exploring Computers		3
Electives		10
Estimated cost for books and supplies		**$950**

ACCOUNTANT
Diploma

Technical Studies

ACCT1215	Accounting Principles I	4
ACCT1216	Accounting Principles II	4
ACCT1217	Cost Accounting I	4
ACCT1218	Computerized Accounting I	3
ACCT1219	Spreadsheets – Microsoft Excel	2
ACCT1220	Payroll Accounting	2
ACCT2219	Computerized Accounting II	3
ACCT2226	Intermediate Accounting I	4
ACCT2227	Intermediate Accounting II	4

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

ACCT2228	Cost Accounting II/Managerial Accounting	4
ACCT2230	Income Tax I	4
ACCT2231	Income Tax II	2
ACCT2233	Fund/Non-Profit Accounting	3
ACCT2234	Auditing	3
BUSM1200	Microsoft Software	3
BUSM1215	Business Writing	2
BUSM1260	Applied Business Math/Calculators	3
BUSM1267	Introduction to Business	2
BUSM1275	Business Law	2
BUSM1290	Job Seeking/Keeping Skills	1

General Studies

| GCOM1340 | Written Communication | 3 |
| Elective | | 3 |

Estimated cost for books and supplies $950

ACCOUNTANT MICROCOMPUTER SPECIALIST
Diploma

Technical Studies

ACCT1215	Accounting Principles I	4
ACCT1216	Accounting Principles II	4
ACCT1217	Cost Accounting I	4
ACCT1218	Computerized Accounting I	3
ACCT1219	Spreadsheets – Microsoft Excel	2
ACCT1220	Payroll Accounting	2
ACCT2219	Computer Accounting II	3
ACCT2230	Income Tax I	4

Core Studies

BUSM1200	Microsoft Software	3
BUSM1215	Business Writing	2
BUSM1260	Applied Business Math/Calculators	3
BUSM1267	Introduction to Business	2
BUSM1275	Business Law	2
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1261	Microcomputer Database	3

General Studies

| GBEH1300 | Human Relations | 3 |
| GCOM1340 | Written Communication | 3 |

Estimated cost for books and supplies $630

ACCOUNTING CLERK
Diploma

Technical Studies

ACCT1215	Accounting Principles I	4
ACCT1216	Accounting Principles II	4
ACCT1218	Computerized Accounting I	3
ACCT1219	Spreadsheets – Microsoft Excel	2
ACCT1220	Payroll Accounting	2

Core Studies

BUSM1200	Microsoft Software	3
BUSM1215	Business Writing	2
BUSM1260	Applied Business Math/Calculators	3
BUSM1267	Introduction to Business	2
BUSM1275	Business Law	2
BUSM1290	Job Seeking/Keeping Skills	1

General Studies

| GCOM1340 | Written Communication | 3 |
| GBEH1300 | Human Relations | 3 |

Estimated cost for books and supplies $500

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

ADMINISTRATIVE SUPPORT CAREERS

Associate of Applied Science Degree
Diploma
Certificate

St. Cloud Technical College

PROGRAM LENGTH

PROGRAM DESCRIPTION

The Administrative Support Careers Program prepares efficient and competent office employees for the future with emphasis on high-level technical and communications skills, ethics, a positive attitude, priority setting, and self discipline.

CAREER OPPORTUNITIES

Graduates of the Administrative Support Careers Program find employment in a wide variety of business, legal, medical, educational, and governmental offices. A current shortage of well-trained office employees and increasing demand anticipated by the U.S. Department of Labor make these occupations excellent career choices.

Administrative secretaries are at the center of communication within a firm. They process and transmit information to the staff and other organizations, often compose letters or E-mail in response to correspondence to be answered by the employer, do research, and prepare statistical reports. Administrative secretaries are sometimes given supervisory responsibility for clerical workers.

Office technology assistants perform a full range of office tasks. They use computers to record, edit, store, and reuse correspondence, reports, manuscripts, statistical tables, forms, and similar matter from a variety of inputs. Students often transcribe business correspondence from machine dictation.

The office technology assistant program with the legal option will prepare students for employment as legal secretaries. They assist in the preparation of legal correspondence and documents within deadlines. Other duties may include public/client relations, timekeeping, gathering information from clients, filing, and general office duties. They prepare documents from dictation or hand-draft copy using microcomputers.

The office technology assistant program with the medical option will emphasize the areas of medical terminology, anatomy and physiology, health office procedures, word processing and microcomputer operations. They transcribe dictation; prepare correspondence, records, and charts; and utilize centralized computer systems. Medical insurance coding is a fast growing area in the medical field.

Clerk typists and office assistants perform a wide variety of office tasks: filing, retrieving records and reports, posting information to records, sorting and distributing mail, answering telephones, and performing other related duties. They may use calculating machines, dictating/transcribing machines, and computers.

Receptionists greet customers and other visitors, determine their needs, and refer callers to the person who can help them. Receptionists may use computers along with operating a switchboard.

All students are required to lease a laptop for their program.

ADMINISTRATIVE SECRETARY
AAS Degree

Prerequisite

BUSM1207	Basic Keyboarding*	1

Technical Studies

ADMS1202	Keyboarding/Word Processing	3
ADMS1203	Advanced Keyboarding/Word Processing	3
ADMS1206	Keyboard Speedbuilding	1
ADMS1207	Office Procedures I	3
ADMS1208	Office Procedures II	3
ADMS1214	Administrative Desktop Publishing	3
ADMS2210	Internship	4
BUSM1253	PowerPoint	2
BUSM1256	Web Site Management	2
	Electives	2

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

Core Studies

Code	Course	Credits
ACCT1215	Accounting Principles I	4
BUSM1245	Access	2
BUSM1200	Microsoft Software	3
BUSM1215	Business Writing	2
BUSM1237	Excel	2
BUSM1275	Business Law	2
BUSM1290	Job Seeking Skills	1
SAMG1230	Supervision Fundamentals	2

General Education

Code	Course	Credits
COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
	Humanities	3
	Math	3
	Social Science	3
	Elective	4

Estimated cost for books, supplies, and laptop $3,200

ADMINISTRATIVE SECRETARY/LEGAL OPTION
AAS Degree

Prerequisite

Code	Course	Credits
BUSM1207	Basic Keyboarding**	1

Technical Studies

Code	Course	Credits
ADMS1202	Keyboarding/Word Processing	3
ADMS1203	Advanced Keyboarding/Word Processing	3
ADMS1206	Keyboard Speedbuilding	1
ADMS1212	WordPerfect	2
ADMS1231	Legal Office Procedures I	3
ADMS1232	Civil, Criminal, Bankruptcy (Legal I)	3
ADMS1233	Real Estate and Corporation (Legal II)	3
ADMS1234	Probate and Family Law (Legal III)	3
ADMS1236	Administrative Legal Transcription	3
ADMS2210	Internship	4
BUSM1290	Job Seeking Skills	1

Core Studies

Code	Course	Credits
ACCT1215	Accounting Principles I	4
ADMS1223	Administrative Medical Terminology	2
BUSM1200	Microsoft Software OR	3
CPTR1300	Exlporing Computers	3
BUSM1215	Business Writing	2
BUSM1237	Excel	2
BUSM1275	Business Law	2
SAMG1230	Supervision Fundamentals	2

General Education

Code	Course	Credits
COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
	Humanities	3
	Math	3
	Social Science	3
	Elective	4

Estimated cost for books, supplies, and laptop $3,300

ADMINISTRATIVE SECRETARY/MEDICAL OPTION
AAS Degree

Prerequisite

Code	Course	Credits
BUSM1207	Basic Keyboarding**	1

Technical Studies

Code	Course	Credits
ACCT1215	Accounting Principles I	4
ADMS1202	Keyboarding/Word Processing	3
ADMS1203	Advanced Keyboarding/Word Processing	3
ADMS1206	Keyboard Speedbuilding	1
ADMS1221	Medical Machine Transcription I	3
ADMS1222	Medical Machine Transcription II	3
ADMS1224	Administrative Pharmacology	2
ADMS1226	CPT Medical Insurance Coding and Reimbursement	3
ADMS1227	ICD-XCM Medical Insurance Coding	3
ADMS2210	Internship	4

Core Studies

Code	Course	Credits
ADMS1223	Administrative Medical Terminology	2
BUSM1215	Business Writing	2
BUSM1237	Excel	2
BUSM1290	Job Seeking Skills	1
CPTR1300	Exploring Computers	3
HLTH1420	Health Office Procedures	3
HLTH1424	Patient Communications	1
HLTH1444	Anatomy/Physiology	4
SAMG1230	Supervision Fundamentals	2

General Education

Code	Course	Credits
COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
	Humanities	3
	Math	3
	Social Science	3
	Elective	4

Estimated cost for books, supplies, and laptop $3,500

OFFICE TECHNOLOGY ASSISTANT
Diploma

Prerequisite

Code	Course	Credits
BUSM1207	Basic Keyboarding*	1

Technical Studies

Code	Course	Credits
ACCT1204	Fundamentals of Accounting	2
ADMS1203	Advanced Keyboarding/Word Processing	3
ADMS1204	Advanced MS Office	3
ADMS1206	Keyboard Speedbuilding	1
ADMS1207	Office Procedures I	3
ADMS1208	Office Procedures II	3
BUSM1290	Job Seeking Skills	1

Core Studies

Code	Course	Credits
ADMS1202	Keyboarding/Word Processing	3
BUSM1200	Microsoft Software	3
BUSM1215	Business Writing	2
BUSM1222	Oral Business Presentations	2

General Studies

Code	Course	Credits
GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for books, supplies, and laptop $2,700

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

OFFICE TECHNOLOGY ASSISTANT/ LEGAL OPTION
Diploma

Prerequisite
BUSM1207 Basic Keyboarding**   1

Technical Studies
ADMS1202 Keyboarding/Word Processing   3
ADMS1203 Advanced Keyboarding/Word Processing   3
ADMS1206 Keyboard Speedbuilding   1
ADMS1212 WordPerfect   2
ADMS1231 Legal Office Procedures I   3
ADMS1232 Civil, Criminal, Bankruptcy (Legal I)   3
ADMS1233 Real Estate and Corporate Tax (Legal II)   3
ADMS1234 Probate and Family Law (Legal III)   3
ADMS1236 Administrative Legal Transcription   3
BUSM1290 Job Seeking Skills   1

Core Studies
BUSM1200 Microsoft Software   3
                  OR
CPTR1300 Exploring Computers   3
BUSM1215 Business Writing   2
BUSM1222 Oral Business Presentations   2
ADMS1223 Administrative Medical Terminology   2
BUSM1275 Business Law   2

General Studies
GBEH1300 Human Relations   3
GCOM1340 Written Communication   3

Estimated cost for books, supplies, and laptop $3,000

OFFICE TECHNOLOGY ASSISTANT/ MEDICAL OPTION
Diploma

Prerequisite
BUSM1207 Basic Keyboarding**   1

Technical Studies
ADMS1202 Keyboarding/Word Processing   3
ADMS1203 Advanced Keyboarding/Word Processing   3
ADMS1206 Keyboard Speedbuilding   1
ADMS1221 Medical Machine Transcription I   3
ADMS1222 Medical Machine Transcription II   3
ADMS1224 Administrative Pharmacology   2
ADMS1226 CPT Medical Insurance Coding and
                  Reimbursement   3
ADMS1227 ICD-XCM Medical Insurance Coding   3
BUSM1290 Job Seeking Skills   1

Core Studies
ADMS1223 Administrative Medical Terminology   2
BUSM1200 Microsoft Software   3
BUSM1215 Business Writing   2
BUSM1222 Oral Business Presentations   2
HLTH1420 Health Office Procedures   3
HLTH1424 Patient Communications   1
HLTH1444 Anatomy/Physiology   4

General Studies
GBEH1300 Human Relations   3
GCOM1340 Written Communication   3

Estimated cost for books, supplies, and laptop $2,700

OFFICE ASSISTANT
Certificate

Prerequisite
BUSM1207 Basic Keyboarding*   1

Technical Studies
ADMS1203 Advanced Keyboarding/Word Processing   3
ADMS1207 Office Procedures I   3
ADMS1208 Office Procedures II   3
BUSM1290 Job Seeking Skills   1

Core Studies
ADMS1202 Keyboarding/Word Processing   3
BUSM1200 Microsoft Software   3
BUSM1215 Business Writing   2
BUSM1222 Oral Business Presentations   2

General Studies
GBEH1300 Human Relations   3
GCOM1340 Written Communication   3

Estimated cost for books, supplies, and laptop $2,500

RECEPTIONIST
Certificate

Prerequisite
BUSM1207 Basic Keyboarding*   1

Technical Studies
ADMS1202 Keyboarding/Word Processing   3
ADMS1207 Office Procedures I   3
ADMS1208 Office Procedures II   3
BUSM1290 Job Seeking Skills   1

Core Studies
BUSM1200 Microsoft Software   3
BUSM1215 Business Writing   2
BUSM1222 Oral Business Presentations   2

General Studies
GBEH1300 Human Relations   3
GCOM1340 Written Communication   3

Estimated cost for books, supplies, and laptop $2,300

Suggested Electives
ACCT1204 Fundamentals of Accounting I   2
ADMS1206 Keyboard Speedbuilding   1
ADMS1204 Advanced MS Office   3
ADMS1214 Administrative Desktop Publishing   3
BUSM1230 MicrosoftWord   2
BUSM1237 Excel   2
BUSM1245 Access   2
BUSM1253 PowerPoint   2
BUSM1256 Web Site Management   2
BUSM1275 Business Law   2
PITT1210 Electronic Imaging   3
SAMG1240 Professional Self Development   1

* BUSM1207 Basic Keyboarding is a developmental course, required only if students are unable to key text at a speed of 28 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 that they have completed a keyboarding course that meets these requirements. If students do not type at this level, they must successfully complete BUSM1207 Basic Keyboarding with a speed of 28 words per minute prior to registering for this program. This course is available at any time in the Flex Education Lab.

** Legal/Medical Program Prerequisite: Students must achieve a speed of 35 words per minute with five or fewer errors to be admitted to the program. If students do not type at this level, they must successfully complete BUSM1207 Basic Keyboarding with a speed of 35 words per minute prior

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

ADVERTISING

Associate of Applied Science Degree
Diploma

St. Cloud
Technical
College

PROGRAM LENGTH
ADVERTISING AAS Degree . . . . 72 Credits
ADVERTISING Diploma. . . . . 65 Credits

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

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

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

ADVERTISING
AAS Degree

Technical Studies

ADVR1200	Introduction to Advertising	4
ADVR1216	Drawing with the Computer	4
ADVR1225	Basic Drawing	3
ADVR1230	Copywriting	4
ADVR1250	Introduction to Design	3
ADVR1261	Public Relations	2
ADVR1270	Media Research and Planning	3
ADVR2200	Commercial Illustration	3
ADVR2210	Introduction to Photography	3
ADVR2250	Retail Advertising	3
ADVR2260	Advertising Campaign Development	4
ADVR2280	Broadcast/Premiere	4
ADVR2285	Portfolio Construction & Presentation	2
ADVR2295	Multimedia/Director	4

Core Studies

GRAD1210	QuarkXPress	3
GRAD1220	Adobe Photoshop	3

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
	Fine Arts	3
	Elective Credits (General Education)	10

Suggested Enrichment Courses

ADVR1240	Multimedia for Web Design	3
ADVR2255	Internship	1–6
ADVR2300	Final Student Project	2
GRAD1240	Dream Weaver	3

**Estimated cost for books, supplies
and club participation**   **$1,860**

Note: MAC Laptops will be required for students starting Fall 2004. Approx. $500 per semester

ADVERTISING
Diploma

Technical Studies

ADVR1200	Introduction to Advertising	4
ADVR1216	Drawing with the Computer	4
ADVR1225	Basic Drawing	3
ADVR1230	Copywriting	4
ADVR1240	Multimedia for Web Design	3
ADVR1250	Introduction to Design	3
ADVR1261	Public Relations	2
ADVR1270	Media Research and Planning	3
ADVR2200	Commercial Illustration	3
ADVR2210	Introduction to Photography	3
ADVR2250	Retail Advertising	3
ADVR2260	Advertising Campaign Development	4
ADVR2280	Broadcast/Premiere	4

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

ADVR2285	Portfolio Construction & Presentation	2
ADVR2295	Multimedia/Director	4
PITT1200	Introduction to Printing	3

Core Studies

| GRAD1210 | QuarkXPress | 3 |
| GRAD1220 | Adobe Photoshop | 3 |

General Studies

| GCOM1340 | Written Communication | 3 |

Suggested General Studies Electives   4

(Note: a minimum of 4 credits needed from any of the offerings listed below)

COMM1320	Introduction to Speech	3
GBEH1300	Human Relations	3
GBUS1300	Job Seeking	1
GCOM1360	Interpersonal & Group Communication	3
GHUM1384	Critical Thinking	3
GRAD1230	Communicating on the WWW	3
SAMG1210	Customer Service/Sales	3

Suggested Enrichment Courses

ADVR2255	Industry Internship	1–6
ADVR2270	Advertising Campaign Management Seminar	3
ADVR2300	Final Student Project	2
GRAD1240	Dream Weaver	3

Estimated cost for books, supplies and club participation   **$1,230**

Note: MAC Laptops will be required for students starting Fall 2004. Approx. $500 per semester.

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

ADVERTISING WEB PAGE DESIGNER

Associate of Applied Science Degree
Diploma

St.Cloud Technical College

PROGRAM LENGTH
ADVERTISING WEB PAGE DESIGNER AAS Degree . . . . 62 Credits
ADVERTISING WEB PAGE DESIGNER Diploma. . . . . 48 Credits

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

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

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

ADVERTISING WEB PAGE DESIGNER
AAS Degree

Technical Studies

ADVR1200	Introduction to Advertising	4
ADVR1216	Drawing with the Computer	4
ADVR1230	Copywriting	4
ADVR1240	Multimedia for Web Design	3
ADVR1250	Introduction to Design	3
ADVR2210	Introduction to Photography	3
ADVR2280	Broadcast/Premier	4
ADVR2295	Multimedia/Director	4
CMSC1205	Introduction to HTML/XML	4
CMSC1224	Introduction to Windows	1

Core Studies

GRAD1220	Adobe Photoshop	3
GRAD1240	Dream Weaver	3
GRAD1270	Web Design Project	2

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
	Fine Arts	3
	Electives (General Education)	10

Estimated cost for books, supplies and club participation **$1860**

Note: MAC Laptops will be required for students starting Fall 2004. Approx. $500 per semester.

ADVERTISING WEB PAGE DESIGNER
Diploma

Technical Studies

ADVR1200	Introduction to Advertising	4
ADVR1216	Drawing with the Computer	4
ADVR1230	Copywriting	4
ADVR1240	Multimedia for Web Design	3
ADVR1250	Introduction to Design	3
ADVR2210	Introduction to Photography	3
ADVR2280	Broadcast/Premier	4
ADVR2295	Multimedia/Director	4
CMSC1205	Introduction to HTML/XML	4
CMSC1224	Introduction to Windows	1

Core Studies

GRAD1220	Adobe Photoshop	3
GRAD1240	Dream Weaver	3
GRAD1270	Web Design Project	2

General Studies

GCOM1340	Written Communications	3
SAMG1210	Customer Services/Sales	3

Estimated cost for books, supplies and club participation **$970**

Note: MAC Laptops will be required for students starting Fall 2004. Aprox. $500 per semester.

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

AMERICAN SIGN LANGUAGE

These courses are prerequisite to the Interpreter/Transliterator program from St. Paul Technical College. These courses are offered at St. Cloud Technical College.

AMERICAN SIGN LANGUAGE

Technical Studies offered at St. Cloud Technical College

HASL1400	American Sign Language I	3
HASL1404	American Sign Language II	3
HASL1408	American Sign Language III	3
HASL1412	American Sign Language IV	3
HASL1450	Conversational American Sign Language	2
HASL1454	Classifiers	2
HASL1458	Receptive/Expressive Fingerspelling and Numbers	2

INTERPRETER/TRANSLITERATOR

Associate of Applied Science Degree

Certificate

Both are joint programs with St. Paul Technical College. Prerequisite American Sign Language courses are offered at St. Cloud Technical College. For more information contact Ray Olson, Dean of Deaf Studies, at (651) 846-1327.

PROGRAM LENGTH
SIGN LANGUAGE INTERPRETER/
TRANSLITERATOR – AAS Degree . . . . 72 Credits
AMERICAN SIGN LANGUAGE STUDIES – Certificate . . . . 26 Credits

PROGRAM DESCRIPTION
   This program prepares individuals for the art and science of interpreting between American Sign Language and spoken English. Instruction focuses on receiving a message from one language and translating it into another. It involves the appropriate transfer and transmission of culturally-based linguistic and nonlinguistic information. Interpreting serves a diverse population in a variety of settings across a broad range of fields.

CAREER OPPORTUNITIES
   Graduates work primarily in educational settings. There are community and rehabilitation opportunities available.

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

ARCHITECTURAL CONSTRUCTION TECHNOLOGY (ARCHITECTURAL DRAFTING – CAD)

Associate of Applied Science Degree
Diploma

St. Cloud Technical College

PROGRAM LENGTH
AAS Degree . . . . 72 Credits
Diploma . . . . 64 Credits

PROGRAM DESCRIPTION
This program is designed to prepare students for employment in the construction industry. The objective of the program is to give students a well-rounded, basic construction background, along with drafting ability. The program includes designing and drawing plans for residential and small commercial buildings, using both board and computer-aided drafting (AutoCAD). Construction technology, materials, design, blueprint reading, estimating, and mathematics are studied in addition to drafting techniques. Students may choose between a diploma or an AAS Degree.

CAREER OPPORTUNITIES
Employment areas for graduates include general contractors, architectural firms, building material centers, related material suppliers, and other construction areas. Graduates work as drafters, estimators, material salespeople, and management trainees.

ARCHITECTURAL CONSTRUCTION TECHNOLOGY
AAS Degree

Technical Studies

ARCH1502	Introduction to Architectural Drawing	3
ARCH1506	Intro to Architectural CAD	3
ARCH1510	CAD and Design Studio	6
ARCH1514	Estimating & Construction Fund I	3
ARCH1518	Estimating & Construction Fund.II	3
ARCH1522	Residential Design Principles	2
ARCH1526	Residential Material and Method I	2
ARCH1530	Residential Material and Method II	2
ARCH1534	Residential Design and Presentation	2
ARCH2506	Architectural Design Studio I	3
ARCH2510	Architectural CAD II	3
ARCH2518	Architectural CAD III	3
ARCH2522	Commercial Design Principles and Practice	2
ARCH2526	Construction Estimating Analysis I	3
ARCH2530	Building Systems	2
ARCH2534	Construction Mgmt. and Contracting	2
ARCH2538	Construction Estimating Analysis II	3
ARCH2542	Structural Building Systems	3
ARCH2550	Professional Constructor Seminar	2

General Education

COMM1300	Analytical Writing	4
COMM1320	Introduction to Speech Communications	3
	Humanities	3
	Math	3
	Social Science	3
	Electives	4

Suggested Additional Courses

ARCH2514	Architectural Design Studio II	3

Estimated cost for books, supplies, and laptop   **$2,625**
($75 – Optional for Drafting Board)

ARCHITECTURAL CONSTRUCTION TECHNOLOGY
Diploma

Technical Studies

ARCH1502	Introduction to Architectural Drawing	3
ARCH1506	Intro to Architectural CAD	3
ARCH1510	CAD and Design Studio	6
ARCH1514	Estimating Construction Fundamentals I	3
ARCH1518	Estimating Construction Fundamentals II	3
ARCH1522	Residential Design Principles	2
ARCH1526	Residential Material and Method I	2
ARCH1530	Residential Material and Method II	2
ARCH1534	Residential Design and Presentation	2
ARCH2506	Architectural Design Studio I	3
ARCH2510	Architectural CAD II	3
ARCH2514	Architectural Design Studio II	3
ARCH2518	Architectural CAD III	3
ARCH2522	Comm. Design Principles and Practice	2
ARCH2526	Construction Estimating Analysis I	3
ARCH2530	Building Systems	2
ARCH2534	Construction Mgmt. and Contracting	2
ARCH2538	Construction Estimating Analysis II	3
ARCH2542	Structural Building Systems	3
ARCH2550	Professional Constructor Seminar	2

General Studies

GCOM1340	Written Communication	3
GBEH1300	Human Relations	3
	Elective	3

Estimated cost for books, supplies, and laptop   **$2,525**

($75 – Optional for Drafting Board)

Suggested Additional Courses (AAS or Diploma)

ARCH2502	Kitchen and Bath Remodeling and Design	2
ARCH2546	Design/Build	2

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

AUTOMOBILE BODY COLLISION TECHNOLOGY

Associate of Applied Science Degree
Diploma

PROGRAM LENGTH

AAS Degree . . . . 72 Credits
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 an AAS Degree as insurance company and body shop estimators, shop managers, and factory dealer representatives.

AUTOMOBILE BODY COLLISION TECHNOLOGY
AAS Degree

Technical Studies

ABCT1502	Collision Welding and Cutting	3
ABCT1506	Intro to Collision Repair	4
ABCT1510	Collision Repair Lab I	3
ABCT1514	Basic Collision Repair	4
ABCT1518	Refinishing Lab I	3
ABCT1522	Refinishing	4
ABCT1526	Refinishing Lab II	3
ABCT1530	Color Match and Blend	3
ABCT2502	Estimating	2
ABCT2506	Electrical Systems	3
ABCT2510	Damage Analysis and Measuring Systems	3
ABCT2514	Plastic Repair	2
ABCT2522	Structural Damage Repair	4
ABCT2526	Collision Repair Lab III	2
ABCT2530	Mechanical Systems	4

Core Studies

TRAN1518	Transportation Hazardous Materials	1
TRAN1520	Workplace Perceptions and Expectations	2
TRAN2514	Basic Air Conditioning	2

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
CPTR1300	Exploring Computers	3
	Social Science	3
	Humanities	3
	Electives	4

Estimated cost for tools, books and supplies   **$3,800**

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

AUTOMOBILE BODY COLLISION TECHNOLOGY
Diploma

Technical Studies

ABCT1502	Collision Welding and Cutting	3
ABCT1506	Intro to Collision Repair	4
ABCT1510	Collision Repair Lab I	3
ABCT1514	Basic Collision Repair	4
ABCT1518	Refinishing Lab I	3
ABCT1522	Refinishing	4
ABCT1526	Refinishing Lab II	3
ABCT1530	Color Match and Blend	3
ABCT2506	Electrical Systems	3
ABCT2510	Damage Analysis and Measuring Systems	3
ABCT2514	Plastic Repair	2
ABCT2518	Collision Repair Lab II	3
ABCT2522	Structural Damage Repair	4
ABCT2526	Collision Repair Lab III	2
ABCT2530	Mechanical Systems	4

Technical Electives

ABCT2534	Collision Repair Lab IV	4
or		
ABCT2542	Supervised Internship	4
	Electives	2

Core Studies

TRAN1518	Transportation Hazardous Materials	1
TRAN1520	Workplace Perceptions and Expectations	2
TRAN2514	Basic Air Conditioning	2

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	Elective	3

Suggested Electives

ABCT1534	Wind, Water, and Noise Service Procedures	2
ABCT1538	Auto Restoration	2
ABCT1540	Custom Refinishing	2
ABCT2502	Estimating	2
MHTT1534	Body Repair	3
SPEC2850	Special Topics	1-6

Estimated cost for tools, books and supplies $3,400

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

AUTOMOTIVE SERVICE TECHNICIAN

Associate of Applied Science Degree
Diploma

PROGRAM LENGTH

AAS Degree . . . . 72 Credits
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 AAS Degree.

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

CAREER OPPORTUNITIES

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

AUTOMOTIVE SERVICE TECHNICIAN
AAS Degree

Technical Studies

AUTO1508	Automotive Wheel Alignment	4
AUTO1511	Electrical II	5
AUTO1512	Engine Repair Theory	2
AUTO1516	Brakes	4
AUTO2502	Engine Performance I	4
AUTO2504	Engine Performance II	4
AUTO2506	Principles of Torque Transfer	7
AUTO2511	Automatic Transmission/Transaxle Overhaul	3
AUTO2518	Electrical III	3
	Electives	4

Core Studies

TRAN1502	General Service	2
TRAN1504	Electrical I	3
TRAN1518	Transportation Hazardous Material	1
TRAN1520	Workplace Perceptions and Expectations	2
TRAN1522	Introduction to Transportation Computers	2
TRAN2514	Basic Air Conditioning	2

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
CPTR1300	Exploring Computers	3
	Humanities	3
	Social Science	3
	Electives	4

Suggested Electives

AUTO1514	Engine Repair Lab	4
AUTO2512	Driveline Repair Lab	3
AUTO2516	Automotive Air Conditioning	2
AUTO2520	Engine Driveability	3
AUTO2538	Supervised Internship	1–4

Estimated cost for tools, books and supplies   **$2,900**

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

AUTOMOTIVE SERVICE TECHNICIAN
Diploma

Technical Studies

AUTO1508	Automotive Wheel Alignment	4
AUTO1511	Electrical II	5
AUTO1512	Engine Repair Theory	2
AUTO1516	Brakes	4
AUTO2502	Engine Performance I	4
AUTO2504	Engine Performance II	4
AUTO2506	Principles of Torque Transfer	7
AUTO2511	Automatic Transmission/Transaxle Overhaul	3
AUTO2516	Automotive Heating & Air Conditioning	2
AUTO2518	Electrical III	3
AUTO2520	Engine Drivability	3
	Electives	7

Core Studies

TRAN1502	General Service	2
TRAN1504	Electrical I	3
TRAN1518	Transportation Hazardous Material	1
TRAN1520	Workplace Perceptions and Expectations	2
TRAN1522	Introduction to Transportation Computers	2
TRAN2514	Basic Air Conditioning	2

Electives

AUTO1514	Engine Repair Lab	4
AUTO2512	Driveline Repair Lab	3
AUTO2538	Supervised Internship	1–4

General Studies   7
(Seven credits from 2 or more areas):

Communications:

GCOM1300	Efficient Reading	1
GCOM1340	Written Communication	3

Science Technology:

EMSC1420	Basic Emergency Care	1
WELD1502	Welding for Work and Leisure	2

History & the Social & Behavioral Sciences:

GBUS1320	Professional Development I	1
GBUS1324	Professional Development II	1
GBUS1328	Professional Development III	1
GBUS1340	Principles of Quality/Teambuilding	3
GTEC1304	The Automobile in America	3

Human Diversity:

GBEH1300	Human Relations	3
GCOM1360	Interpersonal and Group Communications	3

Business:

BUSM1267	Intro to Business	2
BUSM1275	Business Law	2
BUSM1283	Economics	2
CRFN1200	Personal Money Management	3
SAMG1205	Fundamentals of Accounting	2
SAMG1230	Supervision Fundamentals	2
SAMG2285	Entrepreneurship/Small Business Mgmt.	3

Estimated cost for tools, books and supplies   **$2,600**

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

CARPENTRY

Associate of Applied Science Degree
Diploma
Certificate

PROGRAM LENGTH

CARPENTRY – AAS Degree . . . . 72 Credits
CARPENTRY – Diploma. . . . . 64 Credits
RESIDENTIAL FRAMER ASSISTANT – Certificate . . . . 28 Credits
CABINETMAKERS APPRENTICE – Certificate . . . . 30 Credits
CARPENTERS ASSISTANT – Certificate . . . . 28 Credits

PROGRAM DESCRIPTION

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

A well-equipped shop is available for the development of student carpentry skills. Advanced students construct a home on a city lot. The building trades house project is a joint effort 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.

CARPENTRY
AAS Degree

Technical Studies

CARP1506	Construction Tools, Equipment, and Machines	3
CARP1514	Blueprint Reading and Building Codes	3
CARP1520	Residential Framing and Estimating	4
CARP1524	Rafters and Stairs	4
CARP1526	Exterior/Interior Finish	4
CARP1528	Building Layout and Concrete	3
CARP1530	Residential Drafting and Design	2
CARP1536	Cabinet Building and Estimating	5
CARP2502	Concrete II	2
CARP2506	Residential Framing II	4
CARP2518	Exterior Finish	3
CARP2522	Interior Finish	3
CARP2524	Residential Construction Lab I	5
CARP2530	Cabinet Building II	4
CARP2534	Construction Management	3

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
	Humanities	3
	Natural Science	3
	Social Science	3
	Electives	4

Estimated cost for tools, books and supplies $1,150

CARPENTRY
Diploma

Technical Studies

CARP1506	Construction Tools, Equipment, and Machines	3
CARP1514	Blueprint Reading and Building Codes	3
CARP1520	Residential Framing and Estimating	4
CARP1524	Rafters and Stairs	4
CARP1526	Exterior/Interior Finish	4
CARP1528	Building Layout and Concrete	3
CARP1530	Residential Drafting and Design	2
CARP1536	Cabinet Building and Estimating	5
CARP2502	Concrete II	2
CARP2506	Residential Framing II	4
CARP2510	Stair Building	2
CARP2518	Exterior Finish	3
CARP2522	Interior Finish	3
CARP2524	Residential Construction Lab I	5
CARP2530	Cabinet Building II	4
CARP2534	Construction Management	3
	Selected Elective	3

Selected Electives

CARP2546	Residential Construction Lab II	3
	OR:	
CARP2562	Carpentry Internship	3

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

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
EMSC1420	Basic Emergency Care	1

Estimated cost for tools, books and supplies **$900**

RESIDENTIAL FRAMER ASSISTANT
Certificate

Technical Studies

CARP1506	Construction Tools, Equipment, and Machines	3
CARP1514	Blueprint Reading and Building Codes	3
CARP1520	Residential Framing and Estimating	4
CARP1524	Rafters and Stairs	4
CARP2506	Residential Framing II	4
CARP2562	Carpentry Internship	3

General Studies

EMSC1420	Basic Emergency Care	1
GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for tools, books and supplies **$800**

CABINETMAKERS APPRENTICE
Certificate

Technical Studies

CARP1506	Construction Tools, Equipment, and Machines	3
CARP1514	Blueprint Reading & Building Codes	3
CARP1536	Cabinet Building and Estimating	5
CARP2530	Cabinet Building II	4
CARP2534	Construction Management	3
CARP2566	Cabinetmaking Internship	6

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for tools, books and supplies **$800**

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

CHILD & ADULT CARE AND EDUCATION

Associate of Applied Science Degree
Diploma
Certificate

St. Cloud Technical College

PROGRAM LENGTH

AAS Degree . . . . 65 Credits
Diploma . . . . 34 Credits
Certificate . . . . 19 Credits

PROGRAM DESCRIPTION

Students are provided with course offerings as listed in the curriculum and with practical experience in licensed family day care, early childhood centers, special education, elementary education, long-term care facilities, and facilities for people with disabilities. Personal qualities desirable for the field include emotional maturity, physical stamina, ability to work with people in stressful situations, acceptance of people regardless of limitations, plus an openness to personal growth. Students may choose between an A.A.S. Degree, Diploma or Certificate.

Students will be responsible for completing a Department of Human Services Background Study Form. Students must maintain a "C" grade average to be placed on a internship experience. A physical examination and completion of EMSC1404 are required prior to being placed on an internship. Membership in VICA and MnAEYC is strongly recommended.

These courses are in concurrence with the DHS licensing guidelines for child care providers, as well as for paraprofessionals. Students who successfully complete the program credits will have the qualifications to apply for a center-based, early childhood assistant teacher position. After one year of center experience, graduates qualify for a head teacher position. In addition, through credit courses leading to certificates, St. Cloud Technical College offers aides, assistant teachers, teachers, directors, paraprofessionals, family child care providers, and other interested individuals several options for satisfying training and inservice rules (established by the MN Dept. of Human Services and Department of Education).

Students are required to demonstrate competency at the Developmental Math level by the time of graduation.

CAREER OPPORTUNITIES

Job opportunities for Child & Adult Care and Education graduates may be found in early childhood centers, school settings, long term care facilities, private homes, licensed family child care, and facilities for people with disabilities. Opportunities exist for students interested in starting their own small businesses as child care providers. Responsibilities include assisting a supervisor or teacher in managing, directing, and teaching individuals or groups. Students present activities, supervise programs and daily routines, prepare materials, and oversee the health and safety of children and/or vulnerable adults.

CHILD & ADULT CARE AND EDUCATION

AAS Degree

Technical Studies

CACE1400	**Profes**sional Relations in CACE Careers	3
CACE1404	Safety, Health, and Nutrition	3
CACE1420	Foundations of Development	3
CACE1422	Profiles of the Exceptional Child	3
CACE1424	School-Age Strategies for Learning	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1444	Planning and Implementing Curriculum	3
CACE1460	Internship I	3
CACE1464	Internship II	3
EMSC1404	First Aid and CPR for Child Care Providers	1

Technical Electives- Choose From:		15
BUSM1200	Microsoft Software	3
CACE1426	Children with Difficult Behavior	3
CACE1428	Family & Community Relations	3
CACE1448	Literature & Language Development Experiences	3
CACE1480	Children with Special Health Care Needs	2
HASL1411	American Sign Language I	3
HASL1412	American Sign Language II	3
HLTH1484	Ethics for Health Careers	3

General Education		22
COMM1300 Analytical Writing		4
COMM1320 Introduction to Speech Communication		3
Humanities		3
Social Science		3
Natural Science/Math		3
Electives		6

Estimated cost for books and supplies	**$800**

The student is responsible for transportation to the internship site.

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

CHILD & ADULT CARE AND EDUCATION
Diploma

Technical Studies

CACE1400	Professional Relations in CACE Careers	3
CACE1404	Safety, Health and Nutrition	3
CACE1420	Foundations of Development	3
CACE1422	Profiles of the Exceptional Child	3
CACE1424	School-Age Strategies for Learning	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1444	Planning and Implementing Curriculum	3
CACE1460	Internship I	3
CACE1464	Internship II	3
EMSC1404	First Aid and CPR for Child Care Providers	1

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for books and supplies **$400**

MnAEYC membership, $40; and VICA membership, $15

The student is responsible for transportation to the internship site.

Child Development Careers Education
Certificate

Technical Studies

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

General Studies

GCOM1340	Written Communication	3
EMSC1404	First Aid and CPR for Child Care Providers	1

Estimated cost for books and supplies **$250**

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

COMPUTER CAREERS

Associate of Applied Science Degree
Diploma

PROGRAM LENGTH

COMPUTER PROGRAMMER – AAS Degree . . . . 72 Credits
COMPUTER PROGRAMMER – Diploma . . . . 61 Credits
DATABASE ADMINISTRATOR/DEVELOPER   AAS Degree . 72 Credits
DATABASE ADMINISTRATOR/DEVELOPER   Diploma . . . . . 61 Credits
MICROCOMPUTER PROGRAMMER – AAS Degree . . . . 72 Credits
MICROCOMPUTER PROGRAMMER – Diploma . . . . 61 Credits
MICROCOMPUTER SUPPORT AND
        NETWORK ADMINISTRATION – AAS Degree . . . . . . 72 Credits
MICROCOMPUTER SUPPORT AND
        NETWORK ADMINISTRATION – Diploma. . . . . 61 Credits
WEB PAGE PROGRAMMER – AAS Degree . . . . 72 Credits
WEB PAGE PROGRAMMER – Diploma . . . . 61 Credits

PROGRAM DESCRIPTION

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

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

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

The web page programmer majors will receive extensive training in the software tools to develop and maintain web sites. Software skills include hypertext markup language, javascript, database, common gateway interface, perl and java languages.

The database administrator/developer majors receives extensive training in database development and administration including interface, database structure and report formatting.

All students must achieve a "C" or better in all computer careers for prerequisites and graduation courses are required to lease a laptop computer for their coursework.

CAREER OPPORTUNITIES

The use of stand-alone and networked computers is rapidly increasing in all levels of government and in businesses such as accounting firms, software houses, manufacturing firms, computer service centers, banks, and hospitals. Employment potential is outstanding for competent AS/400 computer programmer graduates. Microcomputer support and network administration graduates may obtain entry-level employment as local area network administrators, network user support specialists and microcomputer technicians.

Web page programmer graduates may obtain entry-level employment as web page designers and web site maintenance specialists.

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

COMPUTER PROGRAMMER
AAS Degree

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1237	RPG language I	4
CMSC1238	RPG Language II	4
CMSC1250	AS/400 Operations and Utilities	2
CMSC1251	AS/400 DB2 Database	3
CMSC1253	Java I	4
CMSC1262	Microcomputer Software Support	3
CMSC2251	Visual BASIC I	4
CMSC2252	AS/400 CL Programming	3
CMSC2253	Visual BASIC II	4
CMSC2254	Java II	4
CMSC2279	Systems Analysis & Design	3

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communication	3
MATH1300	College Algebra	3
	Humanities	3
	Social Science	3
	Electives	4

Estimated cost for books, supplies, and laptop $4,000

COMPUTER PROGRAMMER
Diploma

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1237	RPG Language I	4
CMSC1238	RPG Language II	4
CMSC1250	AS/400 Operations and Utilities	2
CMSC1251	AS/400 DB2 Database	3
CMSC1253	Java I	4
CMSC1262	Microcomputer Software Support	3
CMSC2251	Visual BASIC I	4
CMSC2252	AS/400 CL Programming	3
CMSC2253	Visual BASIC II	4
CMSC2254	Java II	4
CMSC2279	Systems Analysis & Design	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	General Studies Course Group	3

Estimated cost for books, supplies, and laptop $4,000

DATABASE ADMINISTRATOR/DEVELOPER
AAS Degree

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1221	Windows Operating Systems	3
CMSC1250	AS/400 Operations/Utilities	2
CMSC1251	AS/400 DB@ Database	3
CMSC1261	Microcomputer Database I	3
CMSC1262	Microcomputer Software Support	3
CMSC1263	Oracle Essentials I	3
CMSC1264	Oracle Essentials II	3
CMSC2251	Visual BASIC I	4
CMSC2253	Visual BASIC II	4
CMSC2262	Microcomputer Database II	3
CMSC2265	Oracle Database Administration	4
CMSC2279	Systems Analysis and Design	3

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communications	3
MATH1300	College Algebra	3
	Humanities	3
	Social Science	3
	Electives	4

Estimated cost for books, supplies, and laptop $4,000

DATABASE ADMINISTRATOR/DEVELOPER
Diploma

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1221	Windows Operating Systems	3
CMSC1250	AS/400 Operations/Utilities	2
CMSC1251	AS/400 DB@ Database	3
CMSC1261	Microcomputer Database I	3
CMSC1262	Microcomputer Software Support	3
CMSC1263	Oracle Essentials I	3
CMSC1264	Oracle Essentials II	3
CMSC2251	Visual BASIC I	4
CMSC2253	Visual BASIC II	4
CMSC2262	Microcomputer Database II	3
CMSC2265	Oracle Database Administration	4
CMSC2279	Systems Analysis and Design	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	General Studies Course Group	3

Estimated cost for books, supplies, and laptop $4,000

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

MICROCOMPUTER PROGRAMMER
AAS Degree

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1221	Windows Operating Systems	3
CMSC1247	C++ Language I	4
CMSC1250	AS/400 Operations and Utilities	2
CMSC1253	Java Language I	4
CMSC1261	Microcomputer Database I	3
CMSC1262	Microcomputer Software Support	3
CMSC2249	C++ Language II	4
CMSC2251	Visual BASIC I	4
CMSC2253	Visual BASIC II	4
CMSC2254	Java Language II	4
CMSC2279	Systems Analysis and Design	3

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communications	3
MATH1300	College Algebra	3
	Humanities	3
	Social Science	3
	Electives	4

Estimated cost for books, supplies, and laptop $4,000

MICROCOMPUTER PROGRAMMER
Diploma

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1221	Windows Operating Systems	3
CMSC1247	C++ Language I	4
CMSC1250	AS/400 Operations and Utilities	2
CMSC1253	Java Language I	4
CMSC1261	Microcomputer Database I	3
CMSC2249	C++ Language II	4
CMSC2251	Visual BASIC I	4
CMSC2253	Visual BASIC II	4
CMSC2254	Java Language II	4
CMSC2279	Systems Analysis and Design	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	General Studies Course Group	3

Estimated cost for books, supplies, and laptop $4,000

MICROCOMPUTER SUPPORT AND NETWORK ADMINISTRATION
AAS Degree

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1213	Network Administration	4
CMSC1219	Disk Operating System (DOS)	4
CMSC1221	Windows Operating Systems	3
CMSC1226	Mircosoft Server	3
CMSC1250	AS/400 Operations and Utilities	2
CMSC1262	Microcomputer Software Support	3
CMSC1271	Cisco Routing I	2
CMSC1272	Cisco Routing II	2
CMSC1273	Cisco Routing III	2
CMSC1274	Cisco Routing IV	2
CMSC1280	PC Network Hardware	4
CMSC2223	Windows Active Directory Services	3
	Technical elective	4

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communications	3
MATH1300	College Algebra	3
	Humanities	3
	Social Science	3
	General Ed Electives	4

Estimated cost for books, supplies, and laptop $4,000

MICROCOMPUTER SUPPORT AND NETWORK ADMINISTRATION
Diploma

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1213	Network Administration	4
CMSC1219	Disk Operating Systems (DOS)	3
CMSC1221	Windows Operating Systems	3
CMSC1226	Microsoft Server	3
CMSC1250	AS/400 Operations and Utilities	2
CMSC1262	Microcomputer Software Support	3
CMSC1271	Cisco Routing I	2
CMSC1272	Cisco Routing II	2
CMSC1273	Cisco Routing III	2
CMSC1274	Cisco Routing IV	2
CMSC1280	PC Network Hardware	4
CMSC2223	Windows Active Directory Services	3
	Technical elective:	4

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	General Studies Course Group	3

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

Estimated cost for books, supplies, and laptop   **$4,000**

WEB PAGE PROGRAMMER
AAS Degree

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1221	Windows Operating Systems	3
CMSC1249	Web Programming Languages	4
CMSC1253	Java Language I	4
CMSC1261	Microsomputer Database I	3
CMSC1262	Microcomputer Software Support	3
CMSC1263	Oracle Essentials I	3
CMSC2229	UNIX Operating Systems	4
CMSC2254	Java Language II	4
CMSC2257	JavaServer Pages	4
CMSC2282	Web Site Development	3
GRAD1220	Adobe Photoshop	3

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communications	3
MATH1300	College Algebra	3
	Humanities	3
	Social Science	3
	Electives	4

Estimated cost for books, supplies, and laptop   **$4,000**

WEB PAGE PROGRAMMER
Diploma

Technical Studies

ACCT1215	Accounting Principles I	4
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
CMSC1203	Structured Programming Logic	3
CMSC1205	Introduction to HTML/XML	4
CMSC1221	Windows Operating Systems	3
CMSC1249	Web Programming Languages	4
CMSC1253	Java Language I	4
CMSC1261	Microcomputer Database I	3
CMSC1262	Microcomputer Software Support	3
CMSC1263	Oracle Essentials	3
CMSC2229	UNIX Operating Systems	4
CMSC2254	Java Language II	4
CMSC2257	JavaServer Pages	4
CMSC2282	Web Site Development	3
GRAD1220	Adobe Photoshop	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	General Studies Course Group	3

Estimated cost for books, supplies, and laptop   **$4,000**

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

COMPUTER-AIDED DRAFTING AND DESIGN (MECHANICAL DRAFTING)

Associate of Applied Science Degree

Diploma

Advanced Certificate: Computer-Aided Design and Manufacturing

PROGRAM LENGTH

AAS Degree . . . . 68 Credits
Diploma . . . . 64 Credits
COMPUTER-AIDED DESIGN AND MANUFACTURING
      Advanced Certificate . . . . 24 Credits

PROGRAM DESCRIPTION

    Computer-Aided Drafting and Design Technology is a universal graphic language which is the key to the rapid growth and expansion of new and existing industries. Instruction is provided that incorporates problem solving and drafting with the use of interactive computer graphics. Students may choose between a Diploma or AAS Degree.

An advanced certificate is available in Computer-Aided Design and Manufacturing and allows the graduate to combine computer-aided drafting skills and computer-aided manufacturing skills in the design and manufacture of machine parts, using industrial quality equipment, machines, and computers. The cross-functional nature of the Advanced Certificate gives graduates options in both machining and design technology.

CAREER OPPORTUNITIES

    Technicians with drafting and design background will often assist engineers or designers with both product and tool design, the design and development of new products and the modernizing of present equipment.

Technicians will be required to apply mathematics in the solution of problems concerning strength, quality, and cost of materials. They use engineering references, standards, microcomputers, and handbooks for computation. After all data is gathered and a design is approved for production, they will prepare a representative working drawing complete with all necessary specifications and dimensions for production.

Because of industry's rapid growth, the demand for qualified people in this technical field exceeds the supply. For students interested in making a mark in modern day technology, Computer-Aided Drafting and Design offers an excellent opportunity. Graduates have been placed with both large and small companies.

COMPUTER-AIDED DRAFTING AND DESIGN
AAS Degree

Technical Studies

CADD1502 Mechanical CADD I	3
CADD1507 Mechanical CADD II	3
CADD1512 CADD Applications I	3
CADD1516 CADD Applications II	3
CADD1518 Engineering Math	2
CADD1522 Applied Physics	4
CADD2504 Prodcution CADD I	4
CADD2507 Production CADD II	4
CADD2510 Design Concepts	3
CADD2514 Computer-Aided Design	3
CADD2518 Statics and Strengths of Materials	3
CADD2522 Machine Design	3
CADD2526 Manufacturing Systems	2
CADD2530 Geometric Dimensioning and Tolerancing	2
CADD2540 Basic CAM	3
CADD2542 Reverse Engineering	2

General Education

MATH1300 College Algebra	3
MATH1320 College Trigonometry	2
Math Elective	3
Communications	7
Humanities/Social Science	3
CPTR1300 Exploring Computers	3

Estimated cost for books, supplies, and laptop   **$3,000**

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

COMPUTER-AIDED DRAFTING AND DESIGN
Diploma

Technical Studies

CADD1502	Mechanical CADD I	3
CADD1507	Mechanical CADD II	3
CADD1512	CADD Applications I	3
CADD1516	CADD Applications II	3
CADD1518	Engineering Math	2
CADD1522	Applied Physics	4
CADD2504	Production CADD I	4
CADD2507	Production CADD II	4
CADD2510	Design Concepts	3
CADD2514	Computer-Aided Design	3
CADD2518	Statics and Strengths of Materials	3
CADD2522	Machine Design	3
CADD2526	Manufacturing Systems	2
CADD2530	Geometric Dimensioning and Tolerancing	2
CADD2540	Basic CAM	3
CADD2542	Reverse Engineering	2

Core Studies

TECH1500	Applied Algebra	3
TECH1522	Manufacturing Math	4
TECH1530	Computer Applications	2
TECH1540	Technical Communications	1

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	Elective	1

Estimated cost for books, supplies, and laptop **$2,850**

COMPUTER-AIDED DESIGN AND MANUFACTURING
Advanced Certificate

Technical Studies

CADM3502	CMM Operations	2
MACH1528	Jigs and Fixtures	1
MACH2502	Intro to CNC Turning	3
MACH2506	Intro to CNC Milling	3
MACH2510	Cutting Tool Technology	1
MACH2514	Metallurgy	1
MACH2518	Advanced CNC Milling	3
MACH2522	Statistical Process Control	2
MACH2526	Advanced CNC Turning	3
MACH2530	3D Milling	2
	Technical Electives	3

Estimated cost for books and supplies **$700**

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

CREDIT AND FINANCE

Associate of Applied Science Degree
Diploma

PROGRAM LENGTH

AAS Degree . . . . 69 Credits
Diploma . . . . 64 Credits

PROGRAM DESCRIPTION

The Credit and Finance Program includes course material designed to prepare students interested in pursuing career opportunities in the credit and finance industry. Designed to prepare students for a diverse employment market, courses cover a variety of business related areas including accounting, banking, communications, computer applications, management, math, sales and collections.

By effectively using the material and activities offered in this program, students can develop their abilities to secure promising positions in this dynamic field.

Students may be eligible for individual scholarships in the program.

CAREER OPPORTUNITIES

Credit and Finance 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.

CREDIT AND FINANCE
AAS Degree

Technical Studies

ACCT1219	Spreadsheets – Microsoft Excel	2
BUSM1200	Microsoft Software	3
OR		
BUSM1230	Microsoft Word	2
CRFN1200	Personal Money Management	3
CRFN1205	Professional Expectations	1
CRFN1215	Accounting I	3
CRFN1216	Accounting II	3
CRFN1220	Principles of Banking	3
CRFN1235	Business Communications	3
CRFN1240	Supervision	3
CRFN1250	Business – Credit Law	3
CRFN1255	Marketing	3
CRFN2215	Commercial Lending	3
CRFN2240	Consumer Lending	4
CRFN2270	Collection Techniques	3
CRFN2273	Internship	4
SAMG1210	Customer Service Sales	3
SAMG2255	Applied Sales Strategies	3

General Education

COMM1300 Analytical Writing	4
COMM1320 Intro To Speech Communications	3
Humanities	3
Math	3
Social Science	3
Electives	4

Estimated cost for books and supplies   **$875**

CREDIT AND FINANCE
Diploma

Technical Studies

ACCT1219	Spreadsheets – Microsoft Excel	2
BUSM1230	Microsoft Word	2
CRFN1200	Personal Money Management	3
CRFN1205	Professional Expectations	1
CRFN1215	Accounting I	3
CRFN1216	Accounting II	3
CRFN1220	Principles of Banking	3
CRFN1235	Business Communications	3
CRFN1240	Supervision	3
CRFN1250	Business – Credit Law	3
CRFN1255	Marketing	3
CRFN2215	Commercial Lending	3
CRFN2240	Consumer Lending	4
CRFN2270	Collection Techniques	3
CRFN2273	Internship	4
SAMG2255	Applied Sales Strategies	3

Core Studies

BUSM1200	Microsoft Software	3
BUSM1222	Oral Business Communications	2
BUSM1260	Applied Business Math/Calculators	3

General Studies

BUSM1290	Job Seeking Skills	1
GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

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

CULINARY ARTS

Diploma

PROGRAM LENGTH

Diploma . . . . 38 Credits

PROGRAM DESCRIPTION

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

CAREER OPPORTUNITIES

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

CULINARY ARTS

Diploma

Technical Studies

CULN1200	Introduction to Food Service	4
CULN1201	Kitchen Operations	3
CULN1220	Introduction to Pantry Food Preparation	2
CULN1230	Vegetables, Potato, Rice and Farinaceous Products	2
CULN1240	Stocks, Soups and Sauces	3
CULN1245	Basic Baking	3
CULN1250	Basic Cooking Principles	4
CULN1260	Introduction to Breakfast	2
CULN1265	Food Production Principles	3
CULN1270	Garde Manger	4

Core Studies

CULN1290	Social Etiquette	2

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for uniforms, books and supplies **$400**

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

DENTAL ASSISTANT

Associate of Applied Science Degree
Diploma

PROGRAM LENGTH

DENTAL ASSISTANT – AAS Degree . . . . 68 Credits
DENTAL ASSISTANT – Diploma . . . . 58 Credits

PROGRAM DESCRIPTION

The Dental Assistant Program is designed to provide an opportunity for students to acquire background knowledge and develop specialized skills for gaining employment in the dental profession. Specific training is provided in preparing instruments and materials, assisting the dentist at the chair, maintaing records and handling general office detail. Students are trained in the expanded functions performed by Registered Dental Assistants in Minnesota. Training in some laboratory procedures is also provided. This program is accredited by the American Dental Association Commission on Dental Accreditation.

A medical examination will be required prior to the start of the lab/clinic portion of the program. The ADA governing body has passed a resolution urging all education programs under their direction to encourage the vaccination of students and staff against infectious diseases. This includes vaccination for Hepatitis B. Students are strongly encouraged to have appropriate vaccinations or they will be asked to sign release forms.

CAREER OPPORTUNITIES

Graduates who have maintained a "C" grade in all courses, as well as an overall grade point average (GPA) of 2.0 or better in all of their classes, will be qualified to enter internship courses as well as write the state and national examinations.

A state registration certificate (RDA) and national certification (CDA) are awarded to graduates who successfully pass these examinations. Dental assistants are in demand in general and specialty practices as well as government institutions, public health clinics, sales, insurance companies, dental laboratories and educational institutions.

DENTAL ASSISTANT
AAS Degree

Technical Studies

Course	Title	Credits
DENT1400	Dental Sciences	3
DENT1408	Preclinical Dental Assisting	2
DENT1410	Infection Control in the Dental Environ.	1
DENT1420	Chairside Assisting I	4
DENT1434	Dental Materials I	2
DENT1440	Dental Radiology I	4
DENT1444	Expanded Functions I	4
DENT1460	Internship I	1
DENT2404	Dental Health	2
DENT2412	Dental Practice Management	3
DENT2424	Chairside Assisting II	4
DENT2440	Dental Materials II	2
DENT2446	Dental Radiology II	4
DENT2454	Expanded Functions II	4
DENT2460	Internship II	6

Core Studies

Course	Title	Credits
EMSC1480	Emergency Cardiac Care	1
HLTH1424	Patient Communications	1

General Education

Course	Title	Credits
COMM1300	Analytical Writing	4
COMM1320	Introduction to Speech Communication	3
CPTR1300	Exploring Computers	3
PSYC1300	Introduction to Psychology	3
SOC160	Principles of Sociology	3
HLTH 210	Nutrition	2
	Electives	2

Optional Studies

Course	Title	Credits
DENT2480	Dental Practice Act Review	1
DENT2484	Board Review	1

Estimated cost for uniforms, books, supplies, etc. **$2,600**

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

DENTAL ASSISTANT
Diploma

Technical Studies

DENT1400	Dental Sciences	3
DENT1408	Preclinical Dental Assisting	2
DENT1410	Infection Control in the Dental Environ.	1
DENT1420	Chairside Assisting I	4
DENT1434	Dental Materials I	2
DENT1440	Dental Radiology I	4
DENT1444	Expanded Functions I	4
DENT1460	Internship I	1
DENT2404	Dental Health	2
DENT2412	Dental Practice Management	3
DENT2424	Chairside Assisting II	4
DENT2440	Dental Materials II	2
DENT2446	Dental Radiology II	4
DENT2454	Expanded Functions II	4
DENT2460	Internship II	6

Core Studies

EMSC1480	Emergency Cardiac Care	1
HLTH1424	Patient Communications	1
HLTH1460	Nutrition	1

General Studies

BUSM1200	Microsoft Software OR	3
CPTR1300	Exploring Computers	3
DVRS1304	Diversity and Social Change OR	3
GBEH1300	Human Relations	3
GCOM1340	Written Communication OR	3
COMM1300	Analytical Writing	4

Optional Studies

DENT2480	Dental Practice Act Review	1
DENT2484	Board Review	1

Estimated cost for uniforms, books, supplies, etc. **$2,200**

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

DENTAL HYGIENE

Associate of Applied Science Degree

St.Cloud
Technical
College

PROGRAM LENGTH

AAS Degree . . . . 83 Credits

PROGRAM DESCRIPTION

The Dental Hygiene Program provides academic and clinical educational opportunities for students to acquire the knowledge, skills and attitude necessary for the professional practice of dental hygiene. The program provides essential technical and clinical skills, along with numerous service learning activities in preparation for providing dental hygiene services to the public. Dental hygienists are licensed health care professionals who are skilled in preventing caries and periodontal diseases through education and treatment.

Students must complete required science and nutrition courses prior to starting the Dental Hygiene Program. Students will complete a dental office shadowing experience and observe current dental hygiene students in the St. Cloud Technical College clinic prior to admittance into the program. For a complete list of the dental hygiene entrance requirements, please call 320-308-5919.

A medical examination is required prior to the start of the program. Immunization for Hepatitis B and a Mantoux test are required. Students are required to be current in CPR.

CAREER OPPORTUNITIES

Upon completion of the Dental Hygiene Program, students will be trained in education methods, clinic services and administration of local anesthesia and nitrous oxide/oxygen analgesia. The program in Dental Hygiene is fully accredited by the American Dental Association Commission on Dental Accreditation.

LICENSURE

When students complete their AAS degree in Dental Hygiene, they must obtain a license from the state(s) they wish to practice. Obtaining a dental hygiene license is dependent on successful completion of the National Dental Hygiene Board Exam and a regional clinical board exam. Graduates will practice in accordance with requirements of individual states.

DENTAL HYGIENE
AAS Degree

Dental Hygiene Studies

DEHY1400	Dental Hygiene Seminar I	2
DEHY1402	Dental Hygiene Seminar II	2
DEHY1404	Clinical Seminar III	2
DEHY1406	Clinical Seminar IV	2
DEHY1410	Intro to Dental Materials & Methods	2
DEHY1418	Introduction to Dental Radiology	2
DEHY1420	Dental Hygiene Materials and Methods	2
DEHY1422	Dental Pharmacology	2
DEHY1424	Orofacial Structures	3
DEHY1426	Oral Histology and Embryology	1
DEHY1428	General and Oral Pathology	3
DEHY1440	Community Dental Health I	2
DEHY1444	Community Dental Health II	2
DEHY1448	Dental Hygiene Radiology	2
DEHY1460	Periodontics	2
DEHY1464	Advanced Periodontics	1
DEHY1468	Dental Hygiene Pain Management	2
DEHY1480	DH Pre-Clinical Lab I	3
DEHY1482	DH Pre-Clinical Lab II	2
DEHY1484	Clinical Dental Hygiene II	2
DEHY1486	Clinical Dental Hygiene III	6
DEHY1488	Clinical Dental Hygiene IV	6

Prerequisite Courses
(must be completed prior to starting program)

Human Anatomy and Physiology I	4
Human Anatomy and Physiology II	4
Microbiology	3
Organic/Bio Chemistry	3
Nutrition	2

General Education

English/Composition	3
Speech Communications	3
Intro to Psychology	3
Ethics for Health Professionals	2
Principles of Sociology	3

Suggested Electives

DEHY3400	Dental Hygiene Integrated Board Review	2
EMSC1480	Emergency Cardiac Care	1
HLTH1424	Patient Communication	1

Estimated cost for uniforms, books, supplies, etc. **$7,000**

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

Dental Hygiene (continued)

Associate of Applied Science Degree

Dental Hygiene Applicants

Priority will be given to those students who have completed their general education science requirements, which include Microbiology, Anatomy & Physiology I & II, Chemistry, and Nutrition at an accredited college or university and to those students who have completed the largest portion of the general education component.

A cumulative GPA of 2.5 or above from the prerequisite classes is required and a GPA of 2.0 must be maintained in the general education coursework to be considered for admission.

- Applicant may apply only after successful completion of 3 of the 5 science/nutrition prerequisite classes. Official transcripts must be attached to application.

- Applicant must observe 4 hours in the SCTC Dental Hygiene Clinic.

- Applicant must be currently certified in CPR (Basic Life Support).

- Prerequisite and General Education courses can be transferred from other schools to SCTC. Please contact the Registrar at (320) 308-1595 for course equivalents at other colleges and universities.

- All science and nutrition prerequisite courses must be completed before beginning the Dental Hygiene program. Preference is given to students who have completed all of their general education courses prior to starting the Dental Hygiene program.

- All Dental Hygiene applicants are encouraged to schedule an advising appointment to discuss entrance into the Dental Hygiene program.

Please call 1-800-222-1009 ext 5919 or 320-308-5919.

Applications to the Dental Hygiene Program

Applications will be accepted from the 3rd Tuesday of September until February 1 of the following year.
*Please note: The application deadline for the Dental Hygiene program is subject to change.

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

ECHOCARDIOGRAPHY

Associate of Applied Science Degree

St.Cloud Technical College

PROGRAM LENGTH

AAS Degree . . . . 72 Credits

PROGRAM DESCRIPTION

Echocardiography is a specialized concentration within the field of Sonography. The demands of the cardiac sonographer require a working knowledge of detailed anatomy and physiology of the heart and its echogenic appearance as a two-dimensional image. Echocardiography technologists must be adept in scanning techniques for optimal image formation.

This program coordinates academic study with the clinical experience during five semesters. Students may choose to complete some General Education courses during summer session. The clinical experience will be performed in the hospital/clinic setting and affiliate the student with one of the various echocardiography laboratories within the 5 state region.

Cardiac ultrasound (echocardiography) is a valuable, non-invasive tool for imaging the heart and surrounding structures. It is part of the cardiology based, diagnostic testing information used in establishing a specific diagnosis and estimating the severity of various cardiac diseases. Specific findings on the echocardiogram must be integrated with information obtained from the patient's history and physical exam, cardiac and pulmonary auscultation, electrocardiogram, thoracic radiographs and other diagnostic tests in order to diagnose and formulate the optimal therapeutic plan for each patient.

Echocardiography is used to evaluate cardiac chamber size and function, wall thickness and integrity, valvular morphology and function, and for the evaluation of the proximal great vessles. Using ultrasound, anatomic relationships can be determined, measurements obtained, and information regarding cardiac function(s) can be derived. Technical expertise in performing and interpreting the echocardiographic examination are critical.

Graduates of this program will be able to:
• Obtain, review and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results.
• Perform appropriate procedures and record anatomic, pathologic and/or physiologic data for interpretation by a physician.
• Record, analyze, and process diagnostic data and other pertinent observations made during the procedure for presentation to
   the interpreting physician.
• Exercise discretion and judgement in the performance of sonographic and/or other non-invasive diagnostic services.
• Demonstrate appropriate communication skills with patients and colleagues.
• Act in a professional and ethical manner.
• Provide patient education related to medical ultrasound and /or other non-invasive diagnostic vascular techniques and
   promote principles of good health.

Admission preference will be given to students who have completed the pre-requisite General Education requirements.

CAREER OPPORTUNITIES

Echocardiography is a relatively new profession. Technologists may work in hospital and clinic settings. As a growing and technically demanding profession, echocardiography technologists enjoy excellent starting salaries and nation-wide job opportunities.

ECHOCARDIOGRAPHY TECHNICIAN

AAS Degree

Technical Studies

BUSM1200	Microsoft Software	3
ECHO1423	Echocardiography I	2
ECHO1443	Echocardiography Clinic I	5
ECHO2450	Applied Clinical Experience	13
EMSC1480	Emergency Cardiac Care	1
HLTH1440	Medical Terminology	1
HLTH1448	Microbiology and Infection Control	1
HLTH1484	Ethics for Health Careers	3
ICVT2426	Catheterization Lab Fundamentals II	4
ICVT2446	Cardiovascular Clinical II	5
USCV1400	Cardiovascular Anatomy & Physiology	2
USCV1420	Intro to C/V & Ultrasound Fields	3
USCV1440	Intro to Clinics	1
USCV2405	Cardiovascular Pathology	3

Prerequisite Courses

*BLGY1300	Anatomy and Physiology I	4
*BLGY1302	Anatomy and Physiology II	4
*MATH1300	College Algebra	3
*PHYS1300	Concepts in Physics	4

*Prerequisites (prior to starting program)

General Education

COMM1300	Analytical Writing	4
PSYC1300	Intro to Psychology	3
	Humanities	3

Estimated cost for books and supplies $1,500

ECHOCARDIOGRAPHY APPLICANTS:

- Applicants may apply only after successful completion of 2 of the 4 science/math prerequisite classes. Example: Anatomy & Physiology I and College Algebra. Official transcripts must be attached to application.

- Applicant must be vaccinated against Hepatitis B virus (HBV) or sign a release form. HBV series must be completed prior to students starting the Spring semester of the second year.

- A cumulative GPA of 2.5 or above from the prerequisite classes is required and a GPA of 2.0 must be maintained in the general education coursework to be considered for admission.

- Prerequisite and General Education courses can be transferred from other schools to SCTC. Please contact the Registrar at (320) 308-1595 for course equivalents at other colleges and universities.

- All science and math prerequisite courses must be completed before starting the program. All other general education and additional courses must be finished before the Spring Semester of the second year. Preference is given to students who have completed all of their general education courses prior to starting the program.

Timelines:

- Applications to all three programs will be accepted from the 3rd Tuesday of September until February 1 of the following year. *Please note: The application deadline is subject to change.

- Note: Clinical sites may be out of the St. Cloud geographical area.

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

ELECTRICAL CONSTRUCTION TECHNOLOGY

Associate of Applied Science Degree
Diploma

St.Cloud
Technical
College

PROGRAM LENGTH

AAS Degree . . . . 84 Credits
Diploma 70 Credits

PROGRAM DESCRIPTION

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

Students will learn to apply knowledge to actual projects in 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 PLC controls.

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.

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 which 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.

ELECTRICAL CONSTRUCTION TECHNOLOGY
AAS Degree

Technical Studies

ELEC1502	Basic Wiring and Materials I	5
ELEC1506	Basic Wiring and Materials II	5
ELEC1510	National Electrical Code I	2
ELEC1514	National Electrical Code II	2
ELEC1518	Applied Electrical Principles and Formulas	5
ELEC1522	Drafting Blueprint Reading and Specifications	3
ELEC1526	Applied Electrical Principles and AC Fundamentals	5
ELEC1530	Electric Heat	2
ELEC1534	Construction Industry Integration	3
ELEC1538	Industry Skills Development	1
ELEC2502	Residential Wiring I	2
ELEC2506	Residential Wiring II	2
ELEC2510	National Electrical Code III	2
ELEC2514	National Electrical Code IV	2
ELEC2518	Commercial Wiring and Lighting	5
ELEC2522	AC Motor Control I	3
ELEC2526	AC Motor Control II	4
ELEC2532	Solid State and PLC Controls	3
ELEC2534	Industrial Systems	3
ELEC2538	Transformers, 3 Phase Systems and Formulas	3
ELEC2540	Low Voltage Systems	1
EMSC1420	Basic Emergency Care	1

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro To Speech Communication	3
	Humanities	3
	Math	3
	Social Science	3
	Electives	4

Estimated cost for tools, books and supplies   **$1,300**

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

ELECTRICAL CONSTRUCTION TECHNOLOGY
Diploma

Technical Studies

ELEC1502	Basic Wiring and Materials I	5
ELEC1506	Basic Wiring and Materials II	5
ELEC1510	National Electrical Code I	2
ELEC1514	National Electrical Code II	2
ELEC1518	Applied Electrical Principles and Formulas	5
ELEC1522	Drafting Blueprint Reading and Specifications	3
ELEC1526	Applied Electrical Principles and AC Fundamentals	5
ELEC1530	Electric Heat	2
ELEC1534	Construction Industry Integration	3
ELEC1538	Industry Skills Development	1
ELEC2502	Residential Wiring I	2
ELEC2506	Residential Wiring II	2
ELEC2510	National Electrical Code III	2
ELEC2514	National Electrical Code IV	2
ELEC2518	Commercial Wiring and Lighting	5
ELEC2522	AC Motor Control I	3
ELEC2526	AC Motor Control II	4
ELEC2532	Solid State and PLC Control	3
ELEC2534	Industrial Systems	3
ELEC2538	Transformers, 3 Phase Systems and Formulas	3
ELEC2540	Low Voltage Systems	1

General Studies

EMSC1420	Basic Emergency Care	1
GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for tools, books and supplies $1,300

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

ELECTRONICS

Associate of Applied Science Degree
One or Two Year Diploma

St.Cloud Technical College

PROGRAM LENGTH
INDUSTRIAL ELECTRONICS TECHNICIAN – AAS Degree . . . . 64 Credits
INDUSTRIAL ELECTRONICS TECHNICIAN – Diploma . . . . 64 Credits
INSTRUMENTATION AND PROCESS CONTROL TECHNICIAN – Diploma 64 Credits
INSTRUMENTATION AND PROCESS CONTROL TECHNICIAN – AAS . 66 Credits
ELECTRONICS TECHNICIAN I – Diploma . . . . 31 Credits

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

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

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

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

AAS ELECTRONICS CORE
AAS Degree

Technical Studies

ETEC1506	Digial Electronics	4
ETEC1510	AC/DC Electricity	8
ETEC1520	Semiconductor Devices	8

General Education

COMM1300 Analytical Writing	4
COMM1320 Intro to Speech	3
MATH1300 College Algebra	3
PHYS1300 General Physics	4
Humanities Elective	3
Social Science Elective	3

DIPLOMA ELECTRONICS CORE
Diploma

Technical Studies

ETEC1506	Digital Electronics	4
ETEC1510	AC/DC Electricity	8
ETEC1520	Semiconductor Devices	8

General Studies

GBEH1300 Human Relations	3
GCOM1340 Written Communications	3
TECH1500 Math Elective	3

Core Studies

TECH1530 Computer Applications	2

Completion of the Diploma Electronics Core satisfies the requirements for the Electronics Technician I Program.

Estimated cost for tools, books, and supplies $800

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

INDUSTRIAL ELECTRONICS TECHNICIAN

AAS Degree+ 40
Electives 24

(Must take 24 credits from Manufacturing or Telecommunications))

Manufacturing Electives

ETEC2510	Fluid Power	3
ETEC2540	Automation	4
ETEC2550	Automation Project Lab	4
ETEC2560	Flex Lab	4
TECH1550	Basic CAD	2
	Technical Electives (see advisor)	11

OR

Telecommunications Electives

CMSC1201	Data Communications	3
CMSC1271	Cisco Routing I	2
ETEC2504	Telecommunications I	2
ETEC2508	Telecommunications II	2
ETEC2514	Cabling and Termination	4
ETEC2518	RF Engineering Concepts	3
ETEC2524	Telecom Outside Plant Construction	4
ETEC2528	Fiber Optics	3
ETEC2534	Telecom Systems	3
ETEC2536	Broadband System Design & Analysis I	3
ETEC2538	Broadband System Design & Analysis II	3
SMGT1800	Quality Customer Service	2

Estimated cost for tools, books and supplies **$1,200**

INDUSTRIAL ELECTRONICS TECHNICIAN

Diploma 31
Diploma Electronics Core + 33

(Must take 33 credits from Manufacturing or Telecommunications)

Manufacturing Electives

ETEC2510	Fluid Power	3
ETEC2540	Automation	4
ETEC2550	Automation Project Lab	4
ETEC2560	Flex Lab	4
PHYS1300	General Physics	4
TECH1550	Basic CAD	2
	Technical Electives (see advisor)	12

OR

Telecommunications Electives

CMSC1201	Data Communications	3
CMSC1271	Cisco Routing I	2
ETEC2504	Telecommunications I	2
ETEC2508	Telecommunications II	2
ETEC2514	Cabling and Termination	4
ETEC2518	RF Engineering Concepts	3
ETEC2524	Telecom Outside Plant Construction	4
ETEC2528	Fiber Optics	3
ETEC2534	Telecom Systems	3
ETEC2536	Broadband System Design & Analysis I	3
ETEC2538	Broadband System Design & Analysis II	3
SMGT1800	Quality Customer Service	2

Estimated cost for tools, books and supplies **$1,200**

INSTRUMENTATION AND PROCESS CONTROL TECHNICIAN

AAS Electronics Core + 40
Electives 26

(Must take 26 of 31 credits)

*ETEC2510	Fluid Power	3
*ETEC2520	Fundamentals of Instrumentation	4
*ETEC2530	Process Control	4
*ETEC2540	Automation	4
*ETEC2550	Automation Project Lab	4
CMSC1203	Structured Programming Logic	3
ETEC2560	Flex Lab	4
MACH2522	Statistical Process Control	1
TECH1530	Computer Applications	2
TECH1550	Basic CAD	2
(*required)		

Estimated cost for tools, books and supplies **$1,200**

INSTRUMENTATION AND PROCESS CONTROL TECHNICIAN

Diploma Electronics Core + 31
Electives 33

(Must take 33 of 34 credits)

*ETEC2510	Fluid Power	3
*ETEC2520	Fundamentals of Instrumentation	4
*ETEC2530	Process Control	4
*ETEC2540	Automation	4
*ETEC2550	Automation Project Lab	4
CMSC1203	Structured Programming Logic	3
ETEC2560	Flex Lab	4
MACH2522	Statistical Process Control	1
PHYS1300	General Physics	4
PHYS1302	Physics principles & Problem Solving	1
TECH1550	Basic CAD	2
(*required)		

Estimated cost for tools, books, and supplies **$1,200**

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

EMERGENCY MEDICAL SERVICES (EMS)

PROGRAM DESCRIPTION

The Emergency Medical Services program provides education to care for victims in life threatening emergencies. All levels of pre-hospital patient care education can be taken through St. Cloud Technical College.

Courses are held on the St. Cloud campus and by arrangement at other locations throughout Central Minnesota.

COURSES OFFERED

EMSC1400	Principles of First Aid	1
EMSC1404	First Aid & CPR for Child Care Providers	1
EMSC1420	Basic Emergency Care	1
EMSC1440	Emergency Medical Technician (EMT)	6
EMSC1444	Emergency Medical Technician - Refresher	2
EMSC1460	First Responder	2
EMSC1464	First Responder - Refresher	1
EMSC1480	Emergency Cardiac Care	1

Estimated cost books/supplies   **$250**

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

FARM BUSINESS MANAGEMENT

Diploma

PROGRAM LENGTH

Diploma . . . . 60 Credits

PROGRAM DESCRIPTION

   The Farm Business Management Program is concerned with the economic principles and agricultural practices used in making decisions about alternative ways of using land, labor, capital, and management ability to make a profit in farming. Information about farm business relationships, the 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 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) 308-5925 or 308-5033.

YEAR 1

FBMT1211	Introduction to Farm Business Management	4
FBMT1112	Foundations for 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 Evaluating Financial Data	4
FBMT2142	Interpreting Trends in Business Planning	4
FBMT2243	Using Financial Instruments in Farm System Management	2

YEAR 5

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

YEAR 6

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

Other Farm Business Management Electives

These courses cover special topics in the following areas:

FBMT2200-2204	General Farm Management	1
FBMT2205-2209	General Farm Management	2
FBMT2210-2214	Marketing	1
FBMT2215-2219	Marketing	2
FBMT2220-2224	Crop	1
FBMT2925-2929	Crop	2
FBMT2230-2234	Livestock	1
FBMT2935-2939	Livestock	2

General Studies

FBMT2300	Computer Applications in Farm Management	2
FBMT2305	Legal Issues in Agriculture	2
FBMT2310	Environmental Interactions in Agriculture	2
FBMT2315	Effective Time Management	2
FBMT2320	Family Wellness and Business Relationships	2
FBMT2325	Ethics in this Business of Agriculture	2
FBMT2330	Business Math Principles	2
FBMT2335	Labor Economics and Management	2
FBMT2340	Rural Leadership	2
FBMT2345	CPR and First Aid	2

Advanced Management Certificate Coursework

FBMA3100	Fundamentals of Risk Management	3
FBMA3101	Applications in Risk Management	3
FBMA3110	Fundamentals: Strategic Planning	3
FBMA3111	Applications in Strategic Planning	3
FBMA3120	Fundamentals: Business Plans	3
FBMA3121	Applications in Business Plans	3

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

GRAPHIC COMMUNICATIONS

Diploma

PROGRAM LENGTH
Diploma . . . . 40 Credits

PROGRAM DESCRIPTION
    The Graphic Communications Program offers training in the areas of printing and publishing. Instruction ranges from product conception through computer image generation, darkroom work, image assembly, presswork, and bindery. The program is equipped with modern equipment in both traditional offset lithography and state-of-the-art electronic communication.

Lab work will consist of assigned projects with each emphasizing a variety of particular skills. There will also be opportunity for creating original personal projects as well as live production work.

Available equipment includes fully supplied pre-press and pressrooms as well as training and production computer labs containing over 60 Macintosh computers, scanners, printers and imagesetters.

CAREER OPPORTUNITIES
    The field of printing and imaging technology offers many job opportunities which range from minimum-skilled occupations through top management positions. Employment areas vary from desktop publishing, computer prepress, offset press operation, and marketing the final product. Placement has been excellent and experts project a shortage of trained workers in this large and rapidly growing industry through the twenty-first century and beyond.

GRAPHIC COMMUNICATIONS
Diploma

Technical Studies

PITT1210	Electronic Imaging	3
PITT1220	Adobe Illustrator	3
PITT1240	PrePress Operations	3
PITT1250	Offset Press Operation I	3
PITT1252	Offset Press Operation II	3
PITT1280	Print Production	3
PITT2210	Advanced Production Techniques	4
OR		
PITT2250	Supervised Internship	4

Core Studies

ADVR1250	Introduction to Design	3
GRAD1210	QuarkXPress	3
GRAD1220	Adobe Photoshop	3
GRAD1230	Communicating on the World Wide Web	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Suggested Electives

ADVR2285	Portfolio Construction and Presentation	3
CULN1290	Social Etiquette	2
GRAD1240	Dreamweaver	3
PITT1200	Introduction to Printing	3
SAMG1210	Customer Service/Sales Techniques	3

Estimated cost for books and supplies   **$310**

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

HEALTH CARE TECHNICIAN

Certificate

PROGRAM LENGTH

Certificate . . . . 29 Credits

PROGRAM DESCRIPTION

Health care is one of the fastest growing industries in the United States today. An aging population and the retirement of large 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

Successful completion of the Health Care Technician Certificate program prepares the student to become a Certified Nursing Assistant, Home Health Aide, and Trained Medication Aide.

HEALTH CARE TECHNICIAN

Certificate

Core Studies

EMSC1400	Principles of First Aid	1
HLTH1400	Basic Nursing I	4
HLTH1408	Trained Medication Aide	3
HLTH1424	Patient Communications	1
HLTH1440	Medical Terminology	1
HLTH1444	Anatomy/Physiology	4
HLTH1448	Microbiology/Infection Control	1
HLTH1460	Nutrition	1
HLTH1464	Therapeutic Nutrition	1
HLTH1480	Human Development	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
BUSM1200	Microsoft Software	3

Estimated cost for books and supplies   **$500**

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

HEATING, AIR CONDITIONING, AND REFRIGERATION TECHNOLOGY

Associate of Applied Science Degree – Heating, Air Conditioning and Refrigeration Technology

Diploma – Residential Heating and Air Conditioning

Diploma – Commercial Heating, Air Conditioning, and Refrigeration

St.Cloud Technical College

PROGRAM LENGTH

HEATING, A/C, & REFRIGERATION TECHNOLOGY – AAS Degree	72 Credits
RESIDENTIAL HEATING & A/C – Diploma.	35 Credits
COMMERCIAL HEATING, A/C, & REFRIGERATION – Diploma	66 Credits

PROGRAM DESCRIPTION

The Heating, Air Conditioning, and Refrigeration Technology Program prepares workers to enter the heating, ventilation, air conditioning, and refrigeration field. First year emphasizes residential service, maintenance, and installation of forced air furnaces, heat pumps, and air conditioning systems. Second year emphasizes commercial service, maintenance, and installation of heating, air conditioning, and refrigeration systems. Students will gain knowledge in troubleshooting of electrical controls, motors, service and maintain refrigeration equipment, heating and air conditioning systems.

Well-trained service technicians are in great demand in this rapidly growing trade. Service, maintenance and proper installation is 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.

HEATING, AIR CONDITIONING AND REFRIGERATION TECHNOLOGY
AAS

Technical Studies

HART1502	Copper and Gas Piping	1
HART1506	Schematics and Blueprint Reading	3
HART1510	Sheetmetal	1
HART1514	Forced Air Heating	5
HART1518	Electrical Controls for Heating and A/C	4
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
HART2502	Commercial Refrigeration II	4
HART2506	Commercial Refrigeration I	4
HART2510	Commercial Electrical and Controls	3
HART2514	Compressor Operation and Troubleshooting	3
HART2518	Commercial Troubleshooting	2
HART2522	Commercial Air Conditioning	3
HART2526	Commercial Heating and HVAC Systems	3
HART2530	Commercial Load Calculating	2
HART2534	Commercial HVAC Controls	2

General Education

Communications (total of 6 credits)	
Written	3
Speech	3
Math	3
Computers	3
Electives	8

Estimated cost for tools, books and supplies	**$2,350**

RESIDENTIAL HEATING AND AIR CONDITIONING
Diploma

Technical Studies

HART1502	Copper and Gas Piping	1
HART1506	Schematics and Blueprint Reading	3
HART1510	Sheetmetal	1
HART1514	Forced Air Heating	5
HART1518	Electrical Controls for Heating and A/C	4
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
HART1540	Internship – Residential	2

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for tools, books and supplies	**$1,050**

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

COMMERCIAL HEATING, AIR CONDITIONING, AND REFRIGERATION
Diploma

Technical Studies

HART1502	Copper and Gas Piping	1
HART1506	Schematics and Blueprint Reading	3
HART1510	Sheetmetal	1
HART1514	Forced Air Heating	5
HART1518	Electrical Controls for Heating and A/C	4
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
HART1540	Internship – Residential	2
HART2502	Commercial Refrigeration II	4
HART2506	Commercial Refrigeration I	4
HART2510	Commercial Electrical and Controls	3
HART2514	Compressor Operation and Troubleshooting	3
HART2518	Commercial Troubleshooting	2
HART2522	Commercial Air Conditioning	3
HART2526	Commercial Heating and HVAC Systems	3
HART2530	Commercial Load Calculating	2
HART2534	Commercial HVAC Controls	2
HART2540	Internship – Commercial	2

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	Elective	3

Estimated cost for tools, books and supplies   **$1,300**

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

INVASIVE CARDIOVASCULAR TECHNOLOGY

Associate of Applied Science Degree

St. Cloud
Technical
College

PROGRAM LENGTH

AAS Degree . . . . 72 Credits

PROGRAM DESCRIPTION

The Invasive Cardiovascular Technology Program prepares students for employment in cardiac catheterization laboratories, open-heart surgical suites, and cardiac research facilities. The demands of the cardiovascular technologist require a working knowledge of detailed anatomy, physiology and pathology of the heart, the coronary arteries, and cardiac valvular function.

The program coordinates academic study with the clinical experience during five semesters. Students may choose to complete some General Education courses during summer session. The applied clinical experience will be performed in a hospital setting and affiliate the student with one of the various cardiac catheterization laboratory facilities within the five state region.

Cardiovascular technologists assist the cardiologist in performing diagnostic and interventional cardiac catheterization and angioplasty procedures, assisting in all phases of the catheterization procedure including insertion of the catheters and interventional devices, operation of various electronic instruments and calculation of hemodynamic data. The data is used by the physician in confirming diagnosis and designing treatment.

Graduates of this program will be able to:
• Assist the cardiologist in performing diagnostic cardiac catheterization procedures.
• Assist in interventional cardiac catheterization, 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.
• Exercise discretion in judgement in the performance of cardiovascular technology services.
• 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 principles of good health.

Admission preference will be given to students who have completed the pre-requisite General Education requirements.

Clinical rotations may be within a five-state region.

CAREER OPPORTUNITIES

Cardiovascular technologists work in hospital settings. As a growing and technically demanding profession, technologists enjoy excellent starting salaries and nation-wide job opportunities.

INVASIVE CARDIOVASCULAR TECHNOLOGIST
AAS Degree

Technical Studies

BUSM1200	Microsoft Software	3
EMSC1480	Emergency Cardiac Care	1
HLTH1440	Medical Terminology	1
HLTH1448	Microbiology and Infection Control	1
HLTH1484	Ethics for Health Careers	3
ICVT1423	Cath Lab Fundamentals I	2
ICVT1443	Cardiovascular Clinic I	5
ICVT2426	Cath Lab Fundamentals II	4
ICVT2446	Cardiovascular Clinic II	5
USCV1400	Cardiovascular Anatomy & Physiology	2
USCV1420	Intro to C/V & Ultrasound Fields	3
USCV1440	Intro to Clinics	1
USCV2405	Cardiovascular Pathology	3
USCV2450	Applied Clinical Experience	13

Prerequisite Courses

*BLGY1300	Anatomy and Physiology I	4
*BLGY1302	Anatomy and Physiology II	4
*MATH1300	College Algebra	3
*PHYS1300	Concepts in Physics	4

*Prerequisites (prior to starting program)

General Education

COMM1300	Analytical Writing	4
PSYC1300	Intro to Psychology	3
	Humanities	3

Estimated cost for books and supplies   **$1,500**

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

Program Applicants:

- Applicants may apply only after successful completion of 2 of the 4 science/math prerequisite classes. Example: Anatomy & Physiology I and College Algebra. Official transcripts must be attached to application.

- Applicant must be vaccinated against Hepatitis B virus (HBV) or sign a release form. HBV series must be completed prior to students starting the Spring semester of the second year.

- A cumulative GPA of 2.5 or above from the prerequisite classes is required and a GPA of 2.0 must be maintained in the general education coursework to be considered for admission.

- Prerequisite and General Education courses can be transferred from other schools to SCTC. Please contact the Registrar at (320) 308-1595 for course equivalents at other colleges and universities.

- All science and math prerequisite courses must be completed beforestarting the program. All other general education and additional courses must be finished before the Spring Semester of the second year. Preference is given to students who have completed all of their general education courses prior to starting the program.

Timelines:

- Applications will be accepted from the 3rd Tuesday of September until February 1 of the following year.
  *Please note: The application deadline is subject to change.

- Note: Clinical sites may be out of the St. Cloud geographical area.

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

LAND SURVEYING/CIVIL ENGINEERING TECHNOLOGY

Associate of Applied Science Degree

Diploma

PROGRAM LENGTH

AAS Degree . . . . 72 Credits
Diploma . . . . 67 Credits

PROGRAM DESCRIPTION

The Land Surveying/Civil Engineering Technology Program prepares individuals for entry level employment as engineering/surveying technicians. Students will learn surveying and drafting techniques, along with design and construction practices dealing with sewer, water, streets, roads, and land surveying. Students will be introduced to modern surveying equipment, computer applications, computer aided drafting and surveying systems.

Ability to work independently with accuracy and neatness and make decisions is a very important quality for technicians. Technicians must be able to work with other professional people, as well as the general public on a day-to-day basis. Working conditions for technicians may involve a variety of indoor and/or outdoor settings.

** Studenst 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. Excellent opportunities for advancement exist for hard working and knowledgeable individuals in this field.

LAND SURVEYING/CIVIL ENGINEERING

AAS Degree

Technical Studies

LSCE1502	Surveying Principles I	3
LSCE1506	Advanced Survey	5
LSCE1510	Civil Drafting Methods	3
LSCE1514	Civil CADD l	3
LSCE1518	Materials, Estimating, and Specifications	3
LSCE1526	Technical Computations II	4
LSCE1530	Survey Fundamentals	5
LSCE2502	Control and Digital Surveys	5
LSCE2506	Construction Design and Surveying Principles	5
LSCE2510	Surveying Principles II	3
LSCE2514	Civil CADD II	3
LSCE2518	Utility Design I	3
LSCE2522	Civil CADD III	3
LSCE2526	Subdivision Design	4

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communications	3
MATH1300	College Algebra	3
MATH1320	College Trigonometry	2
	Humanities	3
	Social Science	3
	Electives	2

Estimated cost for tools, books, supplies

and laptop   **$3,300**

LAND SURVEYING/CIVIL ENGINEERING

Diploma

Technical Studies

LSCE1502	Surveying Principles I	3
LSCE1506	Advanced Survey	5
LSCE1510	Civil Drafting Methods	3
LSCE1514	Civil CADD I	3
LSCE1518	Materials, Estimating, and Specifications	3
LSCE1522	Technical Computations I	3
LSCE1526	Technical Computations II	4
LSCE1530	Survey Fundamentals	5
LSCE2502	Control and Digital Surveys	5
LSCE2506	Construction Design and Surveying Principles	5
LSCE2510	Surveying Principles II	3
LSCE2514	Civil CADD II	3
LSCE2518	Utility Design I	3
LSCE2522	Civil CADD III	3
LSCE2526	Subdivision Design	4
LSCE2530	Utility Design II	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	Electives	3

Estimated cost for tools, books, supplies

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

MACHINE TOOL TECHNOLOGY

Associate of Applied Science Degree
Diploma
Advanced Certificate

PROGRAM LENGTH

AAS Degree . . . . 72 credits
Diploma . . . . 66 Credits
Advanced Certificate . . . . 24 Credits

PROGRAM DESCRIPTION

The Machine Tool Technology Program provides training in the latest techniques of machining. The shop is equipped with a variety of machines that are representative of the industry.

The program is designed to give students the necessary skills to enter the labor market as a machine operator, machinist apprentice, or a tool and die apprentice. Graduates can expand to areas such as tool making, precision machining, setup specialist, inspection work, tool designing, computer numerical control programming (C.N.C.) machining.

CAREER OPPORTUNITIES

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 cross-functional nature of the Advanced Certificate gives graduates options in both machining and design technology. An additional advanced certificate in Computer-Aided Design and Manufacturing is available.

MACHINE TOOL TECHNOLOGY
AAS Degree

Technical Studies

MACH1502	Machine Technology I	5
MACH1504	Machine Technology II	5
MACH1508	Machine Technology III	5
MACH1512	Machine Technology IV	5
MACH1516	Blueprint Reading I	2
MACH1520	Blueprint Reading II	2
MACH1524	Geometric Dimensioning and Tolerancing	2
MACH1528	Jigs and Fixtures	1
MACH2502	Introduction to CNC Turning	3
MACH2506	Introduction to CNC Milling	3
MACH2510	Cutting Tool Technology	1
MACH2514	Metallurgy	1
MACH2518	Advanced CNC Milling	3
MACH2522	Statistical Process Control	1
MACH2526	Advanced CNC Turning	3
MACH2530	3D Milling	2
MACH2538	Tool-Making/Wire-Feed EDM CNC	4

Technical Electives 4

General Education

COMM1320	Introduction to Speech	3
CPTR1300	Exploring Computers	3
MATH1300	College Algebra	3
MATH1320	College Trigonometry	2
PHYS1300	General Physics	4
PHYS1302	Physics Principles and Problems	1

Electives 4

MACHINE TOOL TECHNOLOGY
Diploma

Technical Studies

MACH1502	Machine Technology I	5
MACH1504	Machine Technology II	5
MACH1508	Machine Technology III	5
MACH1512	Machine Technology IV	5
MACH1516	Blueprint Reading I	2
MACH1520	Blueprint Reading II	2
MACH1524	Geometric Dimensioning and Tolerancing	2
MACH1528	Jigs and Fixtures	1
MACH2502	Introduction to CNC Turning	3
MACH2506	Introduction to CNC Milling	3
MACH2510	Cutting Tool Technology	1
MACH2514	Metallurgy	1
MACH2518	Advanced CNC Milling	3
MACH2522	Statistical Process Control	1
MACH2526	Advanced CNC Turning	3
MACH2530	3D Milling	2
MACH2534	Production Machining	2
MACH2538	Tool-Making/Wire-Feed EDM CNC	4
MACH2542	Conversational CNC Technology	2

Core Studies

TECH1500	Applied Algebra	3
TECH1522	Manufacturing Math	4

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	Elective	1

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

Estimated cost for tools, books and supplies   **$1,380**

CADM
Advanced Certificate

Technical Studies

CADD1502	Mechanical CADD I	3
CADD1507	Mechanical CADD II	3
CADD1512	CADD Applications I	3
CADD1516	CADD Applications II	3
CADD1518	Engineering Math	2
CADD2526	Manufacturing Systems	2
CADD2540	Basic CAM	3
CADM3502	CMM Operations	2
TECH1530	Computer Applications	2
TECH1540	Technical Communications	1

Estimated cost for tools, books, supplies,
and laptop   **$2,500**

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

MEDIUM/HEAVY TRUCK TECHNICIAN

Associate of Applied Science Degree

Diploma

PROGRAM LENGTH

AAS Degree . . . . 72 Credits
Diploma 67 Credits

PROGRAM DESCRIPTION

The growing demand to transport products quickly by trucks has created a growing 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 auto and 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 opportunities for AAS Degree graduates as medium/heavy truck technicians, shop supervisors, dealer and factory representatives.

MEDIUM/HEAVY TRUCK TECHNICIAN
AAS Degree

Technical Studies

MHTT1502	Diesel Engine I	4
MHTT1506	Mobil Hydraulics	2
MHTT1510	Truck Power Train	4
MHTT1514	Truck Brake Systems	4
MHTT1518	Truck Steering/Suspension	3
MHTT1522	Electrical II	2
MHTT1526	Truck Maintenance I	3
MHTT2502	Diesel II	4
MHTT2506	Diesel III	4
MHTT2522	Electrical III	3
MHTT2530	Truck Heating and AC Systems	2
	Electives	7

Core Studies

TRAN1502	General Service	2
TRAN1504	Electrical I	3
TRAN1518	Transportation Hazardous Materials	1
TRAN1520	Workplace Perceptions and Expectations	2
TRAN2514	Basic Air Conditioning	2

General Education

COMM1300	Analytical Writing	4
COMM1320	Introduction to Speech Communication	3
	Humanities	3
	Math	3
	Social Science	3
	Electives	4

Suggested Electives

MHTT1530	Welding	3
MHTT1534	Body Repair	3
MHTT2514	Gasoline Engines	3
MHTT2518	Automatic Transmissions	3
MHTT2526	Truck Maintenance II	4
MHTT2534	Transport Refrigeration	3
MHTT2536	Truck Systems Troubleshooting	3
MHTT2538	Supervised Internship	1-7
SPEC2850	Special Topics	1-7
TRAN1522	Introduction to Transportation Computers	2

Estimated cost for tools, books and supplies $2,340

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

MEDIUM/HEAVY TRUCK TECHNICIAN
Diploma

Technical Studies

MHTT1502	Diesel Engine I	4
MHTT1506	Mobil Hydraulics	2
MHTT1510	Truck Power Train	4
MHTT1514	Truck Brake Systems	4
MHTT1518	Truck Steering/Suspension	3
MHTT1522	Electrical II	2
MHTT1526	Truck Maintenance I	3
MHTT2502	Diesel II	4
MHTT2506	Diesel III	4
MHTT2522	Electrical III	3
MHTT2526	Truck Maintenance II	4
MHTT2530	Truck Heating and AC Systems	2
	Electives	9

Core Studies

TRAN1502	General Service	2
TRAN1504	Electrical I	3
TRAN1518	Transportation Hazardous Materials	1
TRAN1520	Workplace Perception and Expectations	2
TRAN2514	Basic Air Conditioning	2

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	Elective	3

Suggested Electives

MHTT1534	Body Repair	3
MHTT1830	Welding	3
MHTT2514	Gasoline Engines	3
MHTT2518	Automatic Transmissions	3
MHTT2534	Transport Refrigeration	3
MHTT2536	Truck Systems Troubleshooting	3
MHTT2538	Supervised Internship	1–7
SPEC2850	Special Topics	1-7
TRAN1522	Introduction to Transportation Computers	2

Estimated cost for tools, books and supplies $2,140

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

NURSING ASSISTANT/ HOME HEALTH AIDE

Certificate

PROGRAM LENGTH

Certificate. . . . . 4 Credits

PROGRAM DESCRIPTION

Basic Nursing I incorporates the Nursing Assistant and Home Health Aide Courses. The focus of the Basic Nursing I Course introduces the caregiving environment, basic human needs, special populations, basic nursing skills, mental health issues and emergency measures. During this course students will perform skills in a laboratory and clinical setting. This Minnesota Department of Health approved course prepares the student to complete a written and skills test in order to be registered to 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.

Each student completes a clinical experience. During the clinical experience, the student will work under the supervision of an instructor at an area nursing home. The student must complete 26 of the 56 skills learned in class during the clinical experience.

After completion of the Basic Nursing I course, the student is eligible to take the Nursing Assistant/Home Health Aide test-out. The test-out fee and pre-registration are required eight days before the actual test date.

There are few, but necessary requirements for this course. Before the student begins a clinical he/she must obtain a uniform and have evidence of a negative Mantoux or chest x-ray showing no active tuberculosis within the past three months. Information about Mantoux and uniform specifics will be discussed the first class session.

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 fee.

There is a continuous need for Nursing Assistants/Home Health Aides. To remain registered, an individual must complete 12 hours of continuing education every year and work in the field at least eight paid hours every two years.

This certificate course requires a Minnesota background check.

NURSING ASSISTANT/HOME HEALTH AIDE
Certificate

Technical Studies
HLTH1400   Basic Nursing I   4

Estimated cost for books and supplies	**$75**
State Test Fee	**$130**

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

PARAMEDICINE

Associate of Applied Science Degree

PROGRAM LENGTH

AAS Degree . . . . 71 Credits

PARAMEDICINE CAREER

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.

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 EMTs or Paramedics as part of their duties.

ACCREDITATION

St. Cloud Technical College Paramedicine AAS program is accredited by the Commission on Accreditation of Allied Health Education Programs.

PARAMEDICINE

AAS Degree

Technical Studies

EMSP1400	Paramedicine I	3
EMSP1402	Paramedicine Skills I	3
EMSP1406	Paramedicine II	3
EMSP1408	Paramedicine Skills II	3
EMSP1424	Emergency Pharmocology for Paramedics	2
EMSP1430	BLS Ambulance Clinical	1
EMSP1432	Critical Care Clinical	2
EMSP1434	Support Services Clinical	2
EMSP1438	ALS Ambulance Clinical	4
EMSP2410	Paramedicine III	4
EMSP2438	Emergency Room Clinical	3
EMSP2440	Acute Care Clinical	3
EMSP2460	Advanced Cardiac Life Support	1
EMSP2464	Basic Trauma Life Support (BTLS) Provider	1
EMSP2468	Pediatric Advanced Life Support (PALS)	1
EMSP2472	Pediatric Emergencies for Pre-hospital Professionals (PEPP)	1
EMSP2480	Paramedicine Externship	8
HLTH1440	Medical Terminology	1
HLTH1448	Infection Control/Microbiology	1
	Technical Elective	3

General Education

BLGY1300	Anatomy/Physiology I	4
BLGY1302	Anatomy/Physiology II	4
COMM1300	Analytical Writing	4
PSYC1300	Introduction to Psychology	3
PSYC1304	Life Span Developmental Psychology	3
	Humanities	3

Suggested Electives

EMSC1444	EMT Refresher Course	2
EMSH1426	CPR Refresher Course	0
HLTH1424	Patient Communication	1
HLTH1484	Ethics for Health Care	3

• EMT Basic and Emergency Cardiac Care are required before beginning the Paramedicine program.

• Additional interviews and testing may be required. .

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

PARAPROFESSIONAL EDUCATOR

Associate of Applied Science Degree (pending approval)
Certificate (pending approval)

St.Cloud
Technical
College

PROGRAM LENGTH

AAS Degree . . . . 65 Credits
Certificate . . . . 19 Credits

PROGRAM DESCRIPTION

This program meets the requirements of recent federal legislation regarding the employment of paraprofessionals. In order to satisfy the requirement, districts must employ paraprofessionals who have completed two years of study at an institution of higher education; or obtained an Associate's (or higher) Degree, or meet a rigorous standard of quality and can demonstrate knowledge of, and the ability to assist in instructing reading, writing, or mathematics.

This curriculum follows the Minnesota Core Instructional Paraprofessional Competencies which will form the basis of a certification 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 with course offerings as listed in the curriculum and with practical experience in a variety of educational settings, such as Early Childhood Family Education (ECFE), Early Childhood Special Education (ECSE), Title 1, Head Start, pre-schools, elementary schools, secondary schools, and special education programs.

Personal qualities desirable for the field include emotional maturity, physical stamina, ability to work with people in stressful situations, acceptance of people regardless of abilities, plus an openness to personal growth. Students will need to complete a Department of Human Services Background Study Form, a physical examination, and EMSC 1404 prior to being placed at an internship site. (Membership in Skills USA-VICA and MnAEYC are required).

CAREER OPPORTUNITIES

Career opportunities forParaprofessional Educator graduates may be found in Special Education, Title 1, Indian Education, 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, HeadStart, prescholls, elementary schools, secondary schools, and special education programs.

PARAPROFESSIONAL EDUCATOR

AAS Degree

Technical Studies

CACE1400	Professional Relations in CACE Careers	3
CACE1404	Safety, Health and Nutrition	3
CACE1420	Foundations of Development	3
CACE1422	Profiles of the Exceptional Child	3
CACE1424	School-Age Strategies for Learning	3
CACE1426	Children with Difficult Behavior	3
CACE1428	Family & Community Relations	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1444	Planning and Implementing Curriculum	3
CACE1448	Literature & Language Development Experiences	3
CACE1460	Internship I	3
CACE1464	Internship II	3
CACE1475	Reading Strategies for Paraprofessionals	1
CACE1476	Writing Strategies for Paraprofessionals	1
CACE1477	Math Strategies for Paraprofessionals	1
CACE1478	Technology Strategies for Paraprofessionals	1
CACE1480	Children with Special Health Care Needs	2
EMSC1404	First Aid and CPR for Child Care Providers	1

General Education

COMM1300	Analytical Writing	4
COMM1320	Introduction to Speech Communication	3
	Humanities	3
	Social Science	3
	Natural Science/Math	3
	Electives	6

Estimated cost for books and supplies   **$850**

PARAPROFESSIONAL EDUCATOR
Certificate

Technical Studies

CACE1400	Professional Relations in CACE Careers	3
CACE1420	Foundations of Development	3
CACE1440	Guidance: Managing the Physical and Social Environment	3
CACE1460	Internship I	3
CACE1475	Reading Strategies for Paraprofessionals	1
CACE1476	Writing Strategies for Paraprofessionals	1
CACE1477	Math Strategies for Paraprofessionals	1
CACE1478	Technology Strategies for Paraprofessionals	1
GCOM1340	Written Communication	3

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

PLUMBING

Associate of Applied Science Degree
Diploma

St.Cloud
Technical
College

PROGRAM LENGTH
AAS Degree . . . . 60 Credits
Diploma 37 Credits

PROGRAM DESCRIPTION
The Plumbing Program is designed to give students a series of experiences with a wide variety of tasks normally performed by a plumber. Some areas included are installation of fixtures, pipe threading, use of tools and equipment, hot and cold water supply, drainage systems, fabrication and testing, maintenance and repair of plumbing, and hydronic heating. Students may choose between a Diploma and an AAS Degree. Students choosing an AAS Degree will find added emphasis on shop management and communication skills.

Related material covered includes blueprint reading and sketching, plumbers' mathematics, the Minnesota State Plumbing Code, and a considerable amount of trade knowledge. One of the main class projects involves installation of the plumbing and fixtures in the house project built each year by the building trades classes. The building construction industry is moving ahead rapidly and becoming more complex each year. There is a need for people with the desire and ambition to learn the basics of plumbing and enter the field as apprentices.

CAREER OPPORTUNITIES
The plumbing industry presents many outstanding opportunities for advancement and success. 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.

PLUMBING
AAS Degree, Shop Management

Technical Studies

PLBG1502	Piping Procedures I	3
PLBG1506	Plumbing Calculations	3
PLBG1510	Minnesota State Plumbing Code I	3
PLBG1514	Minnesota State Plumbing Code II	3
PLBG1518	Blueprint Reading and Estimating	4
PLBG1522	Water Supply and Sewage Disposal	3
PLBG1526	Plumbing Fixture Installation	4
PLBG1530	Piping Procedures II	3
PLBG1534	Hydronic Heating and Rigging	1
PLBG1538	Plumbing Internship	2
PLBG1542	Career Planning/Customer Relations	2

Technical Electives (must select 9 credits)

SAMG1225	Business Ethics and Law	3
SMGT1400	Principles of Supervisory Leadership	3
SMGT1410	Interpersonal Skills for Supervisors	1
SMGT1430	Ethics in the Workplace	1
SMGT1510	Problem Solving and Decision Making	2
SMGT1670	Safety and Compliance Management	1
TECH1530	Computer Applications	2
WELD1502	Welding for Work and Leisure	2

General Education

COMM1300 Analytical Writing	4
COMM1320 Intro To Speech Communication	3
Humanities	3
Math	3
Social Science	3
Electives	4

Estimated cost for tools, books and supplies	**$1,000**

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

PLUMBING
Diploma

Technical Studies

PLBG1502	Piping Procedures I	3
PLBG1506	Plumbing Calculations	3
PLBG1510	Minnesota State Plumbing Code I	3
PLBG1514	Minnesota State Plumbing Code II	3
PLBG1518	Blueprint Reading and Estimating	4
PLBG1522	Water Supply and Sewage Disposal	3
PLBG1526	Plumbing Fixture Installation	4
PLBG1530	Piping Procedures II	3
PLBG1534	Hydronic Heating and Rigging	1
PLBG1538	Plumbing Internship	2
PLBG1542	Career Planning/Customer Relations	2

General Studies

GBEH1300	Human Relations	3
	Elective	3

Suggsted Ekectives:

Communications

GCOM1340	Written Communications	3
SAMG1210	Customer Service/Sales Techniques	3

Social Behavioral Science

GBUS1320	Professional Development	1
GTEC1340	Principles of Quality/Team Building	3

Science Technology

GTEC1300	Introduction to Construction Technology	3
GTEC1320	Environmental Technology	2
GTEC1340	Workplace Safety and First Aid	3
WELD1502	Welding for Work and Leisure	2

Human Diversity

BUSM1200	Microsoft Software	3
BUSM1283	Economics	3
CRFN1200	Personal Money Management	3
GCOM1360	Interpersonal and Group Communications	3
SAMG1230	Supervision Fundamentals	2
SAMG2285	Entrepreneurship/Small Business Mgmt.	3

Estimated cost for tools, books and supplies $550

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

PRACTICAL NURSING

Associate of Applied Science Degree
Diploma
Certificate

PROGRAM LENGTH
PRACTICAL NURSING – AAS Degree . . . . 69 Credits
PRACTICAL NURSING – Diploma . . . . 63 Credits
HEALTH CARE TECHNICIAN – Certificate. . . . . 29 Credits

PROGRAM DESCRIPTION
    The Practical Nursing Program is designed to provide learning opportunities in various settings, where students work closely with physicians, registered nurses and other health care professionals in the delivery of delegated medical care and skills nursing care. In addition, assistance is provided to individuals to meet their basic human needs. The program stresses meeting basic needs within the framework of normal growth and development throughout the life span. Learning experiences are developed utilizing the nursing process as a framework for training the practical nursing student. Emphasis is placed on safe practice and the role of the Licensed Practical Nurse. Past experience, the study of the sciences, and personal initiative are all considered important for success in this program. The program is fully approved by the Minnesota Board of Nursing. Graduates must pass the national licensing exam (NCLEX-PN) for practical nurses and achieve licensure to perform nursing as an LPN.

    Priority acceptance will be given to applicants who have completed the prerequisite courses of Anatomy and Physiology, Medical Terminology, and Basic Nursing I. In addition, students must have completed the Accuplacer with scores above the cutoff points for practical nursing or successful completion of equivalent General Education/Studies courses work. Acceptance into Nursing Theory Courses (PRSG Courses) and Clinical Lab is based on completion of the prerequisite courses with a grade of C or higher. Admission preference will be given to students with an Accumulative GPA of 2.8 or above for diploma applicants and 2.5 or above for AAS applicants. Only college courses that are required in the nursing curriculum will be used to determine GPA.

    The Practical Nursing Program provides a foundation for career mobility with associate or baccalaureate professional nursing programs. The Health Care Technician Certificate introduces the fundamental theory and skills needed for entering into health care.

    Limited numbers of clinical courses are offered each semester. Acceptance is based on the start date for the Practical Nursing Courses (PRSG prefix courses), completion of prerequisite courses, completion of physical examination and background check qualification, up-to-date immunization record and tuberculosis screening. In addtion, Clinical Lab Courses require a current American Heart Association, Healthcare Provider Certificate (CPR/AED).

CAREER OPPORTUNITIES
    Graduates of the Practical Nursing program are prepared to accept positions as beginning practitioners of practical nursing in hospitals, long term care facilities, ambulatory care services, and in home care.

Successful completion of the Health Care Technician Certificate program prepares the student to become a Certified Nursing Assistant, Home Health Aide, and Trained Medication Aide.

St. Cloud Technical College (SCTC) in collaboration with North Hennepin Community College (NHCC) offers an articulation program for graduates of SCTC Associate of Applied Science graduates. Upon succesfful completion of the AAS and licensure as an LPN, students may transfer to NHCC for admission to their Associate Degree Registered Nurse (RN) Program. North Hennepin Community College offers an RN day program and an evening weekend program. Students who select the evening/weekend program attend classes in Brooklyn Park two evenings a week and complete clinical rotations in either Brooklyn Park or St. Cloud. This program is designed to be completed by the LPN in one year. For further information and specific admission requirements, call the Health Career Program Advisor at (763) 424-0938 or log on to www.nhcc.mn.edu.

PRACTICAL NURSING
AAS Degree

Pre-requisites:for PRSG courses:
HLTH1400 Basic Nursing I
HLTH1440 Medical Terminology

BLGY1300 Anatomy and Physiology I
BLGY1302 Anatomy and Physiology II
EMSC1480 Emergency Cardiac Care

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

Technical Studies

PRSG1400	Basic Nursing II	3
PRSG1404	Medication Administration	2
PRSG1408	Practical Nursing Perspective	1
PRSG1420	Adult Nursing I	3
PRSG1424	Adult Nursing II	4
PRSG1440	Maternal Child/Health/Ob/Pediatrics	3
PRSG1444	Psycho-Social Nursing	2
PRSG1460	Clinical Lab I	7
PRSG1464	Clinical Lab II	9

Core Studies

BUSM1200	Microsoft Software	3
HLTH1408	Trained Medication Aide	3
HLTH1424	Patient Communications	1
HLTH1440	Medical Terminology	1
HLTH1460	Nutrition	1
HLTH1464	Therapeutic Nutrition	1
HLTH1480	Human Development	3

General Education

COMM1300	Analytical Writing	4
COMM1320	Introduction to Speech Communication	3
BLGY1300	Anatomy and Physiology I	4
BLGY1302	Anatomy and Physiology II	4
BIOL206	Microbiology	4
PSYC1300	Introduction to Psychology	3

Estimated cost for uniforms, books and supplies   **$1,800**

Students must provide transportation to clinical sites.

PRACTICAL NURSING
Diploma

Pre-requisites for PRSG Courses:

HLTH1400	Basic Nursing I
HLTH1440	Medical Terminology
HLTH1444	Anatomy and Physiology
EMSC1480	Emergency Cardiac Care

Technical Studies

PRSG1400	Basic Nursing II	3
PRSG1404	Medication Administration	2
PRSG1408	Practical Nursing Perspective	1
PRSG1420	Adult Nursing I	3
PRSG1424	Adult Nursing II	4
PRSG1440	Maternal Child/Health/Obstetrics/Pediatrics	3
PRSG1444	Psycho - Social Nursing	2
PRSG1460	Clinical Lab I	7
PRSG1464	Clinical Lab II	9

Core Studies

EMSC1400	Principles of First Aid	1
HLTH1400	Basic Nursing I	4
HLTH1408	Trained Medication Aide	3
HLTH1424	Patient Communication	1
HLTH1440	Medical Terminology	1
HLTH1444	Anatomy and Physiology	4
HLTH1448	Microbiology/Infection Control	1
HLTH1460	Nutrition	1
HLTH1464	Therapeutic Nutrition	1
HLTH1480	Human Development	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
BUSM1200	Microsoft Software	3

Suggested Electives

HLTH1420	Health Office Procedures	3
HLTH1484	Ethics for Health Careers	3
PRSG1480	State Board Examination Review	1

Estimated cost for uniforms, books and supplies $1,800

Students must provide transportation to clinical sites.

HEALTH CARE TECHNICIAN
Certificate

Core Studies

EMSC1400	Principles of First Aid	1
HLTH1400	Basic Nursing I	4
HLTH1408	Trained Medication Aide	3
HLTH1424	Patient Communications	1
HLTH1440	Medical Terminology	1
HLTH1444	Anatomy/Physiology	4
HLTH1448	Microbiology/Infection Control	1
HLTH1460	Nutrition	1
HLTH1464	Therapeutic Nutrition	1
HLTH1480	Human Development	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
BUSM1200	Microsoft Software	3

Estimated cost for uniforms, books and supplies $1,000

Students must provide transportation to clinical sites.

Applicants for the Practical Nursing Diploma and AAS

Priority will be given to applicants who have completed the pre-requisite courses of Anatomy and Physiology, Basic Nursing I, and Medical Terminology. All courses must be completed with a minimum of "C" grade. Students must have a minimum Cumulative GPA of 2.0 in pre-requisite courses. GPA will be utilized as criteria for admission into the nursing program. Preference is given to students with a 2.8 GPA or above.

The following selection process will be used when the number of students applying exceeds the clinical space available.

1. Acceptance date into Health Care Technician.

2. Application date to St. Cloud Technical College.

3. If there are multiple qualified St. Cloud Technical College applicants with the same application date, a lottery will be used for selection.

4. Transfer students and returning St. Cloud Technical College students will be considered for admission into the Practical Nursing program on a case-by-case basis.

PUBLIC WELFARE FINANCIAL WORKER

Associate of Applied Science Degree

St.Cloud
Technical
College

PROGRAM LENGTH

AAS Degree . . . . 65 Credits
Diploma. . . . . 41 Credits

This program is offered in collaboration with Pine Technical College.

PROGRAM DESCRIPTION

In the Public Welfare Financial Worker Program, students learn the policies and procedures needed to determine initial and ongoing eligibility for public assistance programs. Students will learn to interact with individuals and families served by human service agencies. Students will also learn the computer system used by the Minnesota Department of Human Services and county human services agencies.

CAREER OPPORTUNITIES

Students will be qualified to work for the Minnesota Department of Human Services and county human service agencies.

PUBLIC WELFARE FINANCIAL WORKER
AAS Degree

Technical Studies

BUSM1260	Applied Business Math/Calculators	3
BUSM1290	Job Seeking/Keeping Skills	1
CMSC1200	Computer Concepts	2
HUMS1205	Work Place Diversity	3
HUMS1210	Public Social Policy	2
HUMS1230	Managing Family Cases	4
HUMS 1231	HC Policy for Families	4
HUMS1240	Managing Adult Cases	4
HUMS1241	HC Policy for Adults	4
HUMS1281	Advanced Health Care Topics	3
HUMS1282	Emergency Programs	3
HUMS1283	Long Term Care/GRH Policy	3
HUMS1284	Collaborative Client Services	3
HUMS1290	Financial Worker Internship	6
	Electives	1

General Education
Communications

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech	3

Social & Behavioral Sciences

PSYC1304	Life Span Developmental Psychology	3

Human Diversity

DVRS1304	Diversity Social Justice	3
	Electives	6

Estimated cost for books and supplies   **$1,000**

PUBLIC WELFARE FINANCIAL WORKER
Diploma

Technical Studies

BUSM1260	Applied Business Math/Calculators	3
BUSM1290	Job Seeking/Keeping Skill	1
CMSC1200	Computer Concepts	2
HUMS1205	Workplace Diversity	3
HUMS1230	Managing Family Cases	4
HUMS1231	HC Policy for Families	4
HUMS1240	Managing Adult Cases	4
HUMS1241	HC Policy for Adults	4
HUMS1290	Financial Worker Internship	6

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech	3

Social & Behavioral Sciences

PSYC1304	Life Span Developmental Psychology	3

Estimated cost for books and supplies   **$750**

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

SALES AND MANAGEMENT CAREERS

Associate of Applied Science Degree
Diploma

PROGRAM LENGTH

SALES AND MANAGEMENT - AAS Degree . . . . 72 Credits
SALES AND MANAGEMENT - Diploma . . . . 65 Credits
SALES AND MANAGEMENT ASSOCIATE - Diploma. . . . . 37 Credits

PROGRAM DESCRIPTION

The Sales and Management Careers program offers students classes in marketing, sales, business communications, business management, speech, and human relations. Other subjects include accounting, business math, business ethics, and sales promotion. Students may choose between a diploma or an AAS Degree.

Classes are designed to teach students the skills and techniques needed to progress from entry-level jobs to management and professional sales positions. The practical approach to education is emphasized, and assistance is given in finding work for the supervised training units. Students should understand that the level of training determines the level at which employment will occur. It may also determine promotion potential.

Delta Epsilon Chi, the collegiate division of DECA, (ΔEΞ) is an integral part of the program. Students are encouraged to participate in this organization to further develop and practice the sales and leadership skills taught in the formal classroom.

CAREER OPPORTUNITIES

A marketing career offers dynamic, rapidly growing employment opportunities for trained persons. It is one of the fastest growing, largest and most diversified fields of employment. It can also be one of the highest-pay occupations. These opportunities are open to trained persons who understand practical, modern concepts of business theory and practice.

Sales and Management graduates may find themselves employed as manager trainees, department managers, store managers, or selling products/services to clients. Graduates work in the areas of wholesale, industrial and commercial sales and management.

Students are prepared for employment in areas of retail service industry as sales representatives. Graduates may be employed as sales associates, customer service representatives, retail management trainees, personal service salespersons, or route salespersons.

SALES AND MANAGEMENT

AAS Degree

Technical Studies

SAMG1200	Principles of Marketing	3
SAMG1220	Sales Promotion/Advertising	3
SAMG1225	Business Ethics and Law	3
SAMG1235	Supervised Occupational Experience	6
SAMG1240	Professional Self Development	3
SAMG1245	Sales and Marketing Math	3
SAMG1250	Fundamentals of Sales Accounting	3
SAMG2245	Marketing Management	3
SAMG2255	Applied Sales Strategies/Telemarketing	3
SAMG2260	Management Computer Applications	3
SAMG2270	Human Resource Management	3
SAMG2275	Marketing Research	2
SAMG2280	Sales Management	3
SAMG2285	Entrepreneurship/Small Business	
	Management	3

Core Studies

BUSM1200	Microsoft Software	3
SAMG1210	Customer Service/Sales Techniques	3
SAMG1230	Supervision Fundamentals	2

General Education

Written & Oral Communications	6
Humanities and Fine Arts	3
History, Social and Behavioral Sciences	3
Electives	8

Estimated cost for books, supplies and student organization **$2,000**

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

SALES AND MANAGEMENT
Diploma

Technical Studies

SAMG1200	Principles of Marketing	3
SAMG1220	Sales Promotion/Advertising	3
SAMG1225	Business Ethics and Law	3
SAMG1235	Supervised Occupational Experience	6
SAMG1240	Professional Self Development	3
SAMG1245	Sales and Marketing Math	3
SAMG1250	Fundamentals of Sales Accounting	3
SAMG2245	Marketing Management	3
SAMG2255	Applied Sales Strategies/Telemarketing	3
SAMG2260	Management Computer Applications	3
SAMG2270	Human Resource Management	3
SAMG2275	Marketing Research	2
SAMG2280	Sales Management	3
SAMG2285	Entrepreneurship/Small Business Management	3

Core Studies

BUSM1200	Microsoft Software	3
BUSM1215	Business Writing	2
BUSM1222	Oral Business Presentation	2
SAMG1210	Customer Service/Sales Techniques	3
SAMG1230	Supervision Fundamentals	2

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3
	Elective	3

Estimated cost for books, supplies and student organization **$2,000**

SALES AND MANAGEMENT ASSOCIATE
Diploma

Technical Studies

SAMG1200	Principles of Marketing	3
SAMG1220	Sales Promotional Advertising	3
SAMG1225	Business Ethics and Law	3
SAMG1235	Supervised Occupational Experience	2
SAMG1240	Professional Self Development	2
SAMG1245	Sales and Marketing Math	3
SAMG1250	Fundamentals of Sales Accounting	3

Core Studies

BUSM1200	Microsoft Software	3
BUSM1215	Business Writing	2
BUSM1222	Oral Business Presentation	2
SAMG1210	Customer Service/Sales Techniques	3
SAMG1230	Supervision Fundamentals	2

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for books, supplies, and student organization **$1,000**

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

SONOGRAPHY

Associate of Applied Science

St.Cloud
Technical
College

PROGRAM LENGTH
AAS Degree . . . . 72 credits

PROGRAM DESCRIPTION
Ultrasound Technologists, also known as Sonographers, perform and analyze diagnostic ultrasound images through the use of high frequency sound waves in a variety of medical settings. Hospitals are the principle employers of sonographers. Others are employed in physician's offices and clinics, including diagnostic imaging centers.

The program coordinates academic study with the clinical experience during five semesters, including one summer semester. The clinical experience will affiliate the students with facilities located within the five state region during the final spring semester.

The diagnostic medical sonographer obtains sonographic images of the abdomen, small parts, gynecological and obstetrical ultrasound necessary to diagnose a variety of conditions and diseases. The student will be introduced to vascular ultrasound procedures. The sonographer directs non-ionizing, ultrasound waves into areas of the patient's body; and the equipment collects reflected echoes to form an image. The image is viewed on a screen and may be recorded on videotape or photographed for interpretation and diagnosis by the physicians.

Graduates of this program will be able to:
- Obtain, review and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results.
- Perform appropriate procedures; record, analyze and process anatomic, pathologic and/or physiologic data for interpretation by a physician.
- Exercise discretion and judgement in the performance of sonographic and/or other non-invasive diagnostic services.
- Demonstrate appropriate communications skills with patients and colleagues.
- Act in a professional and ethical manner.
- Provide patient education related to medical ultrasound and/or other non-invasive diagnostic vascular techniques and promote principles of good health.

Admission preference will be given to students who have completed the pre-requisite General Education requirements. Clinical rotations may be within a five-state region.

CAREER OPPORTUNITIES
Sonography is a rapidly changing specialty due to continued technical advances. Graduates should experience excellent job opportunities and excellent starting salaries.

SONOGRAPHY TECHNOLOGIST
AAS Degree

Technical Studies

BUSM1200	Microsoft Software	3
DMSG1402	Ultrasound Cross-Sectional Anatomy I	3
DMSG1404	Diagnostic Medical Sonography I	3
DMSG1406	Clinical Ultrasound I	3
DMSG2402	Ultrasound Cross-Sectional Anatomy II	2
DMSG2404	Diagnostic Medical Sonography II	3
DMSG2406	Diagnostic Medical Sonography Clinic II	5
DMSG2409	Clinical Ultrasound III	13
DMSG2410	Clinical Ultrasound IV	2
EMSC1480	Emergency Cardiac Care	1
HLTH1440	Medical Terminology	1
HLTH1448	Microbiology and Infection Control	1
HLTH1484	Ethics for Health & Human Services	3

USCV1420	Intro to C/V & Ultrasound Fields	3
USCV1440	Introduction to Clinics	1

Prerequisite Courses

*BLGY1300	Anatomy & Physiology I	4
*BLGY1302	Anatomy & Physiology II	4
*MATH1300	College Algebra	3
*PHYS1300	Concepts in Physics	4
*Prerequisites (prior to starting program)		

General Education

COMM1300	Analytical Writing	4
PSYC1300	Introduction to Psychology	3
	Humanities	3

Estimated cost for books and supplies	**$1,500**
Applied Clinical (Sonography III)	**$1,500**

Sonography Applicants:

- Applicants may apply only after successful completion of 2 of the 4 science/math pre-requisite classes. Example: Anatomy & Physiology I and College Algebra. Official transcripts must be attached to application.

- Applicant must be vaccinated against Hepatitis B virus (HBV) or sign a release form. HBV series must be completed prior to students starting the Spring semester of the second year.

- A cumulative GPA of 2.5 or above from the prerequisite classes is required and a GPA of 2.0 must be maintained in the general education coursework to be considered for admission.

- Prerequisite and General Education courses can be transferred from other schools to SCTC. Please contact the Registrar at (320) 308-1595 for course equivalents at other colleges and universities.

- All science and math prerequisite courses must be completed beforestarting the program. All other general education and additional courses must be finished before the Spring Semester of the second year. Preference is given to students who have completed all of their general education courses prior to starting the program.

Timelines:

- Applications will be accepted from the 3rd Tuesday of September until February 1 of the following year.
  *Please note: The application deadline is subject to change.

- Note: Clinical sites may be out of the St. Cloud geographical area.

Please note: All program plans are preliminary and curriculum may change without notice.

SUPERVISORY MANAGEMENT

Associate of Applied Science Degree
Certificate

PROGRAM LENGTH
SUPERVISORY MANAGEMENT – AAS Degree . . . . 64 credits
SUPERVISORY LEADERSHIP – Certificate . . . . 15 credits
QUALITY – Certificate . . . . 14 credits
ORGANIZATIONAL DEVELOPMENT – Certificate . . . . 15 credits

PROGRAM DESCRIPTION
The Supervisory Management Program is designed to provide busy working adults with the skills necessary to be successful in a position of supervisory leadership. The program assists students who are currently working as supervisors and those who have experience in the field and want to take their career to the next level.

The Supervisory Management Program is an accelerated program. Students entering into the Supervisory Management AAS Degree may complete their course work in eighteen months. Student's effort is expected to be 54 hours per credit, including class time, study groups, individual study, applying relevant concepts on the job, etc. This program is structured to allow students to work full-time and attend classes two nights a week and one Saturday a month. Classes are delivered in a block schedule so students will complete one course at a time. This type of schedule works well for working adults.

The Supervisory Management AAS Degree is designed by combining successful completion of the Supervisory Leadership Certificate, Quality Certificate, Organizational Development Certificate, additional technical courses and general education courses. Students will have the opportunity to increase their skills in leadership, communications, team building, quality, managing change, employee motivation, creative problem solving, performance management, coaching, managing priorities, building productive working relationships, project management, conducting effective meetings, and many more supervisory leadership techniques and tools.

The Supervisory Leadership Certificate of the Supervisory Management AAS Degree Program. It is specifically designed to provide employed students with the skills necessary to be successful in a position of supervisory leadership. Courses in the certificate program focus on skills and techniques directly related to supervisory leadership issues. Students will have the opportunity to increase their skills in leadership, interpersonal skills, workplace ethics, managing change, resolving conflict, developing productive work relationships, and many more supervisory leadership related topics.

The Quality Certificate of the Supervisory Management AAS Degree Program. It is specifically designed to provide employed students with the skills necessary to be successful in a position of supervisory leadership. Courses in the certificate program focus on skills and techniques directly related to quality issues. Students will have the opportunity to increase their skills in continuous improvement strategies and tools, creative problem solving, work teams, project and meeting management, customer service, managing priorities, and many more quality related topics.

The Organizational Development Certificate of the Supervisory Management AAS degree program. It is specifically designed to provide employed students with the skills necessary to be successful in a position of supervisory leadership. Courses in the certificate program focus on skills and techniques directly related to organizational development issues. Students will have the opportunity to increase their skills in performance management, coaching, managing diversity, employee selection and training,employment law, managing workplace stress, safety, and many more organizational development related topics.

CAREER OPPORTUNITIES
Today, all businesses require high levels of supervisory and leadership competency. The Supervisory Management Program provides students with the technical expertise and leadership skills to meet the demands. Graduates of the program secure the needed skills that are transferrable to a wide variety of leadership positions in business, industry and government.

Enhanced educational leadership skills lead graduates to leadership opportunities and guide employed graduates to remain in current positions with increased responsibility, satisfaction and job security or to attain advanced leadership positions.

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

SUPERVISORY MANAGEMENT
AAS Degree

Supervisory Leadership Certificate
Organizational Development Certificate
Quality and Productivity Certificate

General Education (20 credits required)
COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communications	3
CPTR1300	Exploring Computers	3
	Math	3
	Social Science/Humanities	7

Estimated cost for books, fees and supplies **$1,200**

SUPERVISORY LEADERSHIP
Certificate

Technical Studies
SMGT1601	Personal Portfolio Design	1
SMGT1602	Supervision Fundamentals	3
SMGT1604	Effective Communication	2
SMGT1606	Managing Change and Conflict	2
SMGT1608	Personal Leadership	3
SMGT2600	Supervisory Leadership Field Study	2
SMGT2808	Leadership Development *	2

* (Prerequisite SMGT1602 or advisor approval)

ORGANIZATIONAL DEVELOPMENT
Certificate

Technical Studies
SMGT1701	Creativity and Work Teams	2
SMGT1702	Business Ethics and Diversity	2
SMGT1704	Employment Law and Selection	3
SMGT1706	Employee Training and Coaching	3
SMGT1708	Performance Management	2
SMGT2700	Organizational Development Field Study	2

QUALITY AND PRODUCTIVITY
Certificate

Technical Studies
SMGT1800	Providing Quality Customer Service	2
SMGT1802	Occupational Safety	2
SMGT2800	Quality and Productivity Field Study	2
SMGT2802	Project and Meeting Management	3
SMGT2804	Problem Solving and Quality Tools	4
SMGT2806	Accounting for Non-financial Managers	2

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

SURGICAL TECHNOLOGY

Associate of Applied Science Degree

Diploma

St. Cloud Technical College

PROGRAM LENGTH

AAS Degree . . . . 69 Credits
Diploma 50 Credits

PROGRAM DESCRIPTION

The Surgical Technology Program prepares surgical technologists to function as part of the operating room team by handing instruments to the surgeon during various surgical procedures. They are also familiar with other activities such as patient care, preparation of supplies and instruments, and decontamination.

The curriculum includes classroom, laboratory and clinical experiences. Clinical experience is provided at area hospitals. This clinical experience includes the following surgical areas: general surgery; orthopedics; plastics; obstetrics; genitourinary; eye, ear, nose, and throat; cardiovascular; and neurological. Students also spend time in the instrument room, central supply, recovery room, the delivery room and with unit support personnel. Students may choose between a diploma and an AAS Degree.

Personal qualities of patience, manual dexterity, the ability to work under stress and to stand for long periods of time are necessities in this field. This profession does require some lifting. Students must maintain a "C" average in every class to enter the clinical rotations. A physical examination is required prior to clinical practice. Students must have a current CPR for Health Care Providers Certificate prior to clinical experience.

Students will join the Association of Surgical Technologists, and graduates of the Surgical Technology Program will be eligible to take the National Certification Examination. This program is nationally accredited by the Commission on Accreditation of Allied Health Education Programs.

CAREER OPPORTUNITIES

Surgical Technologists are health care workers prepared to function in association with the registered nurse and surgeon in providing patient care and related services in the operating rooms of hospitals and surgical centers. Jobs are available in small Minnesota communities, as well as the metro-area and in various cities throughout the United States.

SURGICAL TECHNOLOGY

AAS Degree

Technical Studies

SURG1400	Medical Microbiology	2
SURG1404	Surgical Pharmacology	2
SURG1420	Operating Room Techniques	3
SURG1424	Operating Room Techniques Lab	4
SURG1442	Surgical Procedures I	6
SURG1443	Surgical Procedures II	1
SURG1462	Operating Room Clinical Lab I	14
SURG1463	Operating Room Clinical Lab II	3

General Studies

HLTH1484	Ethics for Health Careers	3

General Education

BLGY1300	Anatomy and Physiology I	4
BLGY1302	Anatomy and Physiology II	4
COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communications	3
DVRS1304	Diversity & Social Justice	3
	Elective	3

Core Studies

CRTK1300	Introduction to Critical Thinking	3
EMSC1400	Principles of First Aid	1
EMSC1480	Emergency Cardiac Care	1
HLTH1400	Basic Nursing I	4
HLTH1440	Medical Terminology	1

Estimated cost for uniforms, books, exam fees and supplies $1,300

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

SURGICAL TECHNOLOGY
Diploma

Technical Studies

SURG1400	Medical Microbiology	2
SURG1404	Surgical Pharmacology	2
SURG1420	Operating Room Techniques	3
SURG1424	Operating Room Techniques Lab	4
SURG1442	Surgical Procedures I	6
SURG1443	Surgical Procedures II	1
SURG 1462	Operating Room Clinical Lab I	14
SURG1463	Operating Room Clinical Lab II	3

Core Studies

*EMSC1480	Emergency Cardiac Care	1
HLTH1440	Medical Terminology	1
HLTH1444	Anatomy and Physiology	4

*Pre-requisite

General Studies

CRTK1300	Introduction to Critical Thinking	3
GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for uniforms, books, exam fees and supplies $900

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

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

WATER ENVIRONMENT TECHNOLOGIES

Associate of Applied Science

Diploma

PROGRAM LENGTH

AAS Degree . . . . 67 Credits
Diploma . . . . 44 Credits

Locations - St. Cloud Technical College and Eden Prairie

PROGRAM DESCRIPTION

The major objective of the Water Environment Technologies Program is to train people for positions as operators in both water treatment and wastewater treatment facilities. The program of instruction consists of a balance between scientific courses and mechanical courses all directed toward the functions of a beginning operator. Instruction will be given in both classroom and lab settings. An educational background in mathematics, science, and mechanics is helpful.

CAREER OPPORTUNITIES

The need for trained personnel in the water environment technologies field has reached an all-time high and is rapidly outstripping available training resources. The demand for trained operators has consistently grown in areas of municipal, industrial and privately owned facilities.

WATER ENVIRONMENT TECHNOLOGIES

AAS Degree

Technical Studies

WETT1502	Basic Laboratory Skills	1
WETT1506	Introductory Water/Wastewater Technology	3
WETT1510	Water/Wastewater Treatment Calibrations	2
WETT1514	Source Water Treatment and Development	4
WETT1518	Water Plant Operation I	3
WETT1522	Water Plant Operation II	3
WETT1526	Water Distribution Systems	3
WETT1534	Wastewater Plant Operations I	3
WETT1538	Wastewater Plant Operations II	4
WETT1542	Wastewater Lab Procedures	3
WETT1546	Collection and Disinfection Systems Operations	3
WETT1550	Strategic Enhancement for Success	3
WETT1554	Automated Control Systems	3

Core Studies

WETT1530	Understanding OSHA Safety Regulations in Water Industry	3
WETT1558	Understanding EPA Part 503 Biosolids Rules	3
Elective		3

General Education

COMM1300	Analytical Writing	4
COMM1320	Intro to Speech Communications	3
	Humanities	3
	Math/Natural Science	6
	Social Science	3
	Elective	1

Estimated cost for tools, books and supplies $750

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

WELDING

Diploma

PROGRAM LENGTH

Diploma . . . . 37 Credits

PROGRAM DESCRIPTION

The Welding Program provides both practical and theoretical knowledge required 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 & Equipment, Blueprint Reading and Math. Safety procedures are also an important part of each welding process. Good safety practices are stressed in lab situations as required in the metal working industry. Students will work with many of the tools used in the industry.

Welds will be made to industry standards using the AWS D1.1 Structural Code and ASME Section IX. Welds will be done in all positions, and guided bend tests will be made to check weld quality.

CAREER OPPORTUNITIES

Positions for graduates may be found in fabricating, plant maintenance, structural steel, pipe fitting, and in sales. Many students will find opportunities in supervisory positions after gaining some experience on the job. The opportunities are many and will vary with ability and skills that have been developed. Skilled welders have the satisfaction of knowing that their education can lead to a successful and rewarding future.

WELDING
Diploma

Technical Studies

WELD1506	SMAW	2
WELD1510	SMAW – Lab	4
WELD1514	Oxy-Fuel Welding and Brazing	1
WELD1518	Oxy-Fuel Welding and Brazing Lab	1
WELD1522	Metallurgy	2
WELD1524	Related Math for the Welding Profession	1
WELD1528	Blueprint Reading I	1
WELD1532	Blueprint Reading II	2
WELD1534	Cutting Processes	2
WELD1538	GMAW	2
WELD1542	GMAW Lab	5
WELD1546	GTAW	2
WELD1550	GTAW Lab	3
WELD1554	Fabrication/Equipment I	1
WELD1558	Fabrication/Equipment II	2

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Estimated cost for tools, books and supplies   **$400**

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

AUTOMOBILE BODY COLLISION TECHNOLOGY COURSE DESCRIPTIONS (ABCT)

ABCT 1502 Collision Welding and Cutting
With the construction of today's vehicles, welding is an important part of auto body repair. This course covers basic welding, safety procedures, application for welding on steel and galvanized metals, introduction to metal arc welding, oxy-acetylene welding and cutting. Major emphasis is placed on MIG (Metal Inert Gas), and plasma cutting according to I-CAR standards.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

ABCT 1506 Intro to Collision Repair
This course enables the student to learn the use of hand and power tools used in the daily operation of an autobody facility. Lab tasks will be performed on vehicles by removal of interior and exterior parts. Other tasks include reconditioning vehicles.
Prerequisites: None
(4 C: 1 lect/pres, 3 lab, 0 other)

ABCT 1510 Collision Repair Lab I
The student will apply basic procedures on production type vehicles, according to NATEF and I-CAR standards. This is a lab course in which students will apply the procedures learned in ABCT1502, ABCT1506, and ABCT1514.
Prerequisites: ABCT1502, ABCT1506, ABCT1514, or concurrent registration
(3 C: 0 lect/pres, 3 lab, 0 other)

ABCT 1514 Basic Collision Repair
In order to develop the basic skills of autobody repair, students will learn the fundamentals of metal straightening, rust repair, fiberglass repair, and attachment of trim and hardware. Students will learn to repair damaged vehicles to the priming stage according to NATEF and I-CAR standards.
Prerequisites: None
(4 C: 2 lect/pres, 2 lab, 0 other)

ABCT 1518 Refinishing Lab I
This is a lab course in which students will apply procedures learned in ABCT1522. Complete paint jobs will be done on project vehicles.
Prerequisites: Concurrent registration 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.
Prerequisites: Concurrent registration 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.
Prerequisites: ABCT1518 and ABCT1522 and concurrent registration ABCT1530
(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 application will be done on production projects.
Prerequisites: Concurrent registration ABCT1526
(3 C: 1 lect/pres, 2 lab, 0 other)

ABCT 1534 Wind, Water and N Service Procedures
Dealerships and independent repair facilities alike encounter numerous requests to repair aggravating wind, water, and noise leaks. Students in this course will identify the causes of these problems and perform repair procedures to correct them.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT 1538 Auto Restoration

This course will emphasize the repair of older

vehicles not normally associated with collision repair. Topics will include panel replacement, rust repair, body filler application, corrosion protection, and primer application.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT   1540   Custom Refinishing

This course will explore various techniques used to create custom finishes. Students will use all types of refinishing equipment and materials to produce designs of their own.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT   2502   Estimating
An estimate is a written guide to the repairs that will be performed on a vehicle. Instruction will include becoming familiar with manuals, forms, and procedures used in writing estimates. Insurance procedures and customer relations will be examined.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT   2506   Electrical Systems
Electrical components are often damaged as a result of a collision. In most cases the collision technician is responsible for completing the required repairs. The focus of this course will be diagnosing and repairing electrical malfunctions including airbags, power accessories, and lighting systems.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

ABCT   2510   Damage Analysis and
**   Measuring Systems**
Vehicles are built to very close tolerances and standards. During the repair process these standards must be duplicated. Students will identify frame design, use measuring equipment, and analyze damage to create repair plans that will be used to perform repairs.
Prerequisites: ABCT1506, ABCT1514, and concurrent registration with ABCT2518
(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 have become a must for the collision repair technician. Topics include: plastic welding, SMC repair, adhesive repair, and plastic refinishing.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

ABCT   2518   Collision Repair Lab II
This course will run concurrent with Damage Analysis and Measuring Systems. Students will use repair plans to perform repairs on collision damage unibody and conventional frame vehicles.
Prerequisites: Concurrent registration ABCT2510
(3 C: 0 lect/pres, 3 lab, 0 other)

ABCT   2522   Structural Damage Repair
With high strength steel, lighter sheet metal, and glass being used for structural support, today's technician must fully understand how the automobile functions as a complete unit. Students will identify and perform repairs on structural components in accordance with industry standards.
Prerequisites: ABCT1502, ABCT1506, ABCT1514, concurrent registration ABCT2526
(4 C: 2 lect/pres, 2 lab, 0 other)

ABCT   2526   Collision Repair Lab III
This lab will run concurrent with ABCT2522 Structural Repair. It allows students the necessary time to perform structural repairs.
Prerequisites: Concurrent registration ABCT2522
(2 C: 0 lect/pres, 2 lab, 0 other)

ABCT   2530   Mechanical Systems
Suspension and other mechanical parts often become damaged as a result of an accident. Collision technicians must be able to identify and possibly repair this damage. In this course students will perform minor repairs to these systems. Environmental concerns and other topics pertaining to mechanical repair will be addressed.
Prerequisites: None
(4 C: 1 lect/pres, 3 lab, 0 other)

ABCT   2534   Collision Repair Lab IV
In the collision industry attention to detail, accuracy, and use of time are highly prized attributes. With the aid of the instructor, students will choose projects

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that will enable them to hone these skills in preparation for entering the work force.
Prerequisites: ABCT1502, 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.
Prerequisites: Instructor Approval
(1–6 C: 0 lect/pres, 0 lab, 1–6 other)

ACCOUNTING CAREERS
COURSE DESCRIPTIONS (ACCT)

ACCT   1204 Fundamentals of Accounting I
This course is designed to examine the parts of profit and loss statements, calculations, and formulas and how they relate to the effective operations of a business. The course includes basic accounting fundamentals, along with interpreting financial operating statements and methods to improve the profitability of the business.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

ACCT   1215   Accounting Principles I
This course is an introduction to the fundamental accounting concepts and principles used to analyze and record business transactions. Topics include accounting as an information system, measuring and recording business transactions, business income, adjusting entries, the accounting cycle, accounting for service businesses and merchandising operations, accounting systems, special purpose journals, accounting for cash, receivables, temporary investments and inventories.
Prerequisites: None
(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT   1216   Accounting Principles II
This course covers the analysis and recording of business transactions related to partnerships, and corporations. Topics include but are not limited to organization, capital structure, stockholders equity, earnings dividends and the Retained Earnings Statement. Also included are accounting for long-term liabilities and the statement of cash flows.
Prerequisites: 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.
Prerequisites: 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, accounts payable, and business applications of the internet.
Prerequisites: ACCT1215 or concurrent registration, BUSM1200
(3 C: 2 lect/pres, 1 lab, 0 other)

ACCT   1219   Spreadsheets – Microso Excel
This course covers the most recent versions of spreadsheet applications. Topics include document design and creation, format modifications, and

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advanced formulas and functions.
Prerequisites: 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.
Prerequisites: Concurrent registration ACCT1215
(2 C: 1 lect/pres, 1 lab, 0 other)

ACCT 2219 Computerized Accounting II

This course covers additional computerized accounting applications. Topics include payroll, income tax preparation, general ledger setup and maintenance, business presentations, and financial analysis. Computerized accounting simulation is utilized.
Prerequisites: ACCT1215, ACCT1218, ACCT2230 or concurrent registration in ACCT1216 and ACCT1217
(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 the techniques of recording, classifying, measuring, and reporting economic data; preparation of financial statements and, procedures for the recognition of revenue and long term debt.
Prerequisites: ACCT1216
(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 2227 Intermediate Accounting II

A continuation of ACCT2226 with an emphasis on accounting requirements and procedures that relate to equity financing, investing activities, leases, income tax, employee compensation, financial statement disclosures, earnings per share, accounting changes and error corrections, and financial statement analysis.
Prerequisites: 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 decisions, budgeting, planning, and control.
Prerequisites: ACCT1217
(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 2230 Income Tax I

This course focuses on federal individual income taxes. Students will learn the tax laws as they apply to individual income taxes, how to complete a variety of federal income tax forms, and how to approach the yearly filing of federal individual income taxes.
Prerequisites: None
(4 C: 3 lect/pres, 1 lab, 0 other)

ACCT 2231 Income Tax II

This course provides students a hands on experience working with federal individual income taxes, Minnesota state income taxes, and other federal taxes (partnership, corporate, FICA, FUTA). Students will learn to use a computerized tax preparation program, and prepare various forms and schedules. The course will also focus on tax planning issues and the income tax system.
Prerequisites: ACCT2230
(2 C: 2 lect/pres, 0 lab, 0 other)

ACCT 2232 Auditing

This course is a study of the methods and procedures used to verify the completeness and accuracy of accounting records. Topics include professional ethics, the audit process, nature of evidence, internal control, audit-sampling techniques, the audit examination, and audit reports.
Prerequisites: ACCT2226
(3 C: 2 lect/pres, 1 lab, 0 other)

ACCT 2233 Fund/Not-for Accounting

A study and application of fund accounting principles and procedures that apply to governmental entities and not-for-profit organizations with an emphasis on the application of recording and reporting economic information for these organizations.
Prerequisites: ACCT1215
(3 C: 2 lect/pres, 1 lab, 0 other)

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

ADMINISTRATIVE SUPPORT CAREERS COURSE DESCRIPTIONS (ADMS)

ADMS1202 Keyboarding/Word Processing
Students will cover the basic formatting of business documents using word processing. Document storage, retrieval, and major editing will be used. Students will continue the development of keyboarding speed, accuracy, and proofreading skills.
Prerequisites: BUSM 1207
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1203 Advanced Keyboarding/Word Processing Applications
This course is a continuation of ADMS1202. The student will continue the development of keyboarding skills, and emphasize the formatting of various kinds of business correspondence, reports, tables, electronic forms, and desktop publishing projects from unarranged and rough-draft sources.
Prerequisites: ADMS1202 (C grade, 35 wpm)
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1204 Advanced Microsoft Office
Advanced Microsoft Office will introduce the intermediate and advanced features of MS Office. Students will also acquire the advanced skills of Windows and a solid foundation in the problem-solving and communication competencies so important in the contemporary workplace.
Prerequisites: BUSM1200
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1206 Keyboard Speedbuilding
This course is designed for the student to increase keyboarding speed and improve accuracy through personal goal setting and intensive practice work.
Prerequisites: ADMS1202
(1 C: 0 lect/pres, 1 lab, 0 other)

ADMS1207 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 geo-graphic 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 learn basic office tasks such as telephone etiquette and setting up international travel arrangments.
Prerequisites: ADMS1202
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1208 Office Procedures II
Students will complete a simulation (hands-on and technology based) which will allow the student to perform various administrative tasks. Using today's technology the student will research information, maintain an electronic calendar, send and receive E-mail. A variety of other office administrative tasks involving the use of advanced word processing functions, database and spreadsheets will be performed.
Prerequisites: ADMS1202, ADMS1207
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1212 WordPerfect
This course instructs students in the theories and practical applications of one of the most popular word processing programs—WordPerfect. Students will learn to create, edit, save, and print simple business documents including letters, memos, reports, tables, and outlines. Students will also learn document assembly techniques with the creation of merge form files and merge data files. In addition, macros, templates, graphic images, and tables will be introduced.
Prerequisites: ADMS1202
(2 C: 1 lect/pres, 1 lab, 0 other)

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

ADMS1214 Administrative Desktop Publishing

This course provides an introduction to Desktop Publishing. Topics include creating and editing single-page and multi-page publications, using wizards, commercial printing considerations, editing text, colors, and graphic design objects, personal information sets, logos, the Pack and Go Wizard, and using Publisher to create flyers, newsletters brochures, logos, and calendars. Also included are topics covering business forms such as letterheads, business cards, envelopes, labels with mail merge, invoices, fax covers and tables.
Prerequisites: ADMS1203
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1221 Medical Machine Transcription I

Students will transcribe a variety of medical documents using word processing skills. Emphasis will be on building accuracy, speed, advanced editing and proofreading skills.
Prerequisites: ADMS1202, concurrent registration ADMS1223 or instructor approval
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1222 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 the medical forms; building speed and accuracy; proofreading and correcting errors.
Prerequisites: ADMS1202, ADMS1221 or Instructor Approval.
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1223 Administrative Medical Terminology

This is a basic medical vocabulary building course with emphasis on human anatomy including terminology analyses and structure related to the digestive, urinary, female and male reproductive, nervous, cardiovascular, respiratory, musculoskeletal, skin, and endocrine systems. Includes cancer medication with focus on spelling and pronunciation.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

ADMS 1224 Administrative Pharmacology

This course will introduce basic pharmacology concepts, such as drug terminology, abbreviations, drug effects, dosages and the use of drug reference books. Topics include commonly prescribed drugs and look-alike/sound-alike drug names.
Prerequistes: None
(2 C: 2 lect/pres, 0 lab, 0 other)

ADMS1226 CPT Medical Insurance Coding and Reimbursement

This course is designed for individuals who are interested in pursuing a career in health care which allows them to assist physicians in assigning procedural and diagnostic codes in out-patient settings.
Prerequisites: ADMS 1223 or Instructor Approval
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS1227 ICD-XCM Medical Insurance Coding

This course is designed for individuals who are interested in pursuing a career in health care which allows them to assist physicians in assigning procedural and diagnostic codes in out-patient settings.
Prerequisites: ADMS1221 or Instructor Approval
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS1231 Legal Office Procedures

This course is intended to teach general legal office skills such as docket control, tickler file techniques, records management, grammar, business math, and machine transcription. Ethical considerations in the law office are emphasized along with an introduction to the preparation of legal documents. This course is a prerequisite to all other Legal Secretary courses.
Prerequisites: BUSM1200 or ADMS1202 or concurrent registration
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS1232 Legal I (Civil, Criminal, Bankruptcy)

Students will develop knowledge and skills necessary for the preparation of legal forms and documents relating to Minnesota Criminal Law, Civil Litigation, and Bankruptcy Law; the legal procedures and terminology necessary for the preparation and filing of court documents in civil litigation, criminal proceedings, and bankruptcy. Accuracy and speed are stressed together with legal office tasks associated with these areas of law.
Prerequisites: None

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

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

ADMS1233 Legal II (Real Estate and Corporation)
Students will develop knowledge and skills necessary for the preparation of legal forms and documents relating to Minnesota Real Estate and Corporate Law. Legal procedures and forms necessary for creation of sole proprietorships, partnerships, corporations, in Minnesota are emphasized. Legal terminology, document format, and accuracy in the preparation of documents are stressed together with legal office tasks associated with these areas of law.
Prerequisites: ADMS1231 or concurrent registration
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS1234 Legal III (Probate and Family Law)
Students will develop knowledge and skills necessary for the preparation of legal forms and documents relating to Minnesota Probate and Estate Administration and Family Law. Legal procedures necessary for the proper preparation, formatting, and filing of wills , codicils, dissolution, adoption, and paternity actions are emphasized. Legal terminology, accuracy, and speed are stressed together with legal office tasks associated with these areas of law.
Prerequisites: ADMS1231 or concurrent registration
(3 C: 3 lect/pres, 0 lab, 0 other)

ADMS1236 Administrative Legal Transcription
Students will use computers to digitally transcribe and prepare legal correspondence and legal documents from digitized dictation. Students will become familiar with documents and correspondence common to specific legal proceedings, and will learn specialized rules of punctuation and standards for preparing legal documents. Students will become familiar with legal citations and transcribe court documents containing extensive citations. Students will be able to correctly spell, define legal terminology, and use legal terminology in their transcriptions. Emphasis will be on formatting legal documents, correct use of citations, proofreading, correcting errors, accuracy, and speed.
Prerequisites: ADMS 1202, ADMS 1231
(3 C: 2 lect/pres, 1 lab, 0 other)

ADMS2210 Administrative Support AAS Internship
This is a cooperative work-study program that will be available to students who have demonstrated readiness and willingness to work in an on-the job situation. It will be a training culmination and an opportunity to apply the skills learned.
Prerequisites: GPA of 2.5 and Instructor Approval
(4 C: 0 lect/pres, 0 lab, 4 other)

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

ADVERTISING COURSE DESCRIPTIONS (ADVR)

ADVR   1200   Introduction to Advertising

Students will study the history of advertising, its social and legal impact as well as other aspects of the advertising industry. Sales Promotion will also be studied as an important part of the advertising and marketing industry.
Prerequisites: None
(4 C: 4 lect/pres, 0 lab, 0 other)

ADVR   1216 Drawing with the Computer

Students will learn the functions of Adobe Illustrator, a vector-based Macintosh application, to create drawings, logos and other design projects. Basic grayscale scanning will be taught as it relates to creation of drawing templates. Design, drawing and color theory are taught as integral parts of this class.
Prerequisites: ADVR1225
(4 C: 2 lect/pres, 2 lab, 0 other)

ADVR   1225   Basic Drawing

Students will study basic visual communications through exploration of contemporary and traditional methods of drawing for advertising. Students will work from nature,, still life and use various drawing media.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR   1230   Copywriting

Students will study copywriting techniques and copy research, as well as creative strategies and objectives. The learned principles are then applied to various areas of the print and broadcast industries.
Prerequisites: None
(4 C: 4 lect/pres, 0 lab, 0 other)

ADVR   1250   Introduction to Design

This course will introduce students to a methodical approach to problems of graphic design. Students will take a step-by-step approach from the rudiments of dot design to more complicated design involving letters, signs and illustration.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR   1261   Public Relations

Students will identify the public relations and publicity functions often assigned to advertising personnel and learn to apply these procedures and practices to business and community needs.
Prerequisites: ADVR1200, ADVR1230, GRAD1210
(2 C: 2 lect/pres, 0 lab, 0 other)

ADVR   1270   Media Resear Planning

Students will be presented with basic media research principles as they relate to today's advertising industry and will practice advertising research methods. Students will also construct a "real life" media plan with the assistance of professional industry contacts.
Prerequisites: ADVR1200, ADVR1230, GRAD1210, PITT1210
(3 C: 2 lect/pres, 1 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, and light composition.
Prerequisites: ADVR1225, ADVR1250
(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR   2210 Introduction to Photography

Students will learn black and white photography as it relates to advertising. Techniques are covered in the use of 35mm cameras, digital cameras, and studio lighting with emphasis on creative product shots.
Prerequisites: ADVR1200, ADVR1225, ADVR1250
(3 C: 1 lect/pres, 2 lab, 0 other)

ADVR   2250   Retail Advertising

Students will learn the fundamentals of national and local retail advertising operations and creatively gain experience in newspaper, tabloid and broadcast advertising as applied to the advertising industry.
Prerequisites: ADVR1200, ADVR1230, ADVR1250, GRAD1210, GRAD1220
(3 C: 2 lect/pres, 1 lab, 0 other)

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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.
Prerequisites: Instructor Approval
(1–6 C: 0 lect/pres, 0 lab, 1–6 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. Students will create art, copy, music, and strategy for a complete advertising campaign.
Prerequisites: ADVR1200, ADVR1270, GRAD1210
(4 C: 3 lect/pres, 1 lab, 0 other)

ADVR 2270 Advertising Campaign Management Seminar

Selected students will participate in the organization of a working team specifically for the purpose of competing in the American Advertising 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 relation to relevant markets, audiences, time, etc. The team will then resynthesize, evaluate and develop a comprehensive marketing plan, including all tactical elements used in the plan – advertising, media, sales promotion, public relations support, etc. In addition, students will develop, write, design and produce a comprehensive campaign plansbook, along with a professional multi-media campaign presentation, which will be debuted at the Upper Midwest regional competition of the NSAC. This is a focused and intense learning experience that leverages all theoretical classroom learning as students become immersed in the complexities of a real-world marketing challenge.

Prerequisites: ADVR1200, ADVR1230, ADVR1250, and ADVR1260.
(3 C: 2 lect/pres, 1 lab, 0 other)

ADVR 2280 Broadcast/Premiere

Students will study commercial construction as it relates to the radio and television broadcast industry. Premiere Lessons will be covered using the Official Adobe Premiere Training Manual. They will also receive technical instruction in the Adobe Premiere Multimedia software and create radio and television commercials suitable for Addy Competition and portfolio presentation.
Prerequisites: ADVR1200, ADVR1225, ADVR1230, GRAD1210, GRAD1220
(4 C: 2 lect/pres, 2 lab, 0 other)

ADVR 2285 Portfolio Construction and Presentation

Students will study the various portfolio formats. Portfolio use and importance in the advertising job interview are discussed. Students will prepare résumés for job interviews with advertising management professionals. Students will evaluate projects to be used in their portfolios.
Prerequisites: ADVR1230, ADVR1270, ADVR1260, ADVR2200, ADVR2210, ADVR2280, ADVR2260, ADVR2250, ADVR2295
(2 C: 2 lect/pres, 0 lab, 0 other)

ADVR 2295 Multimedia/Director

Students will study the process of creating and designing a 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 64 Macintosh Computers. Successful completion will result in an interactive, Macromedia Director Multimedia project.
Prerequisites: ADVR1200, ADVR1230, ADVR2280, PITT1200,GRAD1210, GRAD1220, PITT1220
(4 C: 2 lect/pres, 2 lab, 0 other)

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ADVR2300 Final Student Project

This course is designed to challenge the fourth semester, second year student with a purposeful, specialized occupational experience in the advertising field. Each student project is an individualized experience with a training plan in conjunction with the sponsoring business professionals/agency and their instructor. Students will integrate knowledge of advertising writing, design, research, photography and production techniques coordinated with their sponsoring 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 seminars.

Prerequisites: None

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

ARCHITECTURAL CONSTRUCTION TECHNOLOGY COURSE DESCRIPTIONS (ARCH)

ARCH 1502 Introduction to Architectural Drawing

Students will learn how to use drafting tools, develop preliminary plans, design and sketch preliminary plans for a storage building, a one-story home, and a two-story home.

Prerequisites: ARCH1514, ARCH1522, and ARCH1526 or concurrent registration

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

ARCH 1506 Intro to Architectural CAD

This computer-aided drafting will include beginning graphic communication using basic computer skills/applications. The student will work with AutoCAD software to create drawings, learn "tools" of the CAD, organizing, editing, drawing skills, printing/plotting, adding text and dimensions.

Prerequisites: ARCH1502 or concurrent registration or permission of instructor

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

ARCH 1510 CAD and Design Studio

This course will give students the capacity to use drafting systems to develop sales presentations, details, sections and construction plans for a two-story house.

Prerequisites: ARCH1502, ARCH1506, and ARCH1534, or concurrent registration.

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

ARCH 1514 Estimating & 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 buildings will be emphasized. The uniform building code and regulations will be the benchmark. Some writing and class participation are required.

Prerequisites: None

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

ARCH 1518 Estimating & Construction Fundamentals II

This course will give the pupil the basics of construction practices, techniques, estimating and construction problem solving. The interior finishes, roof systems, stairways, fireplaces, thermal, moisture, and ventilation of residential building will be emphasized. The uniform building code and regulations will be the benchmark. Some writing and class participation are required.

Prerequisites: ARCH1514

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

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ARCH 1522 Residential Design Principles

Students will study individual room design, placement of rooms on the floor plan, architectural history of house styles and criteria to determine good exterior and interior principles of design.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH 1526 Residential Materials and Methods I

Students will learn the use of building materials such as concrete, windows, doors, lumber and wood products. The principles of reading residential blueprints will also be included.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

ARCH 1530 Residential Materials and Methods II

Students will learn the use of building materials for residential construction, such as concrete blocks, bricks, stones, heating systems, solar systems and architectural history.
Prerequisites: ARCH1526 or Instructor Approval
(2 C: 1 lect/pres, 1 lab, 0 other)

ARCH 1534 Residential Design and Presentation

Students will learn different architectural historical house styles, remodeling design, pencil and colored rending and building on good principles of design. Students will also learn oral and written communication to help them present their projects.
Prerequisites: ARCH1522
(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH 2502 Kitchen 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 be also be developed.
Prerequisites: ARCH1502 or permission of instructor
(2 C: 1 lect/pres, 1 lab, 0 other)

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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. Emphasis is placed on drawing details that meet ADA requirements. Other topics include hand sketching, shop drawing, commercial detailing, and sectioning principles.
Prerequisites: 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.
Prerequisites: ARCH1506, ARCH2522, and ARCH2530 or concurrent registration
(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 customers and other concerned people understand proposed building projects. Preliminary drawings, perspectives, and enhanced elevations will be prepared.
Prerequisites: ARCH1510, ARCH2506, ARCH2522, ARCH2518, or concurrent registration
(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 building using AutoCAD software. The student will select the appropriate building materials and systems to demonstrate construction knowledge and understanding of project design requirements.
Prerequisites: ARCH2506, ARCH2510, and ARCH2514 or concurrent registration
(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH   2522   Commercial Design Principles
**   and Practice**

This course is designed to teach students the principles of design as they apply to multi-family housing

and light commercial construction. Topics of study will include aesthetics, building essibility requirements for ADA (Americans with Disabilities Act), system selections, durability and selected fire and life-safety provisions of the Uniform Building Code. Students will study commercial design by reading and analyzing blueprints, specifications and bidding documents from actual commercial projects. Emphasis is placed on reading and understanding commercial working drawings.
Prerequisites: ARCH1526 or Instructor's Approval
(2 C: 1 lect/pres, 1 lab, 0 other)

ARCH   2526   Construction Estimat Analysis   I

This course will enable students to estimate residential construction. Students will be required to apply piecework material takeoffs for woodframe construction. Emphasis is placed on accuracy of measurement, correct description of items, logical sequence of quantity takeoff and presentation of required building materials. Complete estimates for residential projects will be established.
Prerequisites: ARCH1518 or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH   2530   Building Systems

This course is designed to provide students with industry standards, manufacturer's specifications, distribution methods and use of various building material systems as organized in the CSI format. Specific areas of study include thermal and moisture protection, interior finish products, commercial doors and windows, masonry and selected mechanical building systems. Emphasis is placed on selection of systems for durability, design, code compliance, and cost and life of building considerations.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH   2534 Construction Management and
Contracting

Students will be introduced to the principles of the construction industry and the phases of the construction process. Students will examine management systems used in construction. Areas of study will include: project manager duties, contract documents, bid process, project scheduling, as well as materials and methods used in the industry.
Prerequisites: ARCH2522, ARCH2526

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

ARCH 2538 Construction Estimating Analysis II

This course will introduce the student to commercial estimating concepts. Application of linear, square, and cubic measurements and their relationships to the estimating process will be studied. Timberline estimating software will be introduced and used for residential and commercial applications. The application of the Minnesota Energy Code in residential and commercial construction will be studied.
Prerequisites: ARCH2522, ARCH2526 or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2542 Structural Building Systems

Statics and strengths of construction materials are presented. Structural and architectural elements in soil mechanics, structural wood, concrete, steel, pre-stressed and post tensioned concrete are the primary course emphasis. Students will develop skills in using basic structural formulae and procedures. Students will also learn procedures for producing shop drawings for various materials.
Prerequisites: ARCH1530 or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

ARCH 2546 Design/Build

The course will give students an introduction to the system by which a building contractor provides preliminary design, planning, cost management and construction of various buildings. An analysis of construction systems, techniques and presentation design following the uniform building code as a benchmark.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

ARCH 2550 Professional Constructor Seminar

This course will enable students to prepare a resume, letters of application, and a portfolio. Students will also study and practice interviewing techniques and do oral presentations. Students will practice the behaviors, attitudes, and ethics expected of the constructor by society, and the business world will also be studied. Business forms and laws pertaining to contractors and their customers will be studied.
Prerequisites: Human Relations, Written Communications, ARCH2518, or Instructor Approval
(2 C: 2 lect/pres, 0 lab, 0 other)

AUTOMOTIVE SERVICE TECHNICIAN COURSE DESCRIPTIONS (AUTO)

AUTO 1508 Automotive Wheel Alignment

Students will study and apply specific geometric angles and their terms as used in four wheel alignment. Students will become familiar with the latest technologies and equipment used to measure and correct these angles. Steering and suspension system nomenclature and theory of operation will also be discussed, as well as the diagnosis of abnormal tire wear, undesirable handling characteristics, noises, sags and other steering and suspension problems. The focus of this course is understanding and correcting alignment angles, theory and operation of suspension and steering systems and maintenance/repair of suspension and steering systems.

Prerequisites: TRAN1502 or Instructor Approval
(4 C: 1 lect/pres, 3 lab, 0 other)

AUTO 1511 Electrical II

This course covers the operation, service techniques and diagnosis of most types of body electrical components. Students will learn about starter and alternator testing and replacement. Lab work will develop skills in repairing today's high tech accessories.
Prerequisites: TRAN1504 or Instructor Approval
(5 C: 2 lect/pres, 3 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

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and reassembly procedures. Students will learn how to analyze the internal parts and determine the necessary repair.
Prerequisites: Concurrent registration 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. Students will identify internal parts, perform wear measurements, and rebuild cylinder heads and the engine block.
Prerequisites: Concurrent registration AUTO1512
(4 C: 0 lect/pres, 4 lab, 0 other)

AUTO 1516 Brakes
Students will learn the use of brake hydraulic systems. Students will repair disc, drum brakes and power assist units. The operation and repair of antilock brake systems will also be taught.
Prerequisites: TRAN1502 or Instructor Approval
(4 C: 1 lect/pres, 3 lab, 0 other)

AUTO 2502 Engine Performance I
Students will develop skills in basic engine performance on gasoline four stroke engines. Lab work consists of typical service, repair and diagnosis procedures on ignition, fuel, emissions and related electrical systems on late model vehicles. Students should be able to describe system operation and perform engine performance service in accordance with manufacturer's procedures.
Prerequisites: TRAN1502, TRAN1504, TRAN1522, or Instructor Approval, and concurrent registration AUTO2504
(4 C: 2 lect/pres, 2 lab, 0 other)

AUTO 2504 Engine Performance II
Students will develop skills servicing fuel systems. Lab work consists of typical service, repair, and diagnosis procedures on fuel systems on late model vehicles. Students should be able to describe system operation and perform fuel system service in accordance with manufacturer's procedures.
Prerequisites: TRAN1502, TRAN1504, TRAN1522, or Instructor Approval, and concurrent registration AUTO2502
(4 C: 2 lect/pres, 2 lab, 0 other)

AUTO 2506 Principles of Torque Transfer
How engine torque is transferred to the wheels is the focus of this comprehensive drive train course. Students will study the theory of torque multiplication and division, applying it to all automotive and light truck applications. Operation and repair of manual transmissions and transaxles, transfer cases, differentials, propeller shafts and front driving axles will be the main topic. This course includes All Wheel Drive and Four Wheel Drive applications. All aspects of driveline repair on automotive and light truck applications will be practiced, with the exception of automatic transmission and transaxle overhaul.
Prerequisites: TRAN1502, TRAN1504, AUTO1511, or Instructor Approval
(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 an understanding of the hydraulic, mechanical, and electronic functions of these units in order to accurately diagnose some driveability problems. In this course students will study and apply the operation, repair, diagnosis and overhaul of automatic transmissions and transaxles. Students will be exposed to the latest tools required to repair or overhaul them as well as the scan tools needed to diagnose them.
Prerequisites: TRAN1502, TRAN1504, AUTO1511, AUTO2506, or Instructor Approval. Concurrent registration AUTO2512 is recommended
(3 C: 1lect/pres, 2 lab, 0 other)

AUTO 2512 Driveline Repair Lab
This lab course offers the opportunity for students to advance further in the techniques and procedures of diagnosing and repairing driveline failures including automatic transmission and transaxle overhaul.
Prerequisites: TRAN1502, TRAN1504, AUTO1511, AUTO2506, or Instructor Approval, and concurrent registration AUTO2511
(3 C: 0 lect/pres, 3 lab, 0 other)

AUTO 2516 Automotive Heating & Air Conditioning
This course covers the operation, testing and repair of manual and automatic systems. The students

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will learn about vacuum, electronic controls and airflow distribution.

Prerequisites: Concurrent registration with TRAN2514

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

AUTO 2518 Electrical III

Students will develop a fundamental understanding of vehicles electronic control units controlling Anti-locking brake systems, automatic transmission control, and supplemental restraint systems. Lab work consists of using scan tools for service, repair and

diagnosis procedures on these electronic/mechanical systems on late model vehicles. Students should be able to describe system operation and perform service in accordance with manufacturer's procedures.

Prerequisites: TRAN1504, TRAN1522, or Instructor Approval

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

AUTO 2520 Engine Driveability

Students will learn the basic systems approach to diagnosing engine performance problems. Lab work consists using oscilloscopes, lab scopes,

BUSINESS AND SALES MANAGEMENT CORE COURSE DESCRIPTIONS (BUSM)

BUSM 1200 Microsoft Software

Students will work with Microsoft packages. This course will give students the necessary skills to complete word processing, spreadsheets, database, file management and internet projects in an office or for personal use.

Prerequisites: BUSM1207 or Instructor Approval

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

BUSM 1207 Basic Skills Keyboarding

Students will build accuracy and speed using the alpha, numeric, symbol, and service keys on the keyboard. Emphasis will be placed on the development of basic keyboarding techniques.

Prerequisites: None

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

BUSM 1215 Business Writing

This course covers writing and editing a variety of business communications. Students will continue to develop grammar, punctuation, spelling, and vocabulary skills.

Prerequisites: English or Instructor Approval

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

BUSM 1222 Oral Business Presentations

This course covers the development of professional

oral communication skills. It includes training in listening skills, verbal and nonverbal messages, proper use of grammar, delivering oral presentations, evaluating oral presentations, and organizing a business meeting.

Prerequisites: None

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

BUSM 1230 Microsoft Word

This course instructs students in the theories and practical applications of Microsoft Word. Students will learn to create, edit, save, and print simple business documents including letters, memos, reports, and tables.

Prerequisites: None

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

BUSM 1237 Excel

Students will learn how to create a spreadsheet with columns, rows, labels, values and formulas. After the spreadsheet is created, students will learn how to use charts to produce hard-copy reports. The elements of planning, designing, and analyzing the data are emphasized.

Prerequisites: BUSM1200

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

BUSM 1245 Access

Students will learn the components that make up a database, such as fields, records, and tables. After

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the table is created, students will learn to sort, filter and query the table to produce hard-copy reports. The elements of planning, designing, and utilizing forms and reports are emphasized.
Prerequisites: BUSM1200
(2 C: 1 lect/pres, 1 lab, 0 other)

BUSM 1253 PowerPoint
Students will work with a powerful but easy-to-use graphics program to create professional-quality slide presentations. The elements of design, style, and content are emphasized.
Prerequisites: BUSM1200
(2 C: 1 lect/pres, 1 lab, 0 other)

BUSM 1256 Web Site Management
Web Site Management will introduce the development, maintenance and publication of a Web site. Students will create, view, and edit Web pages; insert and edit text and pictures; import and export files; and add, test, and repair hyperlinks to and within pages.
Prerequisites: ADMS1203, CPTR1300
(2C: 1 lect/pres, 1 lab, 0 other)

BUSM 1260 Applied Business Mathematics/ Calculators
This course covers application of mathematics functions to the solution of business problems using a 10-key calculator. The touch method of calculator operation will be used with emphasis on speed and accuracy.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

BUSM 1267 Introduction to Business
This course is designed to provide students with an overview of business functions in the United States. Students will discuss the responsibilities of business to the economy, employees, environment, and the government.
Prerequisites: None

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

BUSM 1275 Business Law
This course is an introduction to the principles of law as they apply to citizens and businesses. Topics include the court system, legal system, contracts, negotiable instruments, agency, and employer/ employee relationships.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

BUSM 1290 Job Seeking/Keeping Skills
This course offers an individualized approach to developing job seeking and keeping skills. Students will create résumés, write job application letters, complete a job application form, and prepare for the employment interview. Consideration will also be given to critical attitudes needed for job keeping.
Prerequisites: Taken in last semester of program
(1 C: 1 lect/pres, 0 lab, 0 other)

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

CHILD & ADULT CARE AND EDUCATION COURSE DESCRIPTIONS (CACE)

CACE   1400   Professional Relations in CACE Careers

This course explores opportunities for working with people in a variety of programs. The course also examines job requirements, duties, regulations, and issues, skills, and personal characteristics for becoming successful professionals in a variety of settings.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE   1404 Safety, Health and Nutrition

This course will guide the student in obtaining skills needed to establish and maintain a physically and psychologically safe and healthy learning environment for young children. Topics include preventing illness and accidents, handling emergencies, meeting children's basic nutrition needs, child abuse, and current health-related issues. This course does not include CPR or First Aid Certification.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE   1420 Foundations of Development

This course provides an overview of typical and atypical development across cultures, from prenatal through late adult including physical, social/emotional, and cognitive development. It integrates developmental theory with appropriate practices in a variety of caregiving and education settings.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE   1422   Profiles of the Exceptional Child

This course provides an overview of a variety of disabilities and handicapping conditions that might affect a child's growth and development. It provides caregiving and classroom strategies to promote inclusion of all children in their communities.
Prerequisites: CACE1420
(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, center-based, or school settings. Students will integrate knowledge of developmental needs, developmentally appropriate environments, effective caregiving, teaching strategies and observation methods.
Prerequisites: CACE1420
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE   1426   Children with Difficult Behaviors

This course helps students understand children with problem behaviors. Students will identify intervention strategies to prevent and resolve problem behavior, design behavior plans, and use behavior modification techniques.
Prerequisites: CACE1420, CACE1440
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE1428   Family & Community Relations

This course helps child care providers increase their understanding of diverse families and provides an opportunity to examine how current societal and community issues impact the development of children and the well-being of families. The changing role and structure of families will be explored. Other topics related to families include cultural diversity/dynamics, bias, public education, housing, employment, crime, health care, legal services, and social services.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE   1440   Guidance: Managing the Physical and Social Environment

This course provides an exploration of the physical and social environments that promote learning and development. It includes an introduction to basic guidance techniques for individual and group situations. Emphasis on problem prevention and positive guidance strategies: recognition, communication, limit setting, and problem solving.
Prerequisites: None
(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 development as it relates to individuals, communities, curriculum and communication activities.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE   1448   Literature and Language Development Experiences

This course provides an overview of language and literacy learning experiences in either home or center-based settings. Students will integrate knowledge of children's language development, learning environments, and teaching methods to select, present, and evaluate literature experiences, and to promote literacy and conversation.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CACE   1460   Internship I

This course gives students the opportunity to observe, practice, and apply skills and techniques at an introductory level. These opportunities will take place in a variety of supervised placements.
Prerequisites: Concurrent registration CACE1400, CACE1404, CACE1420, CACE1440 or by instructor permission. Also, students must successfully complete and receive their certificate for 8 hours of First Aid and 8 hours of CPR.
(3 C: 1 lect/pres, 0 lab, 2 other)

CACE   1464   Internship II

This course provides an opportunity to apply knowledge and skill in caregiving and/or education settings. Students will observe and assess behavior, facilitate free choice activities, implement adult-oriented learning experiences, and maintain professional relationships.
Prerequisites: CACE1400, CACE1404, CACE1420, CACE1440, or Instructor Approval (3 C: 1 lect/pres, 0 lab, 2 other)

CACE   1475   Reading Strategies for Paraprofessionals

This course combines an understanding of how children learn Reading and how to promote that learning by supporting the instruction of the classroom teacher.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

CACE   1476   Writing Strategies for Paraprofessionals

This course combines an understanding of how children learn Writing and how to promote that learning by supporting the instruction of the classroom teacher.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

CACE   1477   Math Strategies for Paraprofessionals

This course combines an understanding of how children learn Math and how to promote that learning by supporting the instruction of the classroom teacher.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

CACE   1478   Technology Strategies for Paraprofessionals

This course combines an understanding of how children learn to use Technology and also Assistive/Augmentative Technology; and how to promote that learning by supporting the instruction of the classroom teacher.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

CACE   1480   Caring for Children wi 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 upon which the student can build.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

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

COMPUTER-AIDED DRAFTING AND DESIGN COURSE DESCRIPTIONS (CADD)

CADD 1502 Mechanical CADD I
Students will develop knowledge of system configuration, and operation of interactive graphics software and will input drafting commands to develop drawings, store data, and output drawings to the plotter for hard copy.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 1507 Mechanical CADD II
This course is a further study of Computer-Aided Drafting. Students will input drawings using absolute, relative and polar coordinates and will examine advanced CAD capabilities such as complex multi-view drawings, libraries and attributes using 2D and solid modeling software.
Prerequisites: CADD1502
(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 1512 CADD Applications I
This course will provide students with additional practice in the fundamentals of multi-view draw-ings, 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
Prerequisites: 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.
Prerequisites: CADD1507, CADD1512
(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 1518 Engineering Math
Students will study geometric propositions, utilize algebra, geometry, and trigonometry to solve prac-tical drafting and design problems.
Prerequisites: TECH1520
(2 C: 0 lect/pres, 2 lab, 0 other)

CADD 1522 Applied Physics
Students will study the principles of force, motion, acceleration, deceleration, work, power, energy, thermodynamics and the properties of solids, liq-uids, and gases. They will apply this knowledge through experimentation and problem solving.
Prerequisites: TECH1520
(4 C: 1 lect/pres, 3 lab, 0 other)

CADD 2504 Prodcution CADD I
This course will provide students with the techniques to do sketches of objects as well as advanced drawings consisting of sections, auxiliary views, and the application of finish marks using 2D and solid modeling software.
Prerequisites: CADD1516
(4 C: 1 lect/pres, 3 lab, 0 other)

CADD 2507 Production CADD II
This course will provide students with the knowledge and skills to create bolted and welded assembly drawings using 2D and solid modeling software.
Prerequisites: CADD2504
(4 C: 1 lect/pres, 3 lab, 0 other)

CADD 2510 Design Concepts
Students will examine the relationships between product functions, design, quality control and man-ufacturing techniques. Students will discuss and apply practical geometric, dimensioning to industry drawings.
Prerequisites: Concurrent registration CADD2514 and CADD2522
(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2514 Computer Aided Design
This course deals with constructing a drawing port-folio for a complete design. Details and design drawings are developed with emphasis on accu-racy, tolerances, surface finishes, notes and system design and symbol diagrams.
Prerequisites: CADD2510 and CADD2522
(3 C: 1 lect/pres, 2 lab, 0 other)

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CADD 2518 Statics and Strength of Materials

Statics is an area of study concerned with determining the magnitude and direction of forces acting upon or generated by machine components. Strength of materials involves calculating stress, strain, and modulus of elasticity to determine material to be used and size of structural members.
Prerequisites: CADD1522
(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2522 Machine Design

This course will examine the design and function of common machine elements, such as bearings, shafts, belt and chain drives, lubrication, fasteners and springs. Students will also consider more comprehensive design problems in the area of machine design. Upon completion of this course the student will have an understanding of the broad field of activities identified by the term "Machine Design".
Prerequisites: CADD2518; concurrent registration CADD2510 and CADD2514
(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2526 Manufacturing Systems

This course will provide many opportunities to study the basic elements of manufacturing as a managed body of activities. These basic elements are arranged under two major categories: materials and processing, and management.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

CADD 2530 Geometric Dimensioning and Tolerancing

Students will examine the relationships between product functions, design, quality control and manufacturing techniques. Students will discuss and apply practical geometric dimensioning to industry drawings.
Prerequisites: CADD1516
(2 C: 1 lect/pres, 1 lab, 0 other)

CADD 2540 Basic CAM

This course will emphasize the function of Computer-Aided Manufacturing software (CAM), and the application of computer generated machining data.
Prerequisites: CADD1502
(3 C: 1 lect/pres, 2 lab, 0 other)

CADD 2542   Reverse Engineering

This course will enhance the student's ability to use various forms of inspection devices. Students will sketch and document finished part data. Students will create assembly and detailed piece part drawing. Creation of these drawings will help build a portfolio of engineering documents for job interviews.
Prerequisites: CADD 2504
(2 C: 0 lect/pres, 2 lab, 0 other)

COMPUTER-AIDED DESIGN AND MANUFACTURING COURSE DESCRIPTIONS (CADM)

CADM   3502   CMM Operations

Students will set up and perform flexible gauging operations on a stand-alone coordinate measuring machine (CMM). Inspection of piece-parts and fixtures will be done on the three axes. Students will do part-to-print inspection. Piece-parts and matching prints drawn in conventional and geometric dimensioning will be inspected to size and location tolerances, as well as other tolerancing such as runout, form and orientation where applicable.
Prerequisites: CADD2530
(2 C: 1 lect/pres, 1 lab, 0 other)

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CARPENTRY COURSE DESCRIPTIONS (CARP)

CARP 1506 Construction Tools, Equipment and Machines

This course will enable students to identify, properly use and maintain carpenter hand, portable tools, machines and equipment. Skill development, safety, OSHA requirements and work practices are stressed. Construction equipment is studied and utilized as lab and projects warrant.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

CARP 1514 Blueprint Reading and Building Codes

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.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

CARP 1520 Residential Framing and Estimating

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.
Prerequisites: CARP1506, 1514
(4 C: 2 lect/pres, 2 lab, 0 other)

CARP 1524 Rafters and Stairs

This course will enable the student to learn about materials and methods for framing floors, walls, and rafters for residential and light commercial construction. Rafter framing of different roof systems will be emphasized. Straight stairs, hand railings, terms, techniques and layout will be emphasized.
Prerequisites: CARP1506, CARP1514, CARP1520
(4 C: 2 lect/pres, 2 lab, 0 other)

CARP 1526 Exterior/Interior Finish

This course will enable students to examine types, styles and applications of siding, roofing treatments and finishes. This class will also cover insulation, paneling and wallboard applications as well as interior finishes and woodwork.
Prerequisites: CARP1506, CARP1514, CARP1520
(4 C: 1 lect/pres, 3 lab, 0 other)

CARP1528 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 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 concrete industry.
Prerequisites: CARP1506,1514
(3 C: 1 lect/pres, 2 lab, 0 other)

CARP 1530 Residential Drafting a 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. Student will be able to design and analyze using Softplan.
Prerequisites: CARP1514
(2 C: 0 lect/pres, 2 lab, 0 other)

CARP 1536 Cabinet Buildin Estimating

This course will enable students to study design and construction fundamentals and techniques. Students also learn materials, hardware and finishing skills for custom made residential cabinetry. Estimating of materials will also be included. Basic drafting principles will apply..
Prerequisites: CARP1506, CARP1514, or concur-

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(5 C: 2 lect/pres, 3 lab, 0 other)

CARP   2502   Concrete II
This course will enable the student to analyze terms, materials and techniques used to form, reinforce and pour foundation footings and walls.
Prerequisites: CARP1528
(2 C: 1 lect/pres, 1 lab, 0 other)

CARP   2506   Residential Framing II
This course will enable students to analyze and use their knowledge to select materials and layout methods. Advanced methods of framing floors and walls will also be emphasized. Students will also use these skills on a residential structure.
Prerequisites: CARP1506, CARP1520, CARP1524
(4 C: 2 lect/pres, 2 lab, 0 other)

CARP   2510   Stair Building
Students will study fundamental and advanced methods of stair building. This will include calculations, layout, and terminology related to stair building. This course will enable students to study design, style, and safety of various stairs. The course will include layout and construction of several styles of stairs.
Prerequisites: CARP1506, CARP1514, CARP1520, CARP1524
(2 C: 1 lect/pres, 1 lab, 0 other)

CARP2514 Advanced Stair Building
This course will enable students to design, layout and construct advanced stairs. Emphasis will be on installation of treads, risers, skirt boards, newel post, handrails and balusters.
Prerequisites: CARP1506, CARP1514, CARP1524, CARP2510
(2 C: 0 lect/pres, 2 lab, 0 other)

CARP   2518   Exterior Finish
This course will enable students to develop skills used to properly install windows, exterior doors, shingles, soffits and siding.
Prerequisites: CARP1506, CARP1514, CARP1520, CARP1526
(3 C: 1 lect/pres, 2 lab, 0 other)

CARP   2522   Interior Finish
This course will enable students to study methods of finishing the interior of a house; from insulation and gypsum board, to hanging doors and installing trim. Finish skills will also include: wood flooring, underlayment, shelving and cabinet installation.
Prerequisites: CARP1506, CARP1514, CARP1520, CARP1526
(3 C: 1 lect/pres, 2 lab, 0 other)

CARP   2524Residential Construction Lab I
This course will enable students to use the construction skills and techniques he/she has developed to build a residence as needed. Course will focus on framing and exterior finishes.
Prerequisites: CARP1506, CARP1514, CARP1520, CARP1524
(5 C: 0 lect/pres, 5 lab, 0 other)

CARP   2530   Cabinet Building II

This course will enable students to analyze, design, lay out, and construct wall and base cabinets for a house project. Consideration will be given to kitchen shape and workability along with materials, finishes and countertops.
Prerequisites: CARP1506, CARP1536
(4 C: 1 lect/pres, 3 lab, 0 other)

CARP   2534 Construction Management

This course will enable students to study the needs and requirements of a contractor as he/she runs the business. The course will concentrate on job site management, business management and the personal skills needed for a construction business to get started and remain profitable.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CARP2538 Introduction to Blocklaying
Students will study the manufacturing process of block, the use of tools, and equipment of the trade. Focus will concentrate on techniques for laying concrete block, while emphasis is placed on block corners and laying block to a line with proper mortar joints. Students will also study the essentials of bonding.
Prerequisites: None

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

CARP 2542 Advanced Roof Framing
This course will enable students to analyze advanced roof framing problems. Emphasis will be on unequal pitch, intersecting roof dormers and special problems.
Prerequisites: CARP1506, CARP1514, CARP1520, CARP1524
(2 C: 0 lect/pres, 2 lab, 0 other)

CARP 2546Residential Construction Lab II
This course will enable students to implement and practice the knowledge and skills learned to build a residence. Course will focus on interior finish and trim techniques and materials.
Prerequisites: CARP1514, CARP1520, CARP2506, CARP2522, CARP2524
(3 C: 0 lect/pres, 3 lab, 0 other)

CARP2550 Introduction to Bricklaying
Students will concentrate on recognizing properties and characteristics of brick, basic tools of the trade, and types of mortar. Students will learn the fundamentals of laying brick in corners, and to a line, in addition to an introduction of archways.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

CARP2554 Advanced Concrete Techniques
Students will focus on tools and equipment necessary for concrete finishing. There will be exposure to decorative concrete, i.e. exposed aggregate, stamped concrete and textra-crete. Students will estimate concrete for residential as well as commercial construction projects. Students will also study the properties of concrete as a construction product.
Prerequisites: CARP1514, CARP1528, CARP2502

CARP2558 Concrete Internship
This course is designed to allow students to apply the knowledge and skills learned in the classroom and lab. Students will work for a masonry contractor who does all the different facets of the masonry trade.
Prerequisites: CARP1514, CARP1524, CARP1528
(3 C: 0 lect/pres, 0 lab, 3 other)

CARP 2562 Carpentry Internship
This course will enable students to apply the knowledge and skills learned while working for a contractor. All activities will relate to knowledge and skills previously learned.
Prerequisites: CARP1506, CARP1514, CARP1520, CARP1524, CARP1526, CARP1536
(3 C: 0 lect/pres, 0 lab, 3 other)

CARP 2566 Cabinetmaking Internship
This course is designed to allow students to apply the knowledge and skills learned in the classroom and lab. Student will work in a cabinet shop that does the different facets of the cabinetmaking trade. Prerequisites: CARP1506, CARP1536
(6 C: 0 lect/pres, 0 lab, 6 other)

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COMPUTER CAREERS
COURSE DESCRIPTIONS (CMSC)

CMSC1200 Computer Concepts
Students will study how computers affect our daily lives and how they will continue to have an increasing impact on the future. The course will cover computer hardware, software and software development, connecting to the world, and the social challenges for society. Students will have critical thinking projects and have practice using the World Wide Web to research Internet resources.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC1201 Data Communications
This course provides an introduction to data communications. Topics included are fundamentals of data communications, communication media, communication terminals, communication equipment, data transmission, protocols, network basics, wide area networks, local area networks, distributed networks, network management and network software.
Prerequisites: CMSC1200
(3 C: 3 lect/pres, 0 lab, 0 other)

CMSC1203 Structured Programming Logic
Students will study structured programming logic. This course will cover programming design tools, such as pseudocode and flowcharting for developing algorithms to solve many programming problems.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CMSC1205 Introduction to HTML/XML
This course introduces students to HTML and XML designed implement the creation of web pages. After a brief introduction to the internet and the World Wide Web, the focus is centered on HTML. and XML. Students will complete exercises which include the creation of web pages with links, graphics, sound, and animation. The programming techniques include handling conversions from both servers and clients, passing communications, distributed information handling, and tags.
Prerequisites: None
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC1213 Network Administration
Students will study the skills needed to effectively manage a Netware network. Students will learn how to set up users, directories, login scripts and security. Netware utilities are taught through hands-on training and team projects.
Prerequisites: CMSC1221
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC1219 Disk Operating System
Students will study the skills needed to effectively manage the disk operating system (DOS). Topics include how to use functions and utilities, file management, managing a hard disk, troubleshooting tools, batch files, system configuration, memory management, and Windows graphical user interface.
Prerequisites: None
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC1221 Windows Operating System
Students will study the skills needed to effectively manage the Windows 98 operating environment. Topics include how to use functions and utilities, manage graphical user interface properties, manage hardware devices, install operating system and applications and describe importance of DOS environment.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC1224 Introduction to Windows
Students will study the skills to effectively use a windows operating system. Topics include managing folders and files, using the control panel, using Internet Explorer, using e-mail and backing up your files.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

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CMSC1226 Microsoft Server

Students will study the skills needed to effectively manage the Microsoft Server operating system environment. Students will learn how to use functions and utilities, manage program properties, manage hardware devices, installing operating system and applications.
Prerequisites: CMSC 1121
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC1237 RPG Language I

This is the first of three Report Program Generator IV courses. It includes a brief introduction to programming and RPG, getting started, assignment and arithmetic operations, top-down structured design, externally described files and file access and record manipulation.
Prerequisites: CMSC1200 and CMSC1203
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC1238 RPG Language II

This is the second of three Report Program Generator IV courses. It includes interactive applications, tables and arrays, advanced data definition and working with bytes and bits.
Prerequisites: CMSC1237
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC1247 C++ Language I

This is the first of a two-course introduction to programming in the C++ programming language. Topics include syntax, vocabulary, functions, types and operators.
Prerequisites: CMSC1200 and CMSC 1203
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC1248 Perl Programming Language

The student will study Perl programming concepts. This course will cover program-related problems that individuals could expect to encounter in business.
Prerequisites: CMSC1203 and CMSC1221
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC1249 Web Programming Language

The student will study the basic web scripting concepts. This course will cover program-related problems that individuals could expect to encounter in business. Two scripting languages will be emphasized: Javascript and CGI/Perl.
Prerequisites: CMSC1204 and CMSC1221
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC1250 AS/400 Operations and Utilities

Students will study IBM AS/400 system operations and utilities. This course covers hardware configurations, security, working with jobs and message handling, managing print functions, backup and restore, program temporary fixes, data description specifications, the source entry utility, the data file utility, screen design aid, and the query utility.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

CMSC1251 AS/400 DB2 Database

Students will study the DB2/400 relational database. This course covers physical and logical file features, accessing databases from high-level languages, database modeling and design, structured query language, database security, and backup and recovery.
Prerequisites: CMSC1250
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC1253 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 including creation of several Java applications and the modification of some existing Java applications. The programming techniques to be taught include the use of data files, graphics, and spreadsheets along with object-oriented menu-driven logic.
Prerequisites: CMSC 1200 and CMSC 1203
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC1261 Microcomputer Database I

Students will study database concepts and software for microcomputers. This course will include database structures, file creation, file manipulation, and report generation. Students will get in-depth coverage of fundamental programming concepts with hands-on application generation.
Prerequisites: CMSC 1221
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC1262Microcomputer Software Support

The student will study basic application software. This course covers troubleshooting and problem solving for application software support.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

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CMSC1263 Oracle Essentials I

The student will study the development of relational database applications using Oracle. This course will cover relational database concepts using command-line SQL environment.
Prerequisites: CMSC1203 and CMSC1221
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC1264 Oracle Essentials II

The student will study the development of relational database application using Oracle. This course will cover advanced form builder, report builder, graphics builder and integrated database application.
Prerequisites: CMSC 1263
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC1271 Cisco Routing I

This course covers the OSI reference model. Network-layer, data link and MAC addressing are also covered. IP addresses and the use of subnetting is covered as well as the making and interconnecting of cabling, hubs and routers.
Prerequisites: None
(2 C: 0 lect/pres, 2 lab, 0 other)

CMSC1272 Cisco Routing II

This course covers the initial configuration of routers. Students use the Cisco IOS software to configure access lists and typical network protocols.
Prerequisites: CMSC1271
(2 C: 0 lect/pres, 2 lab, 0 other)

CMSC1273 Cisco Routing III

This course covers the use of access lists and filters. Network segmentation using bridges, switches and routers, as well as the benefits of Fast Ethernet and virtual LANs are also covered in this course.
Prerequisites: CMSC1272
(2 C: 0 lect/pres, 2 lab, 0 other)

CMSC1274 Cisco Routing IV

This course covers the main WAN service protocols. Students will differentiate between and implement these protocols on Cisco routers.
Prerequisites: CMSC1273
(2 C: 0 lect/pres, 2 lab, 0 other)

CMSC1280 PC Network Hardware

This course covers installing, upgrading and troubleshooting microcomputer systems. Class discussion topics include microcomputer architecture and peripheral devices.
Prerequisites: CMSC 1219 and CMSC 1221
(4 C: 3 lect/pres, 1 lab. 0 other)

CMSC2223 Windows Active Directory Services

Students will study the skills needed to effectively manage the Windows Server Active Directory Services. Students will learn how to use functions and utilities, install, configure, administer, monitor and troubleshoot Microsoft Windows Active Directory.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC2229 UNIX Operating Systems

This course covers the UNIX operating system. After a brief review of all computer operating systems and a brief history of computers, this course will introduce students to the very complex and powerful UNIX operating system. Students will be introduced to the different shells and editors available to UNIX, along with file management, graphical user interfaces, networking, programming tools, system administration, and the UNIX Utility Programs.
Prerequisites: None
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC2245 Javascript

The student will study basic Javascript programming concepts. This course will cover program-related problems that individuals could expect to encounter in business.
Prerequisites: CMSC 1203 and CMSC 1205
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC2249 C++ Language II

This is the second of a two-course introduction to programming in the C++ programming language. Topics include syntax, vocabulary, functions, types and operators and graphics.
Prerequisites: CMSC1247
(4 C: 3 lect/pres, 1 lab, 0 other)

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CMSC2251 Visual Basic I
Students will study the skills necessary for the effective and efficient creation of computer programs using Visual Basic 6.0. Students will complete exercises that include the creation and modification of several Visual Basic applications.
Prerequisites: CMSC 1200 and CMSC 1203
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC2252 AS/400 CL Programming
Students will study AS/400 Control Language Programming. This course covers commands syntax, controlling workflow, execution environments and restrictions, and the capabilities of Control Language programs.
Prerequisites: CMSC 1251
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC2253 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 6.0. Students will complete exercises that include the creation and modification of several Visual Basic applications.
Prerequisites: CMSC 2251
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC2254 Java Language II
This course is a continuation of Java Language I. After a brief review of Java Language I, the students will be involved in writing Java stand-alone applications as well as Java applets to be embedded in HTML documents. Graphics will be explored further and students will become versed in the AWT (Abstract Windows Toolkit), the Event Model and Exception Handling. Database connectivity will be covered thoroughly.
Prerequisites: CMSC 1253
(4 C: 3 lect/pres, 1 lab, 0 other).

CMSC2257 JavaServer Pages
This course empowers students to develop and maintain information-rich, platform-independent, Web-based applications. The course covers both beginning and more advanced topics, from beginning concepts to database access using JavaServer Pages technology.
(Prerequisites: CMSC1249, CMSC1261, CMSC2254
(3C: 2 lect/pres, 1 lab, 0 other)

CMSC2258 Macromedia Flash
This course teaches basic through more advanced features of Macromedia's popular Flash software that's become the professional standard for producing animation that will appear on the Web.
Prerequisites: CMSC1205 and CMSC1221
(3C: 2 lect/pres, 1 lab, 0 other)

CMSC2262 Microcomputer Database II
This is a second course allowing students to exploit the richness of Microsoft Access with the creation of applications. The course uses Visual Basic language for more sophisticated applications.
Prerequisites: CMSC 1261
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC2265 Oracle Database Administration
The student will study the skills needed to effectively manage a Netware network. Students will learn how to set up users, directories, login scripts, and security. Netware utilities are taught through hands-on training and team projects.
Prerequisites: CMSC 1263
(4 C: 3 lect/pres, 1 lab, 0 other)

CMSC2279   Systems Analysis and Design
This course includes an introduction to systems analysis and design, technique and tools. Students will complete several projects throughout the term.
Prerequisites: CMSC 1238 or CMSC2253 or CMSC2262
(3 C: 2 lect/pres, 1 lab, 0 other)

CMSC2282   Web Site Development
The student will study the planning and design of a Web site. A Web site will be designed, developed, tested, documented and demonstrated by the student.
Prerequisites: CMSC1205 and CMSC1249
(3 C: 2 lect/pres, 1 lab, 0 other)

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CREDIT AND FINANCE
COURSE DESCRIPTIONS (CRFN)

CRFN 1200 Personal Money Management
This course provides instruction in financial management involving maintaining financial records (balance sheet and income statement), budgeting, banking services, credit card use, major expenditure decisions, income and asset protection, and investment planning.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CRFN 1205 Professional Expectations
Students will identify credit and finance industry expected skills, abilities, and character traits and incorporate strategies to exhibit the ability and willingness to meet the expectations of the credit and finance industry.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

CRFN 1215 Accounting I
An introduction to the fundamental accounting concepts and principles which are used in a business environment to analyze and record transactions using the accrual method of accounting.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 1216 Accounting II
An overview of basic financial accounting and its theoretical foundation. A review of the accounting process, basic analysis of financial statements; income statement, balance sheet and statement of changes in financial position, accounting for sales tax, bad debt, depreciation, notes and interest, and accrued revenue and expenses involving partnerships and corporations.
Prerequisites: CRFN1215
(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 1220 Principles of Banking
This course covers some of the history of banking and the evolutionary and revolutionary changes that have taken place. Additionally, the principles of commercial banking are discussed. These involve the three main functions of banking. Products and services offered by the various departments of a bank are also covered in this course.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 1235 Business Communications
This course covers fundamentals of business communication skills, the principles of communication psychology, and its application to human relations, communication technology, developing written, oral, and listening skills and how to apply communication skills in business.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

CRFN 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.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 1250 Business – Credit Law
This course first reviews our legal system in general, followed by a study of contract law and laws dealing more specifically with credit, banking, and real estate.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

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CRFN 1255 Marketing

This course provides students with introduction to marketing essentials such as marketing concepts and processes, understanding consumers and markets, targeting markets, marketing mix concepts, marketing research and decision making processes.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 2215 Commercial Lending

This course covers the basic definitions, concepts and principles of commercial lending. Areas covered include a review of the commercial lending environment, loan interviewing, credit investigation, financial statement analysis, loan structuring, loan negotiation, documentation and closing, and resolving problem loans.
Prerequisites (preferred, but not required): CRFN1215, CRFN1216, BUSM1260
(3 C: 3 lect/pres, 0 lab, 0 other)

CRFN 2240 Consumer Lending

Students will study the essential concepts needed to understand the consumer loan function, including a history of consumer credit, evaluation of credit risks, and the gathering, investigating, and analysis of credit information. Students will also study procedures involved in documenting, servicing, managing, pricing, and marketing flows.
Prerequisites: None
(4 C: 3 lect/pres, 1 lab, 0 other)

CRFN   2270   Collection Techniques

This course covers information regarding regulations as they pertain to collections and the tools and techniques used by credit grantors and collection agencies in skip tracing and collecting.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CRFN 2273 Internship

Students will apply what has been learned in school to a program-related job.
Prerequisites: Student should complete 90% of program credits and obtain permission to complete internship requirement from advisor/instructor. Requirement may be changed at advisor/instructor discretion.
Prerequisites: None
(4 C: 0 lect/pres, 0 lab, 4 other)

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CULINARY ARTS COURSE DESCRIPTIONS (CULN)

CULN1200   Introduction to Food Service
This course includes an introduction to the Food Service Industry culinary terms and use of weights and measures, basic kitchen first aid and safety. The course also covers basic cooking techniques and knife identification and use.
Prerequisites: None
(4 C: 2 lect/pres, 2 lab, 0 other)

CULN1201   Kitchen Operations
This course teaches the skills students will need to know about the food service industry. This course will cover counter service operation, kitchen math, warewashing procedures, equipment identification and equipment usage.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

CULN1220   Introduction to Pantry Food Preparation
This course covers proper techniques, procedures and responsibilities for the preparation of food such as salads, salad dressings and sandwiches. Proper care and handling of ingredients and finished products are emphasized.
Prerequisites: CULN1200 or Instructor Approval
(2 C: 1 lect/pres, 1 lab, 0 other)

CULN1230   Vegetables, Potato, Rice, and Farinaceous Products
This course covers identification and preparation of vegetables, potatoes, rice and farinaceous products.
Prerequisites: CULN1200 or Instructor Approval
(2 C: 1 lect/pres, 1 lab, 0 other)

CULN1240   Stocks, Soups, and Sauces
This course will identify the preparation of classical and convenience stocks. From these stocks, various soups and sauces will be prepared using various techniques.
Prerequisites: CULN1200 or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

CULN1245   Basic Baking
This course covers baking terminology, function of ingredients, and texture of finished products such as quick breads, yeast breads, pies, cakes and cookies.
Prerequisites: CULN1200 or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

CULN1250   Basic Cooking Principles
This course teaches the preparation of stocks, soups, and sauces. The course also includes the preparation of meat, poultry, and fish items using the various moist and dry heat methods.
Prerequisites: CULN1240 or Instructor Approval
(4 C: 0 lect/pres, 4 lab, 0 other)

CULN1260   Introduction to Breakfast
This course teaches the cooking of meats, eggs, cereals and the preparation of fruits and garnishes for breakfast. This course will include production techniques used in the preparation of breakfast foods.
Prerequisites: CULN1200 or Instructor Approval
(2 C: 1 lect/pres, 1 lab, 0 other)

CULN1265   Basic Food Production Principles
This course teaches the preparation of meat, seafood, vegetables, fruits, pasta and other menu items using the various moist and dry heat cooking methods. Students will learn production techniques used in the preparation of foods.
Prerequisites: CULN1200, CULN1201, CULN1220, CULN1230, CULN1240, CULN1245, CULN1250, CULN1260, or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

CULN1270   Garde Manger
This course is designed to teach the student the fundamentals of garde manger decorating. This will include aspic sheets, chaud froid sauce, fruit carving, vegetable carvings and preparing centerpiece displays.
Prerequisites: CULN1250 or Instructor Approval
(4 C: 1 lect/pres, 3 lab, 0 other)

CULN1290   Social Etiquette
This course is intended to give students basic information about etiquette. Students will understand why things are done as they are.
Prerequisites: None
(2 C: 0 lect/pres, 2 lab, 0 other)

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DENTAL HYGIENE COURSE DESCRIPTIONS (DEHY)

DEHY   1400   Dental Hygiene Seminar I

This course is an introduction to dental hygiene clinical techniques and clinical practice. This course provides didactic instruction on patient medical history and data gathering, sterilization, infection control protocol, comprehensive patient treatment to include assessment, planning, implementation and evaluation of selective services.
Prerequisites: Acceptance in DEHY Program. Concurrent registration DEHY1480 and DEHY1424
(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY   1402   Dental Hygiene Seminar II

This course is designed to continue the students' education in the basic dental hygiene sciences with an emphasis on dental health education, primary preventive measures, and nutritional educational counseling. The course emphasizes the special needs of diabetes, mental retardation, cancer therapy, epilepsy and eating disorders.
Prerequisites: DEHY1400, DEHY1480, HETS210; concurrent registration DEHY1482
(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY   1404   Clinical Seminar III
This course is a continuation of DEHY1402 with emphasis on advanced dental hygiene skills, client relations and special needs. The course includes didactic study of treatment planning, oral health care adjuncts, root planing techniques, powered scaling, sealants, dental materials, implant care and care for the client who is medically compromised. This course is to be taken concurrently with DH Materials and Methods (DEHY1420) and Clinical DH III (DEHY1486).
Prerequisites: DEHY1402, DEHY1482; concurrent registration DEHY1420 and DEHY1486.
(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY   1406   Clinical Seminar IV
This course is a continuation of DEHY1404 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 the job market and alternative care settings.
Prerequisites: DEHY1404; concurrent registration DEHY1488.
(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY   1410   Intro to Dental materials &

Methods
This lecture/lab course is designed to provide the dental hygiene student with information required to facilitate the optimal selection, handling, placement and care of the materials used in dentistry. Topics covered include cements, varnishes, liners, esthetic anterior restorations, posterior restorations, sealants, impression materials, dental stone and plaster, polymers for prosthetics, and provisional restorations. Students will work with dental materials and typodonts in the laboratory setting.
Prerequisites: CHEM141
(2 C: 1 lect/pres, 1 lab, 0 other)

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DEHY 1418 Introduction to Dental Radiology

This lec/lab course provides dental hygiene students with the knowledge of radiographic principles and exposure techniques. Course content includes theoretical concepts of radiation, effects of radiation exposure, radiation production, 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. (*This course is required for dental assistants entering the Dental Hygiene program who have taken dental radiology more than 5 years ago).
Prerequisites: BIOL1302 and acceptance into the dental hygiene program.

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, periodontal therapies, prophy jet polisher, dental records and treatment planning. All topics will be taught to lab competency.
Prerequisites: Concurrent registration DEHY1404, DEHY1486
(2 C: 0 lect/pres, 2 lab, 0 other)

DEHY 1422 Dental Pharmacology

This course covers a survey of drug groups with special emphasis on the drugs used in dentistry. This course will include content in the following: physical, and chemical properties of drugs, modes of administration, therapeutic and adverse effects, and drug interactions. Identifying and managing clinical emergencies is also included.
Prerequisites: BLGY1300, BLGY1302, BIO206
(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1424 Orofacial Structures

This course covers the anatomical components and functions of head, neck, teeth and supporting structures. Emphasis will be on the skeletal, muscular, nervous, venous and masticatory systems. The course includes comparative study of the deciduous and permanent teeth.
Prerequisites: BLGY1300, BLGY1302, concurrent registration DEHY1448, DEHY1426
(3 C: 3 lect/pres, 0 lab, 0 other)

DEHY 1426 Oral Histol Embryology

This course covers concepts of the embryological development of orofacial organs and structures and the growth stages of tooth development. .
Prerequisites: BLGY1300
(1 C: 1 lect/pres, 0 lab, 0 other)

DEHY 1428 General and Oral Pathology

This course covers concepts of development and growth disturbances; diseases of microbiological origin, injury and repair; metabolic and disease disturbances; and oral manifestations of various diseases and conditions. Special emphasis is placed on clinical, and slide recognition of pathology in the oral cavity.
Prerequisites: BLGY1300
(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, epidemiological methods, and biostatistical measurements and analysis. The course will include identification of current issues in community dental health and review current community health practices. Emphasis will be placed on comparing and contrasting community health practices with those in private clinical settings. Students will be introduced to current literature in the field of community dental health through completion of abstracts of articles related to topics presented in class.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1444 Community Dental Health II

This lecture course is designed to provide the dental hygiene student with field experience in

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assessment, planning, implementation and evaluation of community dental health presentations. Practical application of dental public health methods is included.
Prerequisites: DEHY1440
(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1448 Dental Hygiene Radiology
This course provides the student with the knowledge of radiographic principles and exposure techniques. The course covers 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 and 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 mount 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 peroapical lesions. All Dental Hygiene students must successfully complete this course prior to graduation.
Prerequisites: Acceptance into the DH program.
(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1460 Periodontics
This course is designed to focus on the pathogenesis, diagnosis, and treatment of periodontal disease. Emphasis will be on the progression of periodontal disease, diagnostic methods, treatment modalities, and the role of the dental hygienist in the prevention and treatment of periodontal disease.
Prerequisites: DEHY1426, DEHY1428
(2 C: 2 lect/pres, 0 lab, 0 other)

DEHY 1464 Advanced Periodontics
Students will study periodontal pathology, treatment planning, advanced instrumentation techniques and periodontal treatment modalities.
Prerequisites: 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 student 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. The course will be presented by lecture, discussion groups and lab/clinical experience. The laboratory sessions are designed to develop actual experiences in the administration of local anesthesia and nitrous oxide/oxygen inhalation. In the clinical sessions, students will be administering local anesthesia and nitrous oxide/oxygen to fellow students.
Prerequisites: DEHY1422, DEHY1424, CPR Certificate
(2 C: 1 lect/pres, 1 lab, 0 other)

DEHY 1480 DH Pre-Clinical Lab I
This lab course introduces the student to dental hygiene fundamentals with emphasis on principles of disease transmission, preventive dental aids, data gathering, patient assessment, medical emergencies, dental deposits and entry-level instrumentation techniques.
Prerequisites: BLGY1300, BLGY1302, concurrent registration DEHY1400
(3 C: 0 lect/pres, 3 lab, 0 other)

DEHY 1482 DH Pre-Clinical Lab II
This course is a continuation of DEHY1480 with emphasis on principles and practice of instrumentation skills, instrument sharpening, patient safety, patient education, assessment and treatment planning.
Prerequisites: DEHY1480, concurrent registration DEHY1402, DEHY1422, and DEHY1460
(2 C: 0 lect/pres, 2 lab, 0 other)

DEHY 1484 Clinical Dental Hygiene II
This is a supervised clinical experience where students will provide fundamental clinical, preventive, educational and therapeutic services to patients. Emphasis on treating periodontal disease, scaling, oral hygiene counseling, radiology and professionalism.
Prerequisites: DEHY1482, concurrent registration DEHY1402 and DEHY1460
(2 C: 0 lect/pres, 2 lab, 0 other)

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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.

Prerequisites: concurrent registration with DEHY1402 and DEHY1420

(6 C: 0 lect/pres, 6 lab, 0 other)

DEHY   1488   Clinical Dental Hygiene IV

This course is a continuation of Clinical DH III (DEHY1486) with supervised clinical experiences which includes advanced periodontal therapy, advanced ultrasonic instrumentation, margination,, amalgam polishing, and sealant placement. Clinical application of pain management techniques is also a focus. Radiographic interpretation is incorporated within the radiographic portion of this clinical experience.

Prerequisites: DEHY1404, DEHY1486, concurrent registration DEHY1406 and DEHY1464.

(6 C: 0 lect/pres, 6 lab, 0 other)

DEHY   3400   Dental Hygiene Integrated Board Review

This course is designed as a comprehensive review of dental hygiene in preparation for the National and Regional Board Examinations. It includes discussion and synthesis of dental hygiene theories and clinical applications.

Prerequisites: None

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

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DENTAL ASSISTANT COURSE DESCRIPTIONS (DENT)

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 the teeth. Students will be introduced to the structures and functions of the head and neck as it relates to the oral cavity and dentistry. Characteristics and functions of the adult human dentition and their supporting structures are studied. An introduction to basic body systems will also be covered.
Prerequisites: Acceptance into the Dental Assisting program.
(3 C: 3 lect/pres, 0 lab, 0 other)

DENT   1408   Preclinical Dental Assisting
This course will enable the dental assisting student to function effectively as part of the dental team in various medical and dental emergency situations. Evaluation and understanding of medical and dental histories will be an integral part of this course. Fundamentals of pharmacology and anesthesiology in the practice of dentistry will be taught.
Prerequisites: Acceptance into the Dental Assisting program.
(2 C: 2 lect/pres, 0 lab, 0 other)

DENT   1410   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 communication 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 micoorganisms will be discussed as well as their mode of transmission. Topics will include terminology, disease transmission, sterilization and disinfection, occupational safety and infection control.
Prerequisites: Acceptance into the Dental Assisting program.
(1C: 1 lect/pres, 0 lab, 0 other)

DENT   1420   Chairside Assisting I

This course combines lecture and laboratory practice to help acquaint the dental assisting student to the basic fundamentals of working in the dental setting. It introduces students to basic equipment and supplies, instrumentation and infection control techniques used in dentistry, as well as concepts of four-handed and six-handed dentistry. Basic skills needed to work safely with the dentist and patient clinically are developed.
Prerequisites: DENT1400, DENT1408, DENT1410
(4 C: 2 lect/pres, 2 lab, 0 other)

DENT   1434   Dental Materials I
This course is designed to introduce the student to those materials and techniques utilized for various restorative and clinical applications. It includes both didactic information and laboratory practice with such products as gypsum, acrylic, impression materials, and other dental materials. Safety is emphasized.
Prerequisites: DENT1400, DENT1408
(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 knowledge and skills needed for working with dental radiology. Concepts including, but not limited to, patient positioning, films and film handling, film processing, paralleling vs. bisecting techniques, infection control and safety are discussed. Laboratory practice on

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phantoms, skulls and DXTTR is included.
Prerequisites: DENT1400, DENT1408
(4 C: 2 lect/pres, 2 lab, 0 other)

DENT   1444   Expanded Functions I
This course combines lecture and laboratory practice
to help introduce dental assisting students to those
advanced functions which the Minnesota Board of
Dentistry allows registered dental assistant (RDA) to
perform under Indirect Supervision of a licensed den-
tist. Minimal skill development is achieved on
typodonts and models prior to patient experiences.
Prerequisites: DENT1400, DENT1408,
DENT1410
(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 den-
tistry practices for observation during the summer
between years. Students will spend approximately
four (4) hours in each type of specialty office, as
well as in both a smaller and a larger general den-
tistry office and a full service dental laboratory.
Prerequisites: Successful completion of all first
semester and second semester technical courses.
(1 C: 0 lect/pres, 0 lab, 1 other)

DENT   2404   Dental Health
This course will provide an overview of dentistry
from a preventative point of view. Current concepts
of disease prevention will be discussed as they
relate to diseases and pathologic conditions that
affect hard and soft tissues of the oral cavity, head
and neck. Development of appropriate personal
oral hygiene practices, as well as accepted patient
teaching techniques, is included.
Prerequisites: DENT1420
(2 C: 2 lect/pres, 0 lab, 0 other)

DENT   2412 Dental Practice Management

This course is designed to acquaint students with legal
and ethical issues vital in dentistry today. It will
expand into the procedures utilized in the management
of the business office. Attention is given to appoint-

ment control, recall, telephone techniques, financial
records maintenance, third-party reimbursement
forms, office manual procedures, and supply inven-
tory.
Prerequisites: GBEH1300 or equivalent
(3 C: 3 lect/pres, 0 lab, 0 other)

DENT   2424   Chairside Assisting II
This course combines lecture and laboratory/
clinical practice to advance the student's skill
development by expanding on restorative
procedures, concepts and techniques used in
various dental specialties and four-handed
dentistry. Students assist each other, dental hygiene
students, instructors and dentists in their skill
development. Aseptic technique and patient safety
principles are developed to a high level.
Prerequisites: DENT1420
(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, composites, and
other materials.
Prerequisites: 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 students'
knowledge and skills working with dental radiol-
ogy. Concepts including, but not limited to, x-ray
physics, production and safety are discussed.
Clinical practice is expanded to include patients.
Prerequisites: DENT1440
(4 C: 2 lect/pres, 2 lab, 0 other)

DENT   2454   Expanded Functions II

This course combines lecture and laboratory/
clinical practice to expand on the students' current
knowledge and skills and to introduce those
advanced functions which the Minnesota Board of
Dentistry allows registered dental assistants (RDA)
to perform under Direct Supervision of a licensed

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dentist. Minimal skill development having been achieved on typodonts and models is now expanded to patient experiences.
Prerequisites: DENT1444
(4 C: 2 lect/pres, 2 lab, 0 other)

DENT   2460   Internship II
This experience will consist of three rotations in different extramural assignments. The first assignment of approximately 6 weeks (120 hours MINIMUM) will be in a general practice dental office. The second assignment of approximately 6 weeks (120 hours MINIMUM) will be in a second (different) general practice dental office. The third assignment of approximately 3 weeks (60 hours MINIMUM) will allow the student to choose between either returning to their first office OR to intern in the specialty practice of their choice.

The intent of each extramural assignment is to allow the student to further develop speed and accuracy of the skills learned throughout the program. Integration of knowledge and skills to a job entry level by hands-on experience and evaluation of competence is expected. The student is given the opportunity to work with one or more dentists and staff in a real-life situation for each rotation.

Prerequisites: DENT1460 and meet ADA requirements for internship
(6 C: 0 lect/pres, 0 lab, 6 other)

DENT   2480 Dental Practice Act Review
This OPTIONAL course is a guided process to help the student to review the Minnesota Dental Practice Act and prepare to write the jurisprudence test required on that document by state law.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

DENT   2484   Board Review
This OPTIONAL course is a guided process to help the dental assistant student to review and prepare to write both the state (Registration) and national (Certification) board examinations.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

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SONOGRAPHY (DMSG)

DMSG1402 Ultrasound Cross-Sectional Anatomy I

This course focuses on a detailed study of the normal anatomy and physiology of the abdomen, neck, musculoskeletal, neonatal brain and non-cardiac chest as it relates to the ultrasound examination.
Prerequisites: BLGY1300 , USCV1420
(3 C: 3 lect/pres, 0 lab, 0 other)

DMSG1404 Diagnostic Medical Sonography I

Detailed study of normal and pathological ultrasound images of the abdomen, thyroid and neonatal head as related to scanning techniques, patient history and laboratory data, and transducer selection and scanning protocols.
Prerequisites: BLGY1300, USCV1420
(3 C: 3 lect/pres, 0 lab, 0 other)

DMSG1406 Clinical Ultrasound I

Introduction to the aspects of sonography in a hospital or simulated clinical laboratory setting. Emphasis will be placed on instrumentation, on imaging, and identification of anatomy of the abdomen and thyroid.
Prerequisites: BLGY1300, USCV1420
(3 C: 0 lect/pres, 3 lab, 0 other)

DMSG2402 Ultrasound Cross-Sectional Anatomy II

This course focuses on a detailed study of the normal anatomy and physiology of the male and female reproductive system, obstetrics covering all trimesters, breast sonography and vascular technology as it relates to the ultrasound field.
Prerequisites: BLGY1302, DMSG1402, DMSG1404, DMSG1406
(2 C: 2 lect/pres, 0 lab, 0 other)

DMSG2404 Diagnostic Medical Sonography II
Detailed study of normal and pathological ultrasound images of the male and female reproductive systems, obstetrics covering all trimesters, breast sonography and vascular technology as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.
Prerequisites: BLGY1302, DMSG1402, DMSG1404, DMSG1406
(3 C: 3 lect/pres, 0 lab, 0 other)

DMSG2406 Clinical Ultrasound II

Practical training in a hospital or simulated clinical laboratory will focus on completing and becoming proficient in the scanning of the human body. Emphasis will be placed on instrumentation, protocol, record findings along with associated calculations, and anatomy identification of the abdomen, thyroid, pelvis, obstetrics, breast and vascular systems.
Prerequisites: BLGY1302, DMSG1402, DMSG1404, DMSG1406
(5 C: 0 lect/pres, 5 lab, 0 other)

DMSG2409 Clinical Ultrasound III

Advanced clinical training in a hospital or clinical setting. The student will focus on completing and becoming proficient in the scanning of the human body, including the abdomen, thyroid, pelvis, obstetrics, breast and vascular systems. Students will broaden and perfect their skills through active hands-on participation. Upon completion, the student will be able to carry out the everyday duties as an ultrasound technologist.
Prerequisites: DMSG2402, DMSG2404, DMSG2406 & USCV1440
(13 C: 0 lect/pres, 13 lab, 0 other)

DMSG2410 Clinical Ultrasound IV

Advanced clinical training in a hospital or clinical setting. The student will focus on completing and becoming proficient in the scanning of the human body, including the abdomen, thyroid, pelvis, obstetrics, breast and vascular systems. Students will broaden and perfect their skills through hands-on participation. Upon completion, the students will be able to carry out the everyday duties as an ultrasound technologist.
Prerequisites: DMSG 2409
(2C: 0 lect/pres, 2 lab, 0 other)

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

ECHOCARDIOGRAPHY
COURSE DESCRIPTIONS (ECHO/USCV)

ECHO1423 Echocardiography I

A study of 2-D imaging, Doppler, M-Mode, and Color Doppler of the normal adult heart. This class will prepare the beginning cardiac sonographer in the methods of collecting normal imaging views, data calculations, and measurements. The focus of this class will be performing an echocardiogram on the normal adult heart with special attention to machine controls, image quality and orientation, and anatomical detail.

Prerequisites: USCV1420

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

ECHO1443 Echocardiography Clinic I

An introduction to the aspects of echocardiography in a simulated clinical setting. Students will learn the techniques of performing an echocardiogram, determining machine technology, optimal settings for machine, patient safety and comfort, use of digital equipment, test phantoms, EKG equipment, and hospital policy, and an introduction to report formatting and result reporting.

Prerequisites: Concurrent enrollment in ECHO1423

(5 C: 0 lect/pres, 5 lab, 0 other)

ECHO2426 Echocardiography II

A more detailed study of ultrasound physics, principles, and instrumentation focusing on echocardiographic pathology recognition and quantification, and potential control/setup errors. Further hemodynamic parameters, measurements and advanced calculations will be studied. This course will introduce the beginning sonographer to the necessary clinical knowledge needed to accurately analyze and interpret echocardiographic representations of cardiac pathology, and manipulate machine controls and digital images. The student will analyze video and digital images for quality and accuracy of reported information. Specialized echocardiographic procedures, quality assurance and accreditation within the echocardiography laboratory will also be covered. Prerequisites: ECHO1423 and USCV 1400

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

ECHO2446 Echocardiography Clinic II

This class is primarily clinical in nature. The class will focus on completing and becoming proficient in the scanning of the adult heart using ultrasound. We will perform complete 2-D, M-Mode, Doppler, and Color scans and record the findings, including all associated calculations. Studies will be performed on students and models. The students will keep a video record of their progress and turn in video images of their students for grading and analysis.

Prerequisites: ECHO1423 and USCV1400

(5 C: 0 lect/pres, 5 lab, 0 other)

USCV1400 Cardiovascular Anatomy and Physiology

A study of the anatomy of the adult heart, basic embryology, cardiac physiology, the function of circulation, coronary circulation, and an introduction to cardiac hemodynamics.

Prerequisites: BLGY1300

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

USCV1420 Intro to C/V & Ultrasound Fields

An in-depth study of the principles of ultrasound physics and instrumentation, modes of operation, basics of transducer technology, operator control selection, frequency modes/selection, and scanning modes and planes for echocardiography.

Prerequisites: None

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

USCV1440 Intro to Clinicals

An introduction to the aspects of clinical medicine. Students will learn the techniques of performing a scholarly literature search, prepare a formal APA format research paper, gather literature for study analysis, and be able to review and summarize research. Students will also be introduced to patient scheduling, hospital policy, and patient privacy/comfort.

Prerequisites: USCV1420

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

USCV2405 Cardiovascular Pathology

An in-depth study of the pathologies related to the heart, their physiological symptoms and outcomes, and their sonographic appearance. An in-depth study of each anatomical aspect of the heart and its

correlative disease processes will be covered. Case reviews and diagnostic interpretations will help students to understand this intricate organ and the pathologies associated with it.
Prerequisites: BLGY1302, USCV1400
(3 C: 3 lect/pres, 0 lab, 0 other)

USCV2450   Applied Clinical Experience
This is the final class in the echocardiography program. This class represents the clinical rotation phase in which the second year echocardiography student learns the detailed clinical work by rotating through various hospitals and working in the echocardiography laboratory. NOTE: Some hospitals and clinics do not call the place that their echocardiograms are performed the "Echocardiography Lab"; this can vary from site to site. In this course the student will apply all of their academic and clinical knowledge gained over the past two years to performing quality echocardiograms on actual patients.
Prerequisites: ECHO22426, ECHO2446, USCV1440 OR ICVT2426, ICVT2446, USCV1440
(13 C: 0 lect/pres, 0 lab, 13 other)

ELECTRICAL CONSTRUCTION TECHNOLOGY COURSE DESCRIPTIONS (ELEC)

ELEC1502   Basic Wiring and Materials I
This course enables students to perform basic wiring of general lighting circuits, switching, receptacles and appliances. Identification of electrical materials and proper installation practices will be carefully evaluated. Service layout and installation calculations will be incorporated with safety habits, tools and romex wiring materials.
Prerequisites: None
(5 C: 2 lect/pres, 3 lab, 0 other)

ELEC1506   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 of conduit, wiremold, PVC and flex wiring systems for installation and safety will be emphasized.
Prerequisites: ELEC1502, ELEC1510
(5 C: 2 lect/pres, 3 lab, 0 other)

ELEC1510   National Electrical Code I
This course will prepare students to apply code to the installation of basic wiring; become aware of laws and licensing of electricians; use and interpret code for general wiring practices.; calculate circuit loads; calculate feeder demands, service installations, overcurrent protection and appropriate grounding practices; and utilize tables for conductor selection and other purposes.
Prerequisites: None
(2 C: 0 lect/pres, 2 lab, 0 other)

ELEC1514   National Electrical Code II
Students will identify code requirements for the installation of wire, cable conduit and wiring systems, also boxes, switches, transformers, lighting equipment, motors, motor controls, and hazardous wiring locations.
Prerequisites: ELEC1510
(2 C: 0 lect/pres, 2 lab, 0 other)

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

ELEC1518 Applied Electrical Principles and Formulas

This course will teach students 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 battery types and capacitor types in industry. Identify basic transformer types and operation. Apply appropriate electrical formulas in solution of electrical problems.
Prerequisites: Accuplacer Math Score of 44 or completion of Basic Math Skills
(5 C: 2 lect/pres, 3 lab, 0 other)

ELEC1522 Drafting Blueprint Reading and Specification

This course teaches students to identify construction design and residential and commercial building. Application of proper symbols and layout of a workable electrical plan along with specifications will enable students to draft a complete set of electrical plans including circuit layout, heating, cooling, and other equipment as required along with the support of a specifications sheet.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

ELEC1526 Applied Electrical Principles and AC Fundamentals

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 circuit, resistive capacitive circuits, and inductive-capacitive circuits. In-phase and out-of-phase conditions will be discussed. Calculate leading and lagging power factor. Calculate power factor correction of equipment and feeders.
Prerequisites: ELEC1518
(5 C: 2 lect/pres, 3 lab, 0 other)

ELEC1530 Electric Heat

This course will teach students to identify various types of electric heat systems and heat transfer methods. Critical thinking will be applied in calculating heating needs and service load. Students will be required to install and connect various heating controls and electric heat units.
Prerequisites: ELEC1502, ELEC1510, ELEC1522
(2 C: 0 lect/pres, 2 lab, 0 other)

ELEC1534 Construction Industry Integration

This course is designed for Construction Electrician students to become familiarized with other trades and skills that they will have to work with on a day-to-day basis as a construction electrician. The course will utilize experts from Carpentry, Heating & Air Conditioning, Plumbing & Welding to teach safety, basic concepts, theory and code of each trade.
Prerequisites: None
(3C: 1 lect/pres, 2 lab, 0 other)

ELEC1538 Industry Skills Development

This course will introduce students to total quality management, team building and networking skills. Students will explore their humanitarian responsibility, personal accountability and develop organizational and management skills. The student will be responsible for developing a working knowledge of the electrical industry, as well as a personal resume, an example of a cover letter, and interviewing skills.
Prerequisites: None
(1C: 0 lect/pres, 1 lab, 0 other)

ELEC2502 Residential Wiring I

Students will work on the installation of temporary service and installation of permanent service for a residential dwelling and enhance wiring skills by the rough-in wiring for a residential dwelling. Job seeking skills will be developed as part of this class.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

ELEC2506 Residential Wiring II

Students will install light fixtures, trim out outlets and switches, wire a furnace, water heater, range and dryer and complete the final installation of a residential dwelling for a final code inspection.
Prerequisites: ELEC2502
(2 C: 1 lect/pres, 1 lab, 0 other)

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

ELEC2510   National Electrical Code III

This course will develop a working knowledge of the National Electrical Code in commercial and industrial situations as they apply to chapters 1-4 in the NEC. Students will be given electrical situations and they should describe the minimum NEC standards.
Prerequisites: ELEC1514
(2 C: 1 lect/pres, 1 lab, 0 other)

ELEC2514   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. Students will be given electrical situations and they should describe the minimum NEC standards.
Prerequisites: ELEC2510
(2 C: 1 lect/pres, 1 lab, 0 other)

ELEC2518   Commercial Wiring and Lighting

Students will read and interpret blueprints and develop procedures to follow in the installation of wiring and control systems used in commercial buildings; determine pipe fill, box fill, voltage drop, ampacities and derating of conductors; develop their pipe bending skills 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; study incandescent, fluorescent, HID, and mercury vapor light fixtures, operation of troubleshooting and repair layout of systems and efficient usage.
Prerequisites: ELEC1506, ELEC1518
(5 C: 1 lect/pres, 4 lab, 0 other)

ELEC2522   AC Motor Control I

Students will study the design, construction and operation of motors. This includes lab time on single phase, squirrel cage, synchronous, repulsion and shaded pole motors. Students will examine the basic design and construction of control equipment for single phase and three phase motors.
Prerequisites: ELEC1526, concurrent registration ELEC2538
(3 C: 1 lect/pres, 2 lab, 0 other)

ELEC2526   AC Motor Control II

This course is a continuation of ELEC2522. Students will examine complex motor control circuits, develop motor control problem solving skills, and design working motor control diagrams.
Prerequisites: ELEC2522

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

ELEC2532   Solid State and PLC Controls

This course will enable students to analyze solid state devices and use the knowledge in a lab to assemble solid state devices such as diodes, rectifiers, filters and transistors. The course will develop into PLC basics and complex PLC motor control situations.
Prerequisites: ELEC2522
(3 C: 1 lect/pres, 2 lab, 0 other)

ELEC2534   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. Students will also analyze hazardous areas as defined in the NEC and interpret various job blueprints.
Prerequisites: ELEC1502
(3 C: 0 lect/pres, 3 lab, 0 other)

ELEC2538   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 trigonomic formulas to describe electrical principals.
Prerequisites: ELEC1518 and ELEC1526
(3 C: 1 lect/pres, 2 lab, 0 other)

ELEC2540   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 & 3 circuits, millivolt & fiberoptic systems, security systems, and fire alarm systems. The student will learn proper cable installation and termination skills, as well as basic problems and solutions to electromagnetic interference and other forms of electrical noise.
Prerequisites: None

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

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

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EMERGENCY MEDICAL SERVICES COURSE DESCRIPTIONS (EMSC)

EMSC 1400 Principles of First Aid
This course provides students with the knowledge and skills called for in most situations in which emergency first aid care is required and medical assistance is not excessively delayed.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 1404 First Aid and CPR for Child Care Providers
This National Safety Council course covers both First Aid and CPR to American Heart Association standards. This one course will meet the training requirements for Family Child Care providers in both CPR and First Aid. This course is designed to cover any illness and injuries to children and infants. CPR certification is valid for two years. First Aid certification is valid for 3 years.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 1420 Basic Emergency Care
This course combines First Aid with Adult and Pediatric CPR. Recognition and treatment of injuries, medical emergencies, cardiac arrest, and choking will be covered for the adult, child, and infant. This course follows the standards of the National Safety Council First Aid and American Heart Association CPR. Course meets the requirements of both family and center-based day care providers and is also the recommended course for construction trades. Meets the standards of OSHA and MSHA. CPR certification is valid for 2 years. First Aid certification is valid for 3 years.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC 1440 Emergency Medical Technician Basic
Department of Transportation designed course for certification of ambulance personnel. This course covers basic minimal emergency care required to work on an ambulance throughout many of the 50 states in the U.S. The course covers basic to more advanced techniques and principles of pre-hospital emergency care. Students must be at least eighteen years old to take the National and State Certification exams. Students who have been convicted of a felony should contact the course coordinator.
Prerequisites: EMSC1480 or HBFA2922 within previous 2 years
(6 C: 4 lect/pres, 2 lab, 0 other)

EMSC 1444 Emergency Medical Technician – Refresher
Required refresher course designed to meet the needs of the certified EMT Technician Basic. This course will update the student to the 1994 EMT-B curriculum and techniques and prepares the student for the Basic EMT refresher examination presented by the MN Department of Health. To take the exam, student must be in last year of current EMT Basic certification or lapsed not more than one year from expiration date on card.
Prerequisites: EMT Basic certificate
(2 C: 1 lect/pres, 1 lab, 0 other)

EMSC 1460 First Responder
This is a Department of Transportation-designed course for non-ambulance personnel such as police, fire, rescue, DNR, industry and private citizens who are involved in pre-hospital emergency care and are first on the scene in an emergency.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

EMSC 1464 First Responder – Refresher
This is a required refresher course for the first responder and provides updates in the latest techniques. Skill levels are tested with written and practice examinations. This course is presented in accordance with DOT Standards and Minnesota Emergency Medical Services Regulatory Board standards for First Responder.
Prerequisites: Proof of current or past certification

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as a Minnesota Emergency Medical Services Regulatory Board First Responder
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSC   1480   Emergency Cardiac Care
This course is designed for health care providers and will cover how to prevent heart attacks and stroke and how to perform CPR in the event that someone does go into respiratory or cardiac arrest or is choking. The course will focus on CPR, stroke and choking procedures for an adult, child and infant one rescuer. The course will then focus on the advanced procedures of two rescuer CPR, special situation CPR, infection control, barrier devices and semi-automatic defibrillation.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

PARAMEDICINE COURSE DESCRIPTIONS (EMSP)

EMSP   1400   Paramedicine I
This is an introductory course for the Paramedicine student reflective of the 1998 National Standards Curriculum. This course will enable the student to advance in knowledge from their EMT-B education to the advanced roll of the paramedic in topics such as medical-legal issues, roles and responsibilities, communication, personal wellness and the etiology of trauma.
Prerequisites: AHA CPR-C course and current EMT-Basic license or certification; concurrent registration in EMSP1402
(3 C: 3 lect/pres, 0 lab, 0 other)

EMSP   1402   Paramedicine Skills I
This is an introductory skills course for Paramedicine students 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 manage-ment, advanced patient assessment/physical exam and others.
Prerequisites: AHA CPR-C course and current EMT-Basic license or certification; concurrent registration in 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 Standard Paramedic Curriculum. Students learn pharmacological con-cepts, 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 nec-essary for safe drug administration.
Prerequisites: EMSP1400, EMSP1402, EMSP1430

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

EMSP   1406   Paramedicine II
This course will cover the Pulmonary and
Cardiology portion of module five of the 1998
National Standard Paramedic Curriculum.
Emphasis is placed on pathophysiological
principals and assessment findings for the student
to formulate a field impression and implement a
treatment plan for a patient with a respiratory or
cardiovascular emergency.
Prerequisites: EMSP1400, EMSP1402,
EMSP1430; concurrent registration with
EMSP1408, EMSP1404
(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
Standard Paramedic Curriculum. It will continue to
enhance and refine the skills learned in EMSP 1402
and expand to more advanced skills in airway man-
agement as well as fundamental skills of cardiac
care. Emphasis is placed on scenario based learn-
ing.
Prerequisites: EMSP1400, EMSP1402,EMSP1430
with concurrent registration EMSP1406, EMSP1404
(3 C: 0 lect/pres, 3 lab, 0 other)

**EMSP   1424   Emergency Pharmocology
for
Paramedics**
This course covers the pharmacology portion of the
1998 National Standards Paramedic Curriculum.
Students learn pharmacological concepts, drug leg-
islation 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 administra-
tion.
Prerequisites: Current EMT-Basic license or
certification (2 C: 2 lect/pres, 0 lab, 0 other)

EMSP   1430   BLS Ambulance Clinical
This course is designed to introduce the student
to the BLS and ALS ambulance operations. The
student will observe the operations, procedures,
and care provided by prehospital personnel along
with performing BLS level skills and advanced

patient assessment
Prerequisites: AHA CPR - C course and EMT-B
license or certification
(1 C: 0 lect/pres, 1 lab, 0 other)

EMSP   1432   Critical Care Clinical

This course covers the various critical care patient
settings after the ambulance personnel, emergency
department or both have given initial care. The stu-
dent 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 regis-
tered nurse, physician or both.
Prerequisites: EMSP1404, EMSP1406,
EMSP1408
(2 C: 0 lect/pres, 0 lab, 2 other)

EMSP   1434   Support Services Clinical
This course covers the various support services and
ancillary areas in a clinical setting that affects what a
Paramedic does in the field. The student utilizes all
of the knowledge and skills learned to this point to
provide and assist in patient care in this setting under
the direct supervision of a Registered Nurse and/or
Physician.
Prerequisites: EMSP1406, EMSP1408
(2 C: 0 lect/pres, 0 lab, 2 other)

EMSP   1438   ALS Ambulance Clinical
This course is designed to introduce students to an
Advanced Life Support ambulance service.
Students will become familiar with the operations,
procedures and cares provided by Paramedics in
the field. Students will be involved with BLS and
ALS patient care and treatment and transport under
the direct supervision of a staff paramedic.
Prerequisites: EMSP1406, EMSP1408
(4 C: 0 lect/pres, 4 lab, 0 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 laced on understanding pathol-
ogy and how it relates to specific medical emergen-
cies.
Prerequisites: EMT-B license or certification.

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Successful completion of EMSP 144, EMSP 1402, EMSP 1406, EMSO 1408, EMSP 1432, EMSP 1436 and EMSP 1438.
(4 C: 4 lect/pres, 0 lab, 0 other)

EMSP2438   Emergency Room Clinical

This course covers the operations of the Emergency Department of a Level I or Level II trauma center. The student utilizes all of the knowledge and skills learned to this point to provide and assist in patient care in this setting under the supervision of a registered nurse and/or physician.
Prerequisites: EMSP2410
(3 C: 0 lect/pres, 3 lab, 0 other)

EMSP   2440   Acute Care Clinical

This course includes clinical rotation through labor and delivery, pediatrics, psychiatry, and possible other areas. Student utilize all the knowledge and skills learned to this point to provide patient care in this setting under the supervision of appropriate staff.
Prerequisites: EMSP2410,
(3 C: 0 lect/pres, 3 lab, 0 other)

EMSP   2460   ACLS Provider

This course will result in the awarding of Advanced Cardiac Life Support certification from the American Heart Association. It covers all of the aspects of treating cardiac patients at the advanced level to include basic and advanced airway control, cardiac rhythm interpretation, medication administration, and post resuscitation management.
Prerequisites: Current CPR-Health Care Provider certification, current RN, Paramedic, or Paramedicine, Cardiovascular Tech, or Respiratory Care Student, and Instructor Approval
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSP2464   Basic Trauma Life Support (BTLS) Provider

This course will award certification as a Prehospital Trauma Life Support Advanced Provider. It will cover areas such as kinematics, various injury pathologies and mechanisms, and trauma patient management priorities.
Prerequisites: Current AHA CPR-C certification. Second year Paramedicine student or current EMT's and Paramedics.
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSP2468   PALS Provider

This course will result in the awarding of Pediatric Advanced Life Support Provider certification from the American Heart Association. It will cover all aspects of treating pediatric respiratory and cardiac patients at the advanced level to include basic and advanced airway management, cardiac rhythm interpretation, medication and fluid administration, intraosseous cannulation and post resuscitation management.
Prerequisites: Current AHA CPR-C certification. Second year Paramedicine student or successful completion of an ECG interpertation class..
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSP2472   Pediatric Education for Pre-hospital Professionals (PEPP)

Pediatric Education for Prehospital Professionals is a 13-hour two day course designed for any allied health professional who is responsible for the emergent care of children. This course has skill stations for ALS and BLS providers concurrently and emphasis is placed towards caregivers that practice in the out-of-hospital setting. Topics include Pediatric Assessment, Respiratory, Medical and Traumatic Emergencies, Children with Special Needs, Child Maltreatment, Emergency Delivery and Newborn Stabilization and others.
Prerequisites: Current AHA CPR-C certification. Second year Paramedicine student, current EMT's or other allied health professionals.
(1 C: 1 lect/pres, 0 lab, 0 other)

EMSP2480   Paramedicine Externship

This course covers the application of advanced level skills and knowledge in the evaluation and care of the sick and injured patient. The student will be involved in practicing the art and science of out-of hospital medicine as a team member and a team leader under the direct supervision of a staff paramedic.
Prerequisites: EMSP2410
(8 C: 0 lect/pres, 0 lab, 8 other)

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

ELECTRONIC CORE
COURSE DESCRIPTIONS (ETEC)

ETEC1506   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 problem solving, simulation and laboratory experiments. Topics include: number systems and codes, logic gates and boolean algebra, combinational logic circuits, flip-flops, counters and registers, integrated circuits, and interfacing with the analog world.

Prerequisites: None
(4 C: 2 lect/pres, 2 lab, 0 other)

ETEC1510   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 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.

Prerequisites: None
(8 C: 5 lect/pres, 3 lab, 0 other)

ETEC1520   Semiconductors 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 problem solving, simulation and laboratory experiments. Topics include: semiconductor theory, diodes, bipolar and field effect transistors, transistor biasing, ac models, voltage and power amplifiers, silicon controlled rectifiers, frequency analysis, operational amplifiers, feedback, active filters, comparators, oscillators, power supplies, operation of basic test equipment, handling procedures for semiconductor devices, and experimental verification of semiconductor device characteristics.

Prerequisites: ETEC1510
(8 C: 4 lect/pres, 4 lab, 0 other)

ETEC2504   Telecommunications I

This course covers cable television and telephone fundamentals by introducing the student to the technical concepts, equipment, and test procedures involved with the generation and distribution of telecommunication signals; and the basic concepts that govern the operation of today's telecommunication systems.

Prerequisites: None
(2 C: 1 lec/pres, 1 lab, 0 other)

ETEC2508   Telecommunication II

This course covers central office design, installation and maintenance. Topics include dialed number code routing translations, DSI Digital Trunk Interfaces, POTS Lines, customer subscriber features and feature Interactions, traffic measurement principles, ATM switching principles, DSL, record keeping, and regular system backups. Power plants and grounding are also covered.

Prerequisites: ETEC2504
(2 C: 1 lect/pres, 1 lab, 0 other)

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

ETEC2510 Fluid Power

This course is an introductory course in Fluid Power. This course is designed for students who have no previous experience in fluid power or hydraulics. The primary goals of this course are to help individuals acquire a practical knowledge of fluid power and hydraulic components and systems and to apply these skills through problem solving, simulation and laboratory experiments. Topics include: pressure, flow, properties of fluids, fluid conductors, seals, reservoirs, contamination control, actuators, directional control valves, pressure controls, flow controls, proportional and servo valves, pumps, motors, accessories, hydraulic circuits and systems.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

ETEC2514 Cabling & Termination

This course covers fundamental principles for cable splicing. Topics include cable construction basics of transmissions, color coding, cable lay-ups and closures, and splicing of cables used in the telephone and cable television industries. The student will learn procedures in installing cable TV and telephone drop wire to customer homes; including proper grounding and grounding techniques, safety, connector installation, cable routing, methods of attachment, dwelling entry, and the types of drop cable and their specific uses are discussed. Troubleshooting and maintenance of customer drops are discussed.
Prerequisites: None
(4 C: 2 lect/pres, 2 lab, 0 other)

ETEC2518 RF Engineering Concepts

This course covers the fundamentals of radio frequency oscillators, amplitude modulation/demodulation, and AM/FM receiver circuitry, radio frequency amplifiers, transmitters, transmission lines, and antennas.
Prerequisites: ETEC2520, TECH 1500 or MATH1300
(3 C: 2 lec/pres, 1 lab 0 other)

ETEC2520 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 knowledge of process control instruments and systems and the necessary skills to install and maintain these systems through simulation and laboratory experiments. Topics include: level, pressure, flow and temperature sensors, electronic and pneumatic instruments, signal conditioning, control and process diagrams, calibration of instruments, control components and systems.
Prerequisites: ETEC1510 or concurrent registration
(4 C: 2 lect/pres, 2 lab, 0 other)

ETEC2524 Telecom Outside Plant Construction

This course covers basic construction of a pole line, aerial suspension strand, underground cable construction, locating of buried plant, and aerial plant cable construction for the telephone and cable television industries.
Prerequisites: ETEC2514
(4 C: 2 lect/pres, 2 lab, 0 other)

ETEC2528 Fiber Optics

This course covers fiber optics starting with transmission of light to installation and repair of operating systems. A students will be able to analyze problems in a fiber optic system and make effective repairs including fiber optic splicing, termination, and fusing using appropriate test equipment.
Prerequisites: ETEC2514
(3 C: 2 lect/pres, 1 lab, 0 other)

ETEC2530 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 indepth knowledge of process control systems and to acquire the necessary skills to analyze these systems through simulation and laboratory experiments. Topics include: feedback and feed-forward control loops, cascade loops, PID controllers, ratio controllers, batch control, tuning control loops, analyzing and troubleshooting control systems.
Prerequisites: ETEC2520
(4 C: 2 lect/pres, 2 lab, 0 other)

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ETEC2534 Telecommunications Systems

In this course the student explores different types of telecommunication systems from the plain old telephone service to the new digital hybrids. The student will become familiar with design and installation of analog and digital systems as they pertain to the telecommunications world.
Prerequisites: ETEC2504
(3 C: 2 lect/pres, 1 lab, 0 other)

ETEC2536 Broadband System Design & Analysis I

In this course the student will activate, test, and balance a cable television system using various types of brands of equipment. The student will become familiar with the equipment used in signal transportation, learn the techniques involved with balancing and troubleshooting various types and brands of line amplifiers using a variety of test equipment. The student will learn designing of a complete CATV system, feeder and trunk lines with proper location of all active and passive devices including fiber optic and coaxial cable (HFC systems).
Prerequisites: ETEC2504
(3 C: 1 lect/pres, 2 lab, 0 other)

ETEC2538 Broadband System Design & Analysis II

This course covers designing a cable TV system with computer software and printing/plotting results of design and it covers equipment ised in a cable TV head end, including signal processors, encoding, combining signals, and identification of unacceptable video and sound qualities. The student will troubleshoot and repair said equipment as to manufacturer's specifications. The student will be introduced to the equipment used to analyze cable television system parameters; and learn the techniques involved in the operation and maintenance of various types and brands of test equipment.
Prerequisites: ETEC2536
(3 C: 1 lect/pres, 2 lab, 0 other)

ETEC2540 Automation

This is a fundamental course in automated control circuits, devices and systems. This course is designed for students who have a good working knowledge of basic electricity. A background in semiconductor and digital devices would be helpful but not necessary to be successful in this course. Students will acquire a working knowledge of automated circuits, systems and devices by building and testing actual control circuits, and programming programmable logic controllers. Topics include: contact and non-contact sensors, solenoids, relays and relay logic, AC/DC motors, timing devices, counters, encoders, servomechanisms, programmable controllers, robotics, computer-numeric-controllers, ladder logic, and ladder diagrams.
Prerequisites: ETEC1510, or concurrent ETEC1510
(4 C: 3 lect/pres, 1 lab, 0 other)

ETEC2550 Automation Project Lab

This course is a hands-on course in automation. Students will design, build and test basic automated control circuits, select appropriate components, interpret system specifications, write, modify and debug programs for programmable logic controllers and troubleshoot and repair automatic control circuits and systems. Projects include: machine sequencing, elevator control, bottle filling system, material handling systems, robotic systems and motor control systems.
Prerequisites: ETEC2540
(4 C: 0 lect/pres, 4 lab, 0 other)

ETEC2560 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 2–4 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.
Prerequisites: ETEC2520 or ETEC2540 or equivalent experience
(4 C: 0 lect/pres, 4 lab, 0 other)

ETEC5001 Applied Math and Physics

This course covers the fundamentals of algebra, plane geometry, right triangle trigonometry, the laws of physics pertaining to force, work, energy, and power. Students practice solving practical problems by applying acquired math skills and the fundamental laws of physics. A review of the fundamentals of general mathematics is also covered.
Prerequisites: Must be a member of the cohort

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training group.
(5 C: 4 lect/pres, 1 lab, 0 other)

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FARM BUSINESS MANAGEMENT COURSE DESCRIPTIONS (FBMT)

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, record keeping, and business projections to provide the foundation for personal and business management progress. Current issues affecting business management are an integral part of the course.
Prerequisites: None
(4 C)

FBMT 1121 Preparation for Farm Business Analysis

This course will take students through a step by step procedure to close out a complete year of farm business records. This course will emphasize tax planning, completing inputs to livestock and crop enterprises, and emphasizing cash and liabilities accuracy. A completed business and enterprise analysis will be the course focus.
Prerequisites: None
(4 C)

FBMT 1122 Implementing the System Management Plan

This course builds on the foundation of farm business management. Students will complete a farm business financial and enterprise analysis. Sound financial record keeping is an integral component.
Prerequisites: None
(4 C)

FBMT 1131 Managing and Modifying Farm System Data

This course helps students 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.
Prerequisites: None

(4 C)

FBMT 1132 Interpreting and Using Farm System Data

This course provides an opportunity for the student to view the farm business and its various components through a number of vehicles such as balance sheets, farm personal and managerial inventories, enterprise reports and historical data.
Prerequisites: None
(4 C)

FBMT 1211 Introduction to 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.
Prerequisites: None
(4 C)

FBMT 1213 Managing a Farm System in a Global Economy

This course assists students in achieving awareness of development in agricultural policies and practices throughout the world and assessing the impact of these policies and practices on the profitability and viability of their farm business.
Prerequisites: None
(2 C)

FBMT 1223 Using System Analysis in Total Farm Planning

This course enables study of concepts related to farm business analysis, and exploration of possible implications and/or solutions to these concepts. A systematic method to assess farm business strengths and weaknesses based on the analysis will be used.
Prerequisites: None
(2 C)

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FBMT 1233 Application of Productive Enterprise Information

This course describes procedures for applying enterprise information provided by computerized analysis of farm business accounts.
Prerequisites: None
(2 C)

FBMT 2141 Interpreting and Evaluating Financial Data

This course continues to expand on preparation and evaluation of the farm business analysis. This course provides continued guidance and perfection of business record close out procedures, tax implications of management decisions, and continues to monitor farm business and family goals.
Prerequisites: None
(4 C)

FBMT 2142 Interpreting Trends in Business Planning

This course examines whole farm, enterprise, balance sheet, and inventory trends. Current analysis data is compared to historical data in making future farm business planning decisions. Financial ratios are used to indicate the farm financial structure.
Prerequisites: None
(4 C)

FBMT 2151 Strategies in Farm System Data Management

This course helps the student focus on long term strategies necessary to maintain and enhance the farm business and personal future financial goals. Students will complete the year by developing an accurate, usable business analysis.
Prerequisites: None
(4 C)

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.

Prerequisites: None
(4 C)

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 will evaluate several years of an improved farm system analysis.
Prerequisites: None
(4 C)

FBMT 2162 Refining Farm System Management

This course is the culmination of activities designed to enable students to develop and implement a comprehensive farm business strategic plan. Students will use the components of the Farm Business Management Program to develop and support a farm business strategic plan.
Prerequisites: None
(4 C)

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 to measure both earnings and financial progress.
Prerequisites: None
(2 C)

FBMT 2253 System Plans and Projections

This course enables the combination of concepts for preparing farm systems plans and projections, and the interaction of possible implications and/or solutions of these concepts.
Prerequisites: None
(2 C)

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

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subject matter and time spent per topic will vary depending on student need, location, and time.
Prerequisites: None
(2 C)

FBMT   2300   Computer Applications in Farm Management
This course discusses basic computer literacy, identify commonly used software, and demonstrate the uses of commonly used software.
Prerequisites: None
(2 C)

FBMT   2305   Legal Issues in Agriculture
This course examines rental contracts, liability i nsurance, purchase agreements, and farm transfer issues.
Prerequisites: None
(2 C)

FBMT   2310 Environmental Interactions in Agriculture
This course examines a variety of environmental issues related to agriculture and suggested ways in which to address the issues.
Prerequisites: None
(2 C)

FBMT   2315 Effective Time Management
This course explores various time management principles and their utilization within the farm business.
Prerequisites: None
(2 C)

**FBMT   2320   Family Wellne Business
        Relationships**
This course studies rural health issues and their effects on successful business ventures.
Prerequisites: None
(2 C)

FBMT   2325   Ethics in This Business of Agriculture
This course will explore the various ways in which a farm business conducts business and addresses their proper conduct.
Prerequisites: None
(2 C)

FBMT   2330   Business Math Principles
This course will establish methods in determining inventory, calculating acreages, determining yields, calculating fixed and variable costs, and assist in understanding depreciation methods.
Prerequisites: None
(2 C)

FBMT   2335   Labor Economics and Management
This course will address the use of labor in agriculture, labor work agreements, hired labor tax issues, and the evaluation of labor usage in a business.
Prerequisites: None
(2 C)

FBMT   2340   Rural Leadership
This course will examine various farm organizations, the USDA, and local political systems.

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General Education
Course Descriptions

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 <u>any</u> public college or university in Minnesota. The transfer curriculum commits all public colleges and universities in the state of Minnesota to a broad educational foundation that integrates a body of knowledge and skills with study of contemporary concerns—all essential to meeting individuals' social, personal, and career challenges. The competencies people need to participate successfully in this complex and changing world are identified by areas of emphasis.

The following courses fulfill the requirements included in the Minnesota Transfer Curriculum in the area of Written and Oral Communication:

COMM1300 Analytical Writing
This course is designed to develop the writing, research and analysis skills necessary for success in academic work. Students will analyze and discuss critical readings from the text. They will plan, write, and revise personal essays and work effectively in peer evaluation groups. They will develop research skills in a variety of projects, culminating in one extensive research paper.
Prerequisites: Must have earned a 73 or above on the CPT Conventions of Written English test or its equivalent. Or must have completed an approved developmental writing course with a "P" if pass/fail or a "C" or above if graded.
(4 C: 4 lect/pres, 0 lab, 0 other)

COMM1320 Introduction to Speech Communication
Students will study the history and need for communication in our daily lives. Interpersonal communication, small group communication and public speaking will also be studied as integral elements in the communication process. Students will be encouraged to study theory, think critically, organize clearly, and speak and listen effectively.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

The following course fulfills the requirements included in the Minnesota Transfer Curriculum in the area of Humanities:

ENGL 1300 Introduction to Literature
An introduction to the study of creative literature in order to engage in critical analysis, form aesthetic judgments and develop an appreciation of literature as essential to the survival and enrichment of society.
Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

The following course fulfills the requirements included in the Minnesota Transfer Curriculum in the area of Critical Thinking or Humanities:

CRTK 1300 Introduction to Crit Thinking
This is a practical course in critical thinking. It develops monological, multilogical and ethical reasoning skills and explores creative and logical approaches to problem solving. It examines how our thinking skills affect our personal identities, our relationships with others, and our understanding of culture. It analyzes systems of ideas, multiple perspectives on issues, and differing analytical approaches. It develops the higher order thinking skills, intellectual values, and the qualities of thought important for personal integrity, academic success, and effective citizenship.
Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

The following courses fulfill the requirements included

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BLGY1300 Human Anatomy & Physiology I

Structure and metabloic activity of organ systems including muscular, skeletal, nervous, and integumentary.
Prerequisites: None
(4 C: 2 lect/pres, 2 lab, 0 other)

BLGY1302 Human Anatomy & Physiology II

Structure and metabolic activity of organ systems including circulatory, respiratory, digestive, excretory, endocrine, and reproductive.
Prerequisites: BLGY1300
(4 C: 2 lect/pres, 2 lab, 0 other)

PHYS1300 General Physics

This is an introductory course in Physics and its applications. This course is designed for students who have no previous experience in physics, however a good working knowledge of algebra is assumed. The primary goals of this course are to help individuals acquire a solid foundation in the basic theory and application of classical physics and to apply these skills through problem solving, simulation, and laboratory experiments. Topics include: linear and rotational motion, vectors, forces and equilibrium, work and energy, momentum, properties of solids, liquids and gases, heat and thermodynamics, waves and sound.
Prerequisites: TECH1500 or MATH1300 or Instructor Approval. Students wishing additional assistance in understanding the applications of the principles of physics and problem solving may choose to have concurrent registration with PHYS1302.
(4 C: 3 lect/pres, 1 lab, 0 other)

The following course does not fulfill the requirements included in the Minnesota Transfer Curriculum:

PHYS1302 Physics Principles and Problem Solving

This course is designed for students who are enrolled in General Physics (PHYS1300) and have no previous experience in physics. The primary goal of this course is to assist individuals in under-standing the application of the basic theories of classical physics through additional explanations and problem solving. Topics include: linear and rotational motion, vectors, forces and equilibrium, work and energy, momentum, properties of solids, liquids and gases, heat and thermodynamics, waves and sound.
Prerequisites: TECH1500 or MATH1300 or Instructor Approval. Concurrent registration with PHYS1300 General Physics.
(1 C: 1 lect/pres, 0 lab, 0 other)

The following courses fulfill the requirements included in the Minnesota Transfer Curriculum in the area of Mathematical/Logical Reasoning:

MATH1300 College Algebra

This course covers topics typically addressed in a college algebra course. The course is designed for students who have good elementary and applied algebra skills. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills of college algebra and to show how college algebra can be used to model and solve authentic real-world problems.
Prerequisites: Elementary and Applied Algebra skills, or consent of Instructor.
(3 C: 2 lect/pres, 1 lab, 0 other)

MATH1320 College Trigonometry

This course covers topics typically addressed in a college trigonometry course. The course is designed for students who have good algebra skills and need to understand trigonometric functions and their applications. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills of college trigonometry and to show how college trigonometry can be used to model and solve authentic real-world problems.
Prerequisites: TECH1500 or MATH1300, or Instructor Approval.
(2 C: 1 lect/pres, 1 lab, 0 other)

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MATH 1330 Cultural Mathematics

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 critial thinking, sets, logic, number systems, algebra, graphs, functions, linear equations, inequalities, metric system, geometry, probability, and statistics. Emphasis will be placed on applications in these topic areas.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

The following courses fulfill the requirements included in the Minnesota Transfer Curriculum in the area of History and the Social and Behavioral Sciences:

PSYC 1300   Introduction to Psychology

Survey of contemporary scientific psychology. This course includes: biological bases of behavior, cognitive mechanisms, learning and behavioral adaptation, development, social influences, personality, disorders and treatment.
Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

PSYC 1304   Life Span Developmental Psychology

Life Span Psychology is both intriguing and biolgraphic because each of us is constantly developing. The course examines human biosocial, cognitive, and psychosocial development in diverse contexts from "Womb to Tomb". It includes coverage of scientific discoveries and theories; critical analysis of evidence supporting or contradicting those theories; basic concepts and terminology, integration of personal experience and developmental theory and research; and related current public policy and diversity issues.
Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

The following course fulfills the requirements included in the Minnesota Transfer Curriculum in the area of Human Diversity, History, or Humanities:

DVRS 1300   Introduction to Multicultural Literature

This course provides a broad introduction to multicultural literature. Students will read, discuss, and analyze various types of multicultural literature. Literature to be studied may include the following: Native American, Holocaust, African American, Japanese American, Latino/Latina, Chicano/Chicana, Vietnam War, Gay/Lesbian, or Chinese American.
Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

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The following course fulfills the requirements included in the Minnesota Transfer Curriculum in the area of Human Diversity, History, or Social and Behavioral Science:

DVRS1304 Diversity and Social Justice

This course uses critical thinking and questioning to define, recognize and analyze individual, institutional and cultural/societal racism, sexism, classism, heterosexism and other forms of oppression. It will focus on development of practical skills for eliminating racism, sexism, classism, heterosexism and other oppressive elements from personal, professional and public life.

Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

The following course fulfills the requirements included in the Minnesota Transfer Curriculum in the area of Global Perspective.

GEOG1300 World Regional Geography

A survey of the physical, cultural, economic and political features of the world's geographic regions. Identification of world's countries and major cities.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

The following courses fulfills the requirements included in the Minnesota Transfer Curriculum in the area of Ethical and Civic Responsibility, History, or Social and Behavioral Science:

CVIC 1304 Introduction to American Politics

This is an introductory course on political philosophies (democracy, totalitarianism, etc.), political institutions (global, federal, state, and local governmental systems), and processes (how a bill becomes a law, etc.). Team learning, community involvement and off-campus activities such as city council meetings are used as teaching tools.

Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing stu-

dents) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

The following course fulfills the requirements included in the Minnesota Transfer Curriculum in the area of Ethical and Civic Responsibility

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

The following course fulfills the requirements included in the Minnesota Transfer Curriculum in the area of People and the Environment:

ENVR 1300 Introduction to Urban and Regional Studies

This course explores the political, economic, social and architectural aspects of towns, cities and suburbs. Students will actively analyze community problems (parking, development, historical preservation, etc.) and participate in the processes which address these problems (city government, planning committees, etc.). This is a hands-on course designed to explain local and urban affairs and to have students participate in the processes which affect our cities, towns and rural areas.
Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

The following courses do not fulfill the requirements included in the Minnesota Transfer Curriculum:

ANTH1300 Introduction to Cultural Anthropology

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Students will learn and apply anthropology concepts and methods as tools for self understanding, and for understanding others. the course will focus on ways anthroplogy can be applied to workplace cultures and to understanding the world we live in.

Prerequisites: This is a reading intensive course. New students (non-transfer or non-contuinuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" (Pass) if Pass/Fail, or "C" or above if graded.

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

CPTR1300   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 and an understanding of word processing, database management and spreadsheet programs. This course teaches the appreciation of the moral and social implications of computer technology, computer applications used in today's society, the human factors involved in the use of computers, and will review the development of computers.

Prerequisites: BUSM1207, Instructor Approval, or equivalent keyboarding skill

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

CSSC 1300   Career Exploration

This course is designed for students who are not enrolled in a program of study and are uncertain about their career choices. The course will assist students in determining educational and career direction through an examination of values, preferences, interests, and skills. In addition, students will become familiar with sources of occupational information. Decision-making and goal setting skills are utilized in the development of an educational and career plan.

Prerequisites: None

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

CSSC 1302   Career Development

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 lifelong learning, and to become aware of critical attitudes needed in job keeping and career advancement. Students not within 2 semesters of graduation need instructor approval.

Prerequisites: None

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

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GENERAL STUDIES
COURSE DESCRIPTIONS

**Service Learning available in some sections.

GBEH   1300   Human Relations

Analyzes human relationships in social, institutional, and cultural contexts. Analyzes the effects of attitudes, values, and beliefs on communication and behavior. Examines the roots of privilege, oppression, and cultural change.
Prerequisites: This is a reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension subtest or its equivalent. Or they must have completed an approved developmental reading course with a grade of "P" Pass if Pass/Fail, or "C" or above if graded.
(3 C: 3 lect/pres, 0 lab, 0 other)

GBEH   1320   Politics in Contemporary America
Analyzes national, state, and local political systems. Examines the individual citizen's role in and impact on political decision making. Selected social issues will be discussed.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

GBUS1300   Job Seeking Skills
This course covers an individualized approach to identifying career objectives, as well as providing training in job seeking skills. Students will create résumés, write letters of application, complete a job application form, and participate in mock interviews.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

GBUS 1320 Professional Development I
This course will help students develop team building skills, leadership skills, enhance their personal and professional confidence.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

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GBUS 1324 Professional Development II

This course will introduce students to total quality management, team building and networking skills. Students will explore their humanitarian responsibility, personal accountability and develop organizational and management skills.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

GBUS 1328 Professional Development III

This course will help the student use individual and team skills in various meetings and community activities. The Spring or Fall Home Shows, Parade of Homes, and business tours would be included.
Prerequisites: GBUS1320, GBUS1324
(1 C: 1 lect/pres, 0 lab, 0 other)

GBUS1340 Principles of Quality/Team Building

This is an introductory class that provides students with an overview of the theory and evaluation of Total Quality Management; Basic TQM Skills and Strategies; and Specific Applications of TQM for classroom use.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

GCOM0300 Reading and Vocabulary

This course will focus on basic reading comprehension and vocabulary development. Students will use novels, articles, and newspapers to develop general vocabulary, and students will explore technical vocabulary unique to their interests. Assignments will incorporate new vocabulary. This course is developmental and does not fulfill a general studies requirement.
Prerequisites: None
(2 C: 0 lect/pres, 2 lab, 0 other)

GCOM0304 Reading Strategies

Expands students' ability to successfully use reading strategies for achievement in college courses. Course material will focus on textbooks and other types of reading materials prevalent in the technical college. This course is developmental and does not fulfill a general studies requirement.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

GCOM0306 Basic Writing Skills

Provides an overview in the basic study and review of standard written and spoken English. The course emphasizes English usage, sentence structure, punctuation, grammar, spelling, paragraph writing, and an introduction to composition.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

GCOM0320 Study Skills I

Students develop study skills necessary for continued academic success in college. Studies include memory, time management, notetaking, listening, summarization, testing and other study skill components. The focus is the development of personal study habits that will aid the student in reaching a desired level of academic accomplishment.
Prerequisites: None
(1 C: 0 lect/pres, 1 lab, 0 other)

GCOM0340 Reading, Thinking, and Writing

This course is intended to develops the student's ability to read, comprehend, analyze, and draw conclusions from written material. The course emphasizes the reading, thinking, and writing skills necessary for beginning college work. Topics include developing vocabulary, analyzing relationships, making judgements based on data, and expressing thoughts clearly. In this class, students will identify, define, examine, analyze and explain ideas present in written material..This course is developmental and does not fulfill a general studies requirement.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

GCOM1300 Efficient Reading

Students will be able to increase their success and

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proficiency in college level reading through reading rate practice, and developing efficient reading strategies through summarizing, critical reading and comprehension.

Prerequisites: Assessment score recommending college level coursework

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

GCOM1340 Written Communication

Emphasizes writing skills impacting academic success, personal development, and social/cultural involvement. Organization, tone, purpose, mechanics, and forms of development are addressed along with general communication issues.

Prerequisites: This is a writing and reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension sub-test and Language sub-test or their equivalent. Or they must have completed an approved developmental reading or writing course with a grade of "P" Pass if Pass/Fail or "C" or above if graded.

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

GCOM1360 Interpersonal and Group Communication

Students will develop interpersonal communication skills in different relationships and communication contexts. Principles and dynamics of small group communication will be applied in group projects and activities.

Prerequisites: This is a writing and reading intensive course. New students (non-transfer or non-continuing students) must have earned a 71 or above on the ACCUPLACER Computerized Placement Test Reading Comprehension sub-test and Language sub-test or their equivalent. Or they must have completed an approved developmental reading or writing course with a grade of "P" Pass if Pass/Fail or "C" or above if graded.

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

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Graphic Design Core
Course Descriptions (GRAD)

GRAD1210 QuarkXPress
QuarkXPress is the dominant page layout program for the graphic arts industry. Students will learn how to use this powerful software to create pamphlets, advertisements, booklets, and other printed or digital document. Features include expansive text manipulation, photo and illustration control, color trapping, art and design capabilities, and preparation for output. A highly versatile program that is valuable for beginners and professionals alike.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

GRAD1220 Adobe Photoshop
Adobe Photoshop is the leading software tool used by the design community and pre-press industry to create special effects using photographic and computer-generated images. Students will learn the functions of this application to create and process images for various outputs, including print media, multimedia, and Web images. The basics of scanning will be covered. Design and color are taught as integral parts of this class.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

GRAD1230 Communicating on the WWW
This course covers the creation and design of a web page. In this course students will construct a web page based on sound design principles. Students will code the page using HTML and Java as the basic language of the World Wide Web. This course is not intended to make the student a programmer, but to make the student comfortable with Web Page design and gain a basic knowledge of HTML and Java.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

GRAD1240 Dreamweaver
Marcomedia Dreamweaver is a web designer's software program that combines visual layout tools with test based HTML editing features for the creation, management, and maintenance of Web sites. This course guides you toward developing necessary skills in designing and building Web pages and combining them into a finished, publishable product.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

GRAD1270 Web Design Project
This course is designed to challenge the web designer student during their last semester with a specialized web design experience exemplarily of industry standards. Each web design project is an individualized experience with a sponsoring business professional/agency and their instructor. Students will integrate knowledge of copywriting, design, research, and digital photography techniques into their project. Each project will include a finished web site for a local (fictitious or real) company.
Prerequisites: ADVR 1200, 1230, 1250, 2210, 2280, GRAD 1220, 1230, 1240.
(2 C: 0 lect/pres, 2 lab, 0 other)

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HEATING, AIR CONDITIONING AND REFRIGERATION TECHNOLOGY COURSE DESCRIPTIONS (HART)

HART 1502 Copper and Gas Piping

In this course students will learn to solder, braze, swage, and flare copper tubing as used in the HART field. Students will also learn how to cut, debur, and thread gas piping for HART field.
Prerequisites: None
(1 C: 0 lect/pres, 1 lab, 0 other)

HART 1506 Schematics and Blueprint 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 furnaces and air conditioners for residential homes.
Prerequisites: HART1514, HART1518
(3 C: 2 lect/pres, 1 lab, 0 other)

HART 1510 Sheetmetal

This course will enable students to use sheet metal hand tools, squaring sheer and brake to make simple sheetmetal fittings. Students will lay out and make many different sheetmetal projects in residential heating and air conditioning.
Prerequisites: None
(1 C: 0 lect/pres, 1 lab, 0 other)

HART 1514 Forced Air Heating

In this course students 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 a home.
Prerequisites: None
(5 C: 3 lect/pres, 2 lab, 0 other)

HART 1518 Electrical Control Heating and Air Conditioning

This course will start out with the fundamentals of electricity and take students through the safety and operative controls in residential heating and air conditioning. Students will learn how they operate, what they control, and what the controls are protecting and how they are protecting the unit, device or structure.
Prerequisites: None
(4 C: 2 lect/pres, 2 lab, 0 other)

HART 1522 Installation of Heating and Air Conditioning

This course will enable students to install furnaces and air conditioners in residential houses. It also includes gas piping standard and two-pound systems. The proper venting of standard and high efficiency furnaces is included. Students will be able to correctly install evaporators and condensing units for central air conditioning.
Prerequisites: HART1502, HART1510, HART1514, HART1518
(3 C: 2 lect/pres, 1 lab, 0 other)

HART 1526 Princi Conditioning

In this course students will be introduced to refrigeration systems used in air conditioning. Students will also learn the function of the four basic components of the air conditioner, evaporator, condenser, compressor and metering devices. Charging, evacuating and reclaiming residential air conditioning systems. will be covered..
Prerequisites: HART1514, HART1518
(4 C: 2 lect/pres, 2 lab, 0 other)

HART 1530 Heat Pumps

In this course students will study fundamentals of heat pump as applied to both heating and air conditioning. Air-to-air heat pump, ground source heat pumps, and how each work will be included.
Prerequisites: HART1514, HART1518
(2 C: 1 lect/pres, 1 lab, 0 other)

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HART   1534   Troubleshooting Heating and Air Conditioning

This course will enable students to diagnose malfunctions in residential heating and air conditioning systems by learning the proper troubleshooting techniques, repairing or replacing defective components.
Prerequisites: 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 and skills necessary to complete résumé and job interviews. This course will also cover customer relation and service order documentation skills as it relates to the HVAC industry.
Prerequisites: HART1502, HART1510, HART1514, HART1518, and HART1540
(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 in a residential heating and air conditioning company.
Prerequisites: 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.
Prerequisites: HART2506, HART2510, HART2522, HART2530, HART2540
(4 C: 2 lect/pres, 2 lab, 0 other)

HART   2506 Commercial Refrigeration I

Students will study fundamental principles of commercial refrigeration. Students will study accessories and perform troubleshooting on commercial applications.
Prerequisites: HART1502, HART1506, HART1510, HART1514, HART1518, HART1522, HART1526, HART1530, HART1534, HART1538, 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.
Prerequisites: HART1502, HART1506, HART1510, HART1514, HART1518, HART1522, HART1526, HART1530, HART1534, HART1538, 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 check and teardown of compressors.
Prerequisites: HART2506, HART2510, HART2522, HART2530, HART2540
(3 C: 1 lect/pres, 2 lab, 0 other)

HART   2518 Commercial Troubleshooting

Students will use knowledge and tools to troubleshoot commercial refrigeration, air conditioning and heating equipment. Students will use refrigeration theory and electrical diagrams to troubleshoot equipment.
Prerequisites: HART2506, HART2510, HART2522, HART2530, HART2540
(2 C: 1 lect/pres, 1 lab, 0 other)

HART   2522   Comm Conditioning

Students will service and install commercial air conditioning systems. Students will do an in-depth study of controls and types of air conditioning systems as they relate to the commercial field.
Prerequisites: HART1502, HART1506, HART1510, HART1514, HART1518, HART1522, HART1526, HART1530, HART1534, HART1538, HART1540
(3 C: 2 lect/pres, 1 lab, 0 other)

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HART 2526 Commercial Heating and HVAC Systems

Students will use their skills and knowledge to troubleshoot, perform maintenance and install commercial heating and HVAC equipment. Students will do an in-depth study of controls and design of commercial heating and HVAC systems.
Prerequisites: 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 proper piping size and accessories for the equipment selected.
Prerequisites: HART1502 to 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 HART equipment.
Prerequisites: HART2506, HART2510, HART2522, HART2530, HART2540
(2 C: 1 lect/pres, 1 lab, 0 other)

HART 2540 Internship – Commercial

This course is designed to allow students to apply the knowledge and skills learned in the classroom and lab. Students will work for commercial heating, air conditioning and refrigeration companies.
Prerequisites: HART1502, HART1506, HART1510, HART1514, HART1518, HART1522, HART1526, HART1530, HART1534, HART1538, HART1540
(2 C: 0 lect/pres, 0 lab, 2 other)

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American Sign Language Interpreter/Transliterator Course Descriptions (HASL)

HASL1400   American Sign Language I
This course is an introduction to American Sign Language (ASL), a visual/gestural language used by Deaf people in the United States and parts of Canada. Communicative functions, vocabulary, grammar and cultural aspects of the deaf community are included.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

HASL1404   American Sign Language II
This course is ongoing instruction of American Sign Language (ASL), a visual/gestural language used by deaf people in the United States and parts of Canada. Communicative functions, vocabulary, grammar and cultural aspects of the Deaf Community are further developed to include other persons.
Prerequisites: HASL1400
(3 C: 3 lect/pres, 0 lab, 0 other)

HASL1408   American Sign Language III
This course is ongoing instruction of American Sign Language (ASL), a visual/gestural language used by deaf people in the United States and parts of Canada. Communicative functions, vocabulary, grammar and cultural aspects of the Deaf Community are enhanced through conversation.
Prerequisites: HASL1404
(3 C: 3 lect/pres, 0 lab, 0 other)

HASL1412   American Sign Language IV
This course is ongoing instruction of American Sign Language used by deaf people. This course emphasizes communication functions related to controlling the pace of conversations with continued expansion of vocabulary and grammar in American Sign Language.
Prerequisites: HASL1408
(3 C: 3 lect/pres, 0 lab, 0 other)

HASL1450   Conversational American Sign Language
This course introduces students' to signing beyond the conversational level. Receptive skill development focuses on increased comprehension of a variety of signing styles in group discussion. Expressive skill development focuses on increased clarity, fluency and speed. Student-led discussions, participation in small group as well as debating/discussing with guest visitor(s) are included.
Prerequisites: HASL1412
(2 C: 2 lect/pres, 0 lab, 0 other)

HASL1454   Classifiers
A skill course designed to expose students to the classifiers used in American Sign Language representing size, shape and texture. Focus is on wide variety of classifiers with an emphasis upon a sign or fingerspelling word. Videotaping experiences is a component of instruction.
Prerequisites: HASL1408
(2 lect,/pres, 0 lab, 0 other)

HASL1458   Receptive/Expressive Fingerspelling and Numbers
A skills course designed to expose students to the depth of American manual alphabet and the unique numbering system used in American Sign Language. Students receive information on appropriate use of fingerspelling within American Sign Language. Focus is on whole-word and phrase recognition with an emphasis upon fingerspelling and numbers through instructor-student(s) interaction as well as a student-student practice.
Videotaping experiences is a component of instruction.
Prerequisites: HASL1408
(2 C: 2 lect/ pres, 0 lab, 0 other)

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HEALTH CORE
COURSE DESCRIPTIONS (HLTH)

HLTH 1400 Basic Nursing I
This course introduces concepts of basic human needs for a variety of populations, safe environment, emergency measures, and basic nursing skills. Skills are performed in a supervised laboratory and clinical setting. The course is intended to prepare students for employment as Nursing Assistants, Home Health Aides and/or Homemaker. The Federal and State OBRA laws and MN Department of Health requirements are met in this course. This course also complies with requirements for a License A, Elderly Housing Services.
Prerequisites: None
(4 C: 2 lect/pres, 2 lab, 0 other)

HLTH 1404 Home Health Aide/Homemaker
This course is intended to prepare Nursing Assistants as Home Health Aides and/or Homemakers. The Federal and State OBRA laws and MN Department of Health requirements are met in this course.
Prerequisites: Documentation of completion of 75 hours of a Nursing Assistant program in Minnesota.
(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1408 Trained Medication Aide
In this course, students are introduced to concepts of drug therapy, and to safe administration of prescribed medications. Included in the course is an overview of metric, apothecary, and household abbreviations, with implications for use with medication administration. Knowledge of drug action related to body systems is emphasized, as well as observing effects of medications. Individual demonstration of oral, eye, ear, topical, and rectal administration is accomplished.
Prerequisites: Accuplacer score of 58 on math portion of the test.
(3 C: 2 lect/pres, 1 lab, 0 other)

HLTH 1420 Health Office Procedures
This course will provide students with an overview of the functioning of a health care provider office.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

HLTH 1424 Patient Communications
This course is designed to prepare health care providers with the basic skills needed for patient communications in a health care setting.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1440 Medical Terminology
This course will enable students to interpret medical abbreviations, and to define and pronounce medical terms. Students will accomplish this by memorizing word parts and medical abbreviations. Students will learn the rules for separating medical terms into their word parts. Students will listen to a tape of medical word pronunciations, and then will make their own tapes. Class format is independent study.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

HLTH 1444 Anatomy and Physiology
This course enables students to develop 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 acquire team building, problem solving, communication and critical thinking skills through the group work and the assignments given.
Prerequisites: None
(4 C: 4 lect/pres, 0 lab, 0 other)

HLTH 1448 Microbiology/Infec Control
Students will study scientific concepts related to the causes of disease, how disease is spread and methods for controlling its spread, as well as how the body responds and protects itself from disease.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

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HLTH 1460 Nutrition

This course is an introduction to basic nutrition and its relationship to health.

Prerequisites: None

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

HLTH 1464 Therapeutic Nutrition

This course relates nutritional concepts to various disease/disorders of clients, reinforcement of client instruction and application of the nursing process.

Prerequisites: None

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

HLTH 1468 Essentials of Nutrition

This course is an introduction to the basic principles of nutrition. This course provides instruction on the principles of assessing, diagnosing, planning, implementing and evaluating total care of clients and helps the student contribute to the nutritional well-being of clients.

Prerequisites: None

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

HLTH 1480 Human Development

This course teaches theories of human development and progressive stages of physical, emotional, intellectual and social development during the lifespan.

Prerequisites: None

(3 C: 3 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. Students will learn basic ethical theory and concepts. This theory will be used as they apply practical approaches to identify and deal with common problems in their chosen fields.

Prerequisites: None

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

INVASIVE CARDIOVASCULAR TECHNOLOGY (ICVT)

ICVT1423 Catheterization Lab Fundamentals I

This course focuses on the cath lab procedures, scrub and circulate, equipment set-up, hemodynamic monitoring, and the coronary angiography procedure itself.

Prerequisites: USCV1420

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

ICVT1443 Cardiovascular Clinical I

Introduction to the aspects of cardiac cath lab in a hospital or simulated clinial laboratory setting. Emphasis placed on instrumentation, entry-level scrub/circulate, and lab set-up.

Prerequisites: USCV1420

(5 C: 0 lect/pres, 5 lab, 0 other)

ICVT2426 Catheterization Lab Fundamentals II

A continuation of ICVT1423 with emphasis on x-ray technology, advanced cardiovascular diagnostic and therapeutic procedures, percutaneous coronary intervention procedures, and cardiac surgical procedures.

Prerequisites: ICVT1423, USCV1400

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

ICVT2446 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 inerventional procedures, in both scrub/circulate and hemodynamic monitoring capacities.

Prerequisites: ICVT1443, USCV1400

Concurrent enrollment in ICVT 2426

(5 C: 0 lect/pres, 5 lab, 0 other)

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LAND SURVEYING/CIVIL ENGINEERING TECHNOLOGY

* A grade of "C" or better must be earned in every program course.

LSCE 1502   Surveying Principles I
Students 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, and positioning of corners per Public Land Survey System. Students will study historical development, description and land boundary elements related to platting, which includes, deed interpretation and boundary systems.
Prerequisites: LSCE1526 or concurrent registration
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1506   Advanced Survey
Students will study advanced distance, angle and elevation work, including traverse layout, topographic data collection, x-sections and profiles, horizontal and vertical curves, and property line surveying and precise leveling. This course includes practical field applications including total station and data collector and data transfer.
Prerequisites: LSCE1530
(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. It includes 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. The course will focus on hand drafting methods.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1514   Civil CADD I
Students will develop a knowledge of system configuration, hardware operations and interactive graphics software ("AutoCAD" and "Softdesk"). Students will input drafting commands to develop civil/survey drawings, store data and produce digital drawings.
Prerequisites: 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-builts phases of construction. Students will be introduced to materials testing. Students will study construction materials, construction methods, inspection and quality control. Students will study standard contracts and specification documents.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1522   Technical Computations I
Students will study percents, signed numbers, algebraic operation, equation manipulation, ratios, geometric principles, trigonometric functions, area and volume calculations and physics concepts.
Prerequisites: Accuplacer score of 70 or better
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 1526   Technical Computations II
Students will study the natural laws that govern the relationship between work, force, motion, energy and power. Students will apply this knowledge through practical lab experiments and problem solving. Students will perform the basic computations in the civil engineering/land-surveying field. These include: volumes, bearings/azimuths, latitudes/departures, area traverse and various curve calculations. The student will also study elementary concepts involving coordinate geometry and route-survey methods.
Prerequisites: LSCE1522 or approved equivalent
(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

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methods. Students will begin using coordinate geometry. This course includes extensive fieldwork.
Prerequisites: None
(5 C: 1 lect/pres, 4 lab, 0 other)

LSCE 2502   Control and Digital Surveys
Students will focus on preliminary and final survey procedures in gathering information through total station and automated data collection procedures. Subjects include centerline profiles, cross sections, radial topography, advanced traversing, triangulation, resection, star shots, areas, volumes, section breakdown and subdivision surveys. Field projects will use total station and data collection procedures.
Prerequisites: LSCE1506, LSCE2514 or concurrent registration
(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, watermains, buildings, and some aspects of platting. Emphasis will be on both Total Station with data and traditional methods.
Prerequisites: LSCE2502
(5 C: 1 lect/pres, 4 lab, 0 other)

LSCE 2510   Surveying Principles II
Students will study Minnesota State Statutes, county and city ordinances relating to platting and surveying methods, along with techniques for record research. Emphasis will also be on writing of land descriptions and easements. Students will study professional duties of surveyor and civil engineer responsibilities and liabilities, tracing land boundaries, boundary establishment through riparian rights, deed descriptions, plats, survey evidence, metes and bounds and Public Land Survey System.
Prerequisites: LSCE2526 or concurrent registration
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2514   Civil CADD II
Students will focus on applications of "AutoCAD", Land Development Desktop and "TDS" Civil/Survey software as they relate to basic principles of coordinate geometry for drawing and design of civil/survey projects. Students will focus on mapping, digital terrain modeling, platting, detail draft-

ing and design using CADD methods.
Prerequisites: LSCE1502, LSCE1514
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2518   Utility Design I
Students will study basic fluid mechanics. Focus will be on fluid flow characteristics of gravity sanitary sewer and storm sewer systems. Students will be introduced to storm water hydrology, storm water management, and various wetland issues. Students will design storm sewer systems, including piping, inlet structures, storm water facilities and site grading and will prepare plan and profile drawings.
Prerequisites: LSCE2514 and LSCE2526 or concurrent registration
(3 C: 1 lect/pres, 2 lab, 0 other)

LSCE 2522   Civil CADD III
Students will perform advanced applications with "AutoCAD", "Softdesk" and TDS civil/survey software. The course includes advanced principles of coordinate geometry, digital terrain modeling, automated plan and profile, cross sections, earthwork, and design projects.
Prerequisites: 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. Students will also study wetland issues, existing land use factors, and zoning considerations. Minnesota State Statutes, county and city ordinances relating to platting, along with techniques for record research will be discussed.
Prerequisites: LSCE1502, LSCE2514 or concurrent registration
(4 C: 3 lect/pres, 1 lab, 0 other)

LSCE 2530   Utility Design II
Students will study basic fluid mechanics and flows in both gravity and pressure systems. Focus will be on flow characteristics in sanitary sewer systems and water supply systems. Students will design a water distribution system and become familiar with materials, valves, flow control devices, appurtenances and construction.
Prerequisites: LSCE2518, LSCE2522
(3 C: 1 lect/pres, 2 lab, 0 other)

MACHINE TOOL TECHNOLOGY
COURSE DESCRIPTIONS (MACH)

MACH   1502   Machine Technology I
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.
Prerequisites: None
(5 C: 2 lect/pres, 3 lab, 0 other)

MACH   1504   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 using advanced tooling will be included in mill 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 shown as they relate to checking project dimensions.
Prerequisites: MACH1502
(5 C: 1 lect/pres, 4 lab, 0 other)

MACH   1508   Machine Technology III
This course will address further development of machining skills covered in Machine Technology I and II complimented by precision surface and cylindrical grinding. Horizontal milling machine setup and operation will be part of the milling units of instruction. Additional inspection and layout tools and equipment will be learned to enable inspection of project features.
Prerequisites: MACH1504
(5 C: 2 lect/pres, 3 lab, 0 other)

MACH   1512   Machine Technology IV
This is the final course in the Machine Technology series in learning manual machining skills. Upon completion of this course the student will become familiar with advanced setup and operations of the lathe, milling machine, drill press and grinding machines. Introductory lessons will be provided on the tool and cutter and monoset tool grinders. Several units of advanced inspection equipment will also be part of this course.
Prerequisites: MACH1508
(5 C: 1 lect/pres, 4 lab, 0 other)

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MACH 1516 Blueprint Reading I
This course will cover the basic principles of blueprint reading that will include three view drawings, the types of lines and view arrangements, dimensioning, types of tolerancing, surface textures, and classification of fits.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

MACH 1520 Blueprint Reading II
Students will interpret intermediate level blueprints involving orthographic views, section views and cutting planes. Special views, datums, welding symbols, gear and assembly drawings, and sketching are also emphasized.
Prerequisites: MACH1516
(2 C: 2 lect/pres, 0 lab, 0 other)

MACH 1524 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 to students.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

MACH 1528 Jigs and Fixtures
This course is designed to familiarize students with the basic types and functions of jigs and fixtures used in metalworking industries. Various workholding types from simple soft jaws to modular workholding systems will be examined. Design principles, which explore simplicity and economy, are considerations, which are discussed in the course.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

MACH 2502 Introduction to CNC Turning
This is a basic programming and CNC lathe operation course. Students will learn the basics of the word address system as applied to CNC turning centers. Programs will be written manually and with computer-assist (CAM) and proved out using simulation software prior to running on the CNC turning center. Students will machine their own parts and inspect for dimensional accuracy using appropriate precision tools.
Prerequisites: MACH1512 or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

MACH 2506 Introduction to CNC Milling
Basic programming and milling course. Students will learn the CNC word address programming language. The primary activities of this course are to program, setup and operate a CNC milling machine. Programming will involve drilling and milling operations, using manual and computer-assist (CAM) methods. Students will input programs using manual data input or download through a personal computer. Programs will be input, saved and simulated on a personal computer prior to downloading into the CNC mill.
Prerequisites: MACH1512 or Instructor Approval
(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 nitride type cutting inserts will be examined as to their use in machining and manufacturing.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

MACH 2514 Metallurgy
This course will examine various steels and non-steel metals and their mechanical properties. Other types of materials such as castings, forgings and powdered metal (P/M) materials will also be analyzed. Lab work will consist of performing a tensile test on a metal, hardness testing and the heat-treat of a steel workpiece. Heat treat applications will also be an important segment of the course.
Prerequisites: None
(1 C: 0 lect/pres, 1 lab, 0 other)

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MACH   2518   Advanced CNC Milling
This course will emphasize the setup and operation of computerized (CNC) machining centers to produce multiple and/or complex machined parts. Programs will be written both manually and computer-assist and simulated on the computer prior to running on the machine. Program entry will be performed through downloading from the computer.
Prerequisites: MACH2506 or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

MACH   2522   Statistical Process Control
This course is designed to help students understand the philosophy and practical use of basic statistical process control tools and procedures. Students will be engaged in the use of various charts and exercises, which stress quality in the workplace. Statistical computer software will be used along with some pen-on-paper statistical procedures.
Prerequisites: None
(1 C: 0 lect/pres, 1 lab, 0 other)

MACH   2526   Advanced CNC Turning
This course will emphasize the setup and operation of a (CNC) slant bed turning center with a Fanuc control. Students will be required to perform setups and program complex shaped piece-parts using internal and external tools. The programs will be written both manually and computer-assist (CAM) and simulated on the computer prior to running on the machine. Program entry will be performed through downloading from the computer.
Prerequisites: MACH2502 or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

MACH   2530   3D Milling
This course will emphasize the setup and operation of computerized (CNC) machining centers to produce three-dimensional shaped piece-parts. The projects will be programmed using manual and computer-assist techniques. Three-dimensional programs using sub-programming will also be addressed. The machining in three axes will be performed on metal parts and mold shapes.
Prerequisites: MACH2506; MACH2518 or concurrent registration
(2 C: 0 lect/pres, 2 lab, 0 other)

MACH   2534   Production Machining
This course will emphasize the setup and operation of computerized (CNC) machine tools and conventional machine tools to produce a small batch of machined piece-parts to print. Process plans will be written for part manufacture to simulate industrial methods of repetitive work-parts. The use of production tooling and gauging will be stressed to ensure conformity of small batch parts. Coordinate measuring machine use will be emphasized to inspect finished parts.
Prerequisites: MACH1502–1512, MACH2502, MACH2506, MACH2538 or Instructor Approval
(2 C: 0 lect/pres, 2 lab, 0 other)

MACH2538 Tool-Making/Wire-Feed EDM CNC
This course will emphasize various tasks associated with the building of special tools, dies and fixtures. Components will be built using conventional machine tools as well as Ram-type and Wire-Feed CNC Electrical Discharge Machines. Manual and computer-assist programming of the wire-feed EDM CNC will be a key element of the CNC operation.
Prerequisites: MACH1512 or Instructor Approval
(4 C: 0 lect/pres, 4 lab, 0 other)

MACH2542 Conversational CNC Technology
Students will engage in part program generation using conversational features of CNC turning centers and CNC machining centers. They also will utilize Knowledge-Based Machining software to generate programs for CNC Wire-Feed EDM Machines.
Prerequisites: MACH2518,, MACH2526, MACH2538
(2 C: 0 lect/pres, 2 lab, 0 other)

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MEDIUM/HEAVY TRUCK TECHNICIAN COURSE DESCRIPTIONS (MHTT)

MHTT   1502   Diesel Engine I
This is an introductory course; students learn theory, design, and 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 are prepared to advance to Diesel II.
Prerequisites: None
(4 C: 2 lect/pres, 2 lab, 0 other)

MHTT   1506   Mobil Hydraulics
In addition to power steering, the application of hydraulics on trucks is widespread, such as on sanitation, snowplows, agriculture, and construction trucks. In this course students study the design and operation of pumps, valves, cylinders, motors, and other hydraulic components of these trucks. Students will service, test, and repair hydraulic systems used on trucks.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

MHTT   1510   Truck Power Train
The truck power train makes it possible to deliver engine power to the vehicle wheels. This course covers theory and operation of all drive system components including manual transmissions, clutches, drivelines and differentials. Other studies include component troubleshooting, repair operations, and preventive maintenance practices.
Prerequisites: None
(4 C: 1 lect/pres, 3 lab, 0 other)

MHTT   1514   Truck Brake Systems
Proper brake system operation is vital to safe utilization of any vehicle used on public roadways. This course covers air and hydraulic brake system theory and operation including actuation and foundation system assemblies. Other studies include component troubleshooting, repair operations, and preventive maintenance practices.
Prerequisites: None
(4 C: 1 lect/pres, 3 lab, 0 other)

MHTT   1518   Truck Steering/Suspension
Understanding and maintaining truck steering and suspension systems is necessary to achieve peak tire life, fuel economy, and safe vehicle operation. Studies include steering and suspension system theory of operation, repair procedures, and preventive maintenance operation.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT   1522   Electrical II
Through this course the electrical theory learned in TRAN1504 Electrical I is applied to the vehicle by the study of the starting and charging systems. Upon the completion of this course students will be able to troubleshoot and repair starting and charging systems on light, medium, and heavy trucks.
Prerequisites: TRAN1504
(2 C: 1 lect/pres, 1 lab, 0 other)

MHTT   1526   Truck Maintenance I
A goal of low cost efficient truck operation is to maintain the trucks in a manner that minimizes repair and downtime and ensures safe vehicle operation for the driver. This goal is the emphasis for this course. Following the recommendation of OEM maintenance manuals, students will perform truck maintenance in the lab.
Prerequisites: 20 credits of MHTT or TRAN courses or equivalent industry experience
(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT   1530   Welding
In the trucking industry there is often a need for technicians to have basic welding knowledge and skills. Students are introduced to Shield Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), plasma cutting, and oxygen acetylene cutting, heating, welding (OAW). Working in the lab on exercises and projects, students will practice these welding processes safely.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT   1534   Body Repair
In the trucking industry, it is sometimes important

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for technicians to perform basic truck repair. In this elective course students will have the opportunity to study and practice safety, body hardware, glass replacement, fiberglassing, and painting.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT   2502   Diesel II
With the knowledge and experience gained in Diesel Engine I, students practice engine rebuilding skills on medium to heavy-duty diesel engines in the lab. Emphasis is placed on understanding the theory and operation of different fuel systems and tune up procedures.
Prerequisites: 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.
Prerequisites: 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.
Prerequisites: MHTT1502
(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT   2518   Automatic Transmissions
The popularity of automatic transmission in the trucking industry continues to grow. This elective course gives students the opportunity to study the theory and operation in the classroom. Students experience hands- on skills in the lab by practicing rebuilding of an operational Allison automatic transmission.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT   2522   Electrical III
This advanced course involves lighting, instrumentation, accessory, and ABS electrical systems on medium-and heavy trucks and trailers. Emphasis is placed on using wiring diagrams and digital multi-meters to troubleshoot electrical failures and performing industry approved electrical repair procedures.
Prerequisites: MHTT1522
(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT   2526   Truck Maintenance II
Proper vehicle maintenance is critical for economic security and competitiveness in any vehicle maintenance operation. This course covers preventive maintenance program design and implementation. Other studies include DOT (Department of Transportation) vehicle inspection procedures, extending vehicle service file, failure analysis, troubleshooting, and repair techniques.
Prerequisites: MHTT1526
(4 C: 1 lect/pres, 3 lab, 0 other)

MHTT   2530   Truck Heating and Systems
Proper operation of Heating and AC ventilation systems is important for driver comfort and safe vehicle operation. This course covers theory and heater AC and ventilation systems. Other studies include system troubleshooting, repair operations, and preventive maintenance practices.
Prerequisites: 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.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

MHTT   2536   Tr Troubleshooting

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Basic skills acquired by the student in previous courses sgall be used and developed into advanced troubleshooting skills needed in various aspects of the transportation industry. Studies include, electrical system diagnosis and troubleshooting, mechanical system diagnosis and troubleshooting, and proper manufacturer service manual and information utilization.
Prerequisites: MHTT1502, MHTT1522, MHTT2502, TRAN 1504 or approval
(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 experience. Students may earn 1 to 7 credits. Course goals very with the number of credits.
Prerequisites: MHTT1526 or Instructor Approval
(1–7 C: 0 lect/pres, 0 lab, 1–7 other)

GRAPHIC COMMUNICATIONS
COURSE DESCRIPTIONS (PITT)

PITT 1200   Introduction to Printing
Students will gain a general introduction of printing areas including electronic publishing, darkroom techniques, image assembly and press operation.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

PITT 1210   Electronic Imaging
In today's world of digital communication, the artboard, pencil, and straight edge have been replaced by the computer, scanner, and imagesetter. This course will give you the information needed in order to communicate with these tools. Included are topics in color theory and application, fundamentals of reproduction, flatbed scanning, output procedures, and an in-depth analysis of the several related but distinct types of electronic resolution—the building blocks of digital imaging.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

PITT 1220   Adobe Illustrator
Students will perform skills in a vector-based draw program. The course will cover an introduction to Adobe Illustrator as well as advanced information. Emphasis is on Macintosh equipment. Students will gain knowledge in the program through weekly assignments and lecture. (There are no prerequisites for the course, but Introduction to Macintosh would be helpful.)
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

PITT 1240   Pre-Press Operations
A sound knowledge of prepress is the foundation on which proper and efficient skills in graphic arts

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are based. This course will provide an understanding and proficiency in the traditional areas of darkroom techniques, such as line and halftone photography as well as contacting, image assembly, and proofing. Students will create the framework for printing production by exposing and developing their own negatives along with precisely positioning these negatives and other images on paper or vinyl masking sheets in preparation for subsequent production operations. Also included will be skill building in page imposition and full color stripping of electronic output.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

PITT 1250   Offset Press Operations I
The student will work with several different duplicators with emphasis on set up, theory, operation, basic job planning, copy adjustment, cleanliness, care of equipment, and safety. The student also practices minor plate and press troubleshooting.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

PITT 1252   Offset Press Operations II
The student will refine basic press operation skills. This course will concentrate on close register and critical pressure adjustment, as well as maintenance. Four-color process will be produced on the latest Heidelberg equipment.
Prerequisites: PITT1250
(3 C: 1 lect/pres, 2 lab, 0 other)

PITT 1280   Print Production
This course covers the production aspect of Graphic Arts. The production class is designed for advanced students. In the class, students will work in a print shop setting. The object of the course is to take incoming work and flow it through a print environment. Emphasis will be on becoming more efficient and productive.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

PITT 2210   Advanced Production Techniques
This course provides those students who have shown proficiency in the previous classes an opportunity to move beyond the standard curriculum and customize a program that will give them expanded experience in the field of their choice. Having gained an introduction to the many areas in the graphic arts industry over the preceding semesters, students can choose to advance in press operation and production, electronic publishing/electronic prepress, or a combination of all. Techniques and equipment to be used are dependent upon the individual student's needs.
Prerequisites: Instructor Approval
(4 C: 1 lect/pres, 3 lab, 0 other)

PITT 2250   Supervised Internship
This course features a cooperative on-the-job education program for students interested in internships within the printing industry. Application of competencies gained from previous courses will be identified in an individual training plan to provide meaningful occupational experience in the career area of the student's choice.
Prerequisites: Instructor Approval
(4 C: 0 lect/pres, 0 lab, 4 other)

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PLUMBING COURSE DESCRIPTIONS (PLBG)

PLBG1502   Piping Procedures I
Students will study plastic piping, which involves the joining of drainage waste and vent, water supply and distribution lines. Students will become familiar with the different types of copper pipe, fittings, and tubing. Safe methods of handling and installing piping in accordance with Minnesota State Plumbing Code and general industry accepted standards will be emphasized.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

PLBG1506   Plumbing Calculations
This course will apply math to plumbing calculations in developed lengths of pipe, fitting allowances, offsets, areas, volumes, diameters, weights and pressures. Students will also use formulas common to the industry.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

PLBG1510   Minnesota State Plumbing Code I
Students will study the Minnesota Plumbing Code, which covers the laws, rules, and regulations of plumbing installed in Minnesota.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

PLBG1514   Minnesota State Plumbing Code II
Students will study the Minnesota Plumbing Code which cover laws, rules, and regulations of plumbing installed in Minnesota including plumbing principles, materials, traps and fixtures, water supply and drainage waste and vent systems used in construction, repair, and remodeling of buildings.
Prerequisites: PLBG1510
(3 C: 3 lect/pres, 0 lab, 0 other)

PLBG1518   Blueprint Reading and Estimating
Students will learn to read building plans and pipe diagrams. Interpret floor plans, elevation views, draw isometrics and sketch detailed work drawings. Students will develop skills in estimating plumbing costs for new installations and remodels and prepare projects using industry developed estimating procedures. Estimates include material, fixtures, and labor costs with profit and overhead calculations.
Prerequisites: None
(4 C: 1 lect/pres, 3 lab, 0 other)

PLBG1522   Water Supply and Sewage Disposal
Students will study water quality, protection from contamination, private wells, pumping equipment, public water treatment plants, and distribution systems. Students will also study installation of water supply, fixtures and appliances. Students will study construction design of domestic sewage disposal system. Public wastewater treatment plants are also studied.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

PLBG1526   Plumbing Fixture Installation
Students will learn the standard installation procedures of common plumbing fixtures and appliances, which comply with The Minnesota Plumbing Code requirements to assure long lasting trouble free operation.
Prerequisites: None
(4 C: 1 lect/pres, 3 lab, 0 other)

PLBG1530   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 piping will be discussed. Students will fabricate steel piping projects using the fundamentals of cutting, threading, grooving of piping, and identify fittings and apply sealants to piping.
Prerequisites: PLBG1502
(3 C: 1 lect/pres, 2 lab, 0 other)

PLBG1534   Hydronic Heating and Rigging
Students will become familiar with hot water and

low-pressure steam heating system, identify boiler controls, piping materials and system design. Students will develop skill in knot tying, operating hand powered lifting devices, lifting loads with ropes, slings, cable, and chains using hand signals common to the construction trades.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

PLBG1538   Plumbing Internship
Students will work in a sponsoring plumbing-related business applying knowledge, concepts and skills learned in the classroom.
Prerequisites: Completion of Plumbing courses or Instructor Approval
(2 C: 0 lect/pres, 0 lab, 2 other)

PLBG1542   Career Planning/Customer Relations
The student will write a telephone script, fill out a job application, complete an employer-ready cover letter and résumé. 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 lives. Students will participate in discussion with guest prospective employers.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

PRACTICAL NURSING COURSE DESCRIPTIONS

PRSG1400   Basic Nursing II
This course will enable students to integrate more complex nursing theories and procedures as a sequel to Basic Nursing I. The nursing process is introduced in preparation for nursing theory courses and application in clinical courses.
Prerequisites: Acceptance into the Practical Nursing Program
Prerequisites: HLTH1400, HLTH1440, HLTH1444 or BLGY1302
(3 C: 1 lect/pres, 2 lab, 0 other)

PRSG1404   Medication Administration
This course enables students to build on the fundamentals provided in the TMA course. Theory and skills related to calculating dosages, parental administration as well as intravenous monitoring/fluid balance are addressed.
Prerequisites: CAAP Placement Level 57 or successful completion of Basic Math; acceptance into the Practical Nursing Program.
Prerequisites: BLGY1302, HLTH1400, HLTH1440, HLTH1444 or concurrent HLTH1408
(2 C: 2 lect/pres, 0 lab, 0 other)

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PRSG1408 Practical Nursing Perspective

This course integrates topics and skills that relate to the graduate's role. The course synthesizes learning that has occurred in prior Practical Nursing Theory and lab courses. Students are encouraged to develop autonomy and facilitate the transitional process from student to beginning practitioner. Additionally, this course illustrates employer-employee and consumer relations.
Prerequisites: PRSG1404, PRSG1400, PRSG1420, PRSG1440
(1 C: 1 lect/pres, 0 lab, 0 other)

PRSG1420 Adult Nursing I

This course will enable students to analyze conditions that affect endocrine, respiratory, cardiovascular systems and oncology. It includes the pathology, symptoms, treatment and nursing intervention of acute and chronic disorders. Emphasis will be placed on the aging client in relation to each unit. Students will utilize the nursing process approach.
Prerequisites: BLGY1302, HLTH1400, HLTH1408, HLTH1440, HLTH1444
(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG1424 Adult Nursing II

This course will enable students to analyze conditions that affect digestive, reproductive, genitourinary, neuro-sensory, integumentary and musculoskeletal systems. It includes the pathology, symptoms, treatment and nursing interventions of acute and chronic disorders. Students will utilize the nursing process approach.
Prerequisites: PRSG1420
(4 C: 4 lect/pres, 0 lab, 0 other)

PRSG1440 Maternal Child Health/ Obstetrics/Pediatrics

This course introduces concepts of antepartum nursing, principles of labor, delivery, postpartum and newborn nursing care. In addition, this course teaches the physiological response of children to illness. Nursing care is reflected in home, hospital and community settings. This course utilizes a family centered approach using the nursing process.
Prerequisites: BLGY1302, HLTH1400, HLTH1408, HLTH1440, HLTH1444, HLTH1480
(3 C: 3 lect/pres, 0 lab, 0 other)

PRSG1444 Psycho-Social Nursing

This course offers students the opportunity to build on your understanding of human behavior and assists in developing skills in the care of clients with psychiatric and social problems. This course includes the study of mental/emotional illness, substance abuse and social problems, emphasizing nursing management in health care settings.
Prerequisites: PRSG1400, PRSG1404, PRSG1420, PRSG1440
(2 C: 2 lect/pres, 0 lab, 0 other)

PRSG1460 Clinical Lab I

This course will offer students the opportunity to implement the nursing process in acute and long term nursing care settings. The care of selected clients in medical, oncology, obstetrics, pediatric settings implement the cares and skills learned in prior Practical Nursing theory and lab courses.
Prerequisites: BLGY1302, EMSC1400, HLTH1400, HLTH1408, HLTH1440, HLTH1444, PRSG1400, PRSG1404, PRSG1420, PRSG1440
(7 C: 0 lect/pres, 7 lab, 0 other)

PRSG1464 Clinical Lab II

This course will offer students the opportunity to implement the nursing process in psychiatric, acute and long term nursing care settings. The care of selected clients in orthopedic, neurological, surgical, psychiatric settings implement the cares and skills learned in prior Practical Nursing theory and lab courses.
Prerequisites: PRSG1424, PRSG1444, PRSG1460
(9 C: 0 lect/pres, 9 lab, 0 other)

PRSG1480 State Board Examination Review

This course will present students with an overview of test taking techniques and provide a formula for a systematic review of information contained in the State Board Examination for licensing graduate practical nurses.
Prerequisites: Level I PRSG Courses - to be taken the last semester of the program.
(1 C: 1 lect/pres, 0 lab, 0 other)

SALES AND MANAGEMENT CAREERS
COURSE DESCRIPTIONS (SAMG)

SAMG   1200   Principles of Marketing
This course is an introduction to the marketing process. Discussion includes selecting target markets, creating short and long-term marketing 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.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

SAMG   1210   Customer Service & Sales Techniques
This course covers a fundamental customer service and sales approach that can be used as a foundation for a future in customer service and sales. Quality service and the basic steps of the sale are practiced.
Prerequisites: None
(3 C: 2 lect/pres, 1 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 actual advertisements as a part of class work.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG   1225   Business Ethics and Law
This course involves an explanation of basic business ethics and business law concepts as they relate to sales and management. Topics include the legal system in the United States, Criminal and Civil law, laws regarding Basic and Sales Contracts, and Consumer Protection. Ethics issues include corporate responsibility, anti-trust issues, whistle-blowing, and employment issues such as punctuality, reliability, cooperation, and honesty.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

SAMG   1230   Supervision Fundamentals
This course covers theories, methods, and techniques of supervision. The course addresses such topics as leadership, planning, delegation, organizational structure, organizing, team building, technology, and cultural diversity.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

SAMG   1235   Supervised Occupational Experience
This course is designed to provide students with a purposeful occupational experience in the sales/management/marketing industry. This course can be offered as a cooperative environment, an internship arrangement or other appropriate work experience arrangement.
Prerequisites: None
(2 C: 0 lect/pres, 0 lab, 2 other)

SAMG   1240   Profes Development
This course focuses on the importance of the professional organization and community service as a part of the career picture. The course allows students to develop self-confidence, practice leadership and management skills while involved in a professional organization.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

SAMG   1245   Sales and Marketing Math

This course is designed to give students increased competency in the application of mathematical concepts to business activities. Explanation of business procedures, terminology and documents within the sales and marketing environment are provided to aid in student understanding and application.
Prerequisites: ACCUPLACER Math Score of 40, or advisor approval.
(3 C: 2 lect/pres, 1 lab, 0 other)

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SAMG 1250 Fundamentals of Sales Accounting

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 and sales statements, to improve the profitability of the business.
Prerequisites: None
(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 2245 Marketing Management

This course is designed to expose students to effective ways to manage the marketing process. Topics include expanding the marketing mix, strategic planning, relationship marketing, direct marketing, electronic marketing, and international marketing, Students will apply the principles discussed by developing a written marketing plan, and participating in a marketing competition.
Prerequisites: 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 utilizing sales language, verbal visualization, listening skills, customer follow-up and service, effectively using the telephone to sell products and/or services, creating a problem-solving climate, and preparing sales and telephone presentation.
Prerequisites: SAMG1210
(3 C: 3 lect/pres, 0 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 PowerPoint, Excel and Desktop Information Management.
Prerequisites: BUSM1200
(3 C: 2 lect/pres, 1 lab, 0 other)

SAMG 2270 Human Management

This course focuses on Human Resource Management Issues. The course covers the techniques and legal aspects of recruiting, hiring, firing, promotion, documentation, evaluation, and other areas essential to the personnel function. The course also provides training in job seeking.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

SAMG 2275 Marketing Research

This course will focus on the fundamentals of marketing research, research methods, market surveys, analyzing data, and reporting.
Prerequisites: SAMG1200
(2 C: 1 lect/pres, 1 lab, 0 other)

SAMG 2280 Sales Management

This course is designed to present basic principles of sales management. This course will help the student to understand the organization and functions of managing a selling force. Coverage includes information on budgeting, setting sales goals, leading a sales force, team building, team conflict, and measuring sales force performance in the field.
Prerequisites: SAMG1200, SAMG1210, SAMG1230
(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 entrpreneurship/small business management: management, planning, marketing, promotion, financial management, and human resource management.
Prerequisites: Concurrent registration SAMG1200, SAMG1205, BUSM1200
(3 C: 2 lect/pres, 1 lab, 0 other)

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SUPERVISORY MANAGEMENT COURSE DESCRIPTIONS (SMGT)

SMGT1601 Personal Portfolio Design

This course will guide students through the creation of an individualized degree plan for the Supervisory Management AAS degree program. It is designed to be taken as the first course in the SMGT classes. Students will assess previous education, prior learning from work and life experiences and develop a portfolio of prior learning to be submitted for committee review. Students will be exposed to the accelerated learning methodology and learn strategies which will make them successful in future courses.

Prerequisites: None

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

SMGT1602 Supervision Fundamentals

This course will focus on the practical application of supervisory management principles and concepts. Emphasis is placed on understanding and demonstrating management techniques that can be applied to the everyday practice of supervision. The course addresses basic supervisory skills, styles and functions, understand human resource issues as they relate to supervision and discuss ways to enhance productivity. Practical application of supervision concepts and activities are provided to assist participants in the workplace. This course may include workplace learning.

Prerequisites: None

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

SMGT1604 Effective Communication

This course is designed for students to learn and demonstrate interpersonal skills in workplace situations and to provide students with the skills necessary for supervisors to effectively and accurately document performance and communicate with employees using a variety of written formats. Students will identify and demonstrate skills specific to supervisory responsibilities, such as providing feedback, collaborating with peers, dealing with conflict, gaining support from others, and expressing ideas effectively. It will emphasize the importance of defining the who, what, why, where, when and how in written communications to employees that clearly communicates an understanding of important information. Students will learn how to write performance feedback evaluations, document a safety or discipline incident, give precise directions, or prepare a formal report.

Prerequisites: None

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

SMGT1606 Managing Change and Conflict

This course provides students with tools and techniques to keep pace with the rapid and dramatic changes in the workplace today. In order to survive supervisors must be prepared to anticipate and benefit from change in their work and personal lives. Students will learn to become a change leader by effectively identifying and overcoming resistance to change by creating a work environment where change is expected and viewed as positive. This course also covers techniques for resolving conflict and negotiating collaborative solutions in workplace settings. Emphasis will be placed on selecting and applying conflict resolution and negotiation strategies that are appropriate for a given situation. Students will learn to effectively confront conflict in its early stages and to negotiate solutions beneficial to all persons involved.

Prerequisites: None

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

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SMGT1608 Personal Leadership

This course will provide students with the tools and strategies to create an increased level of personal productivity from which they can more effectively solve problems and develop strong personal and professional relationships. Students will more effectively manage priorities and make use of time, learn to set goals, develop daily and weekly action plans, handle interruptions, delegate, and determine the relative effectiveness of traditional time management tools. This course teaches skills that are necessary for supervisors to achieve objectives. Students will recognize and effectively manage stress in the workplace. Emphasis will be on identifying the sources of stress, understanding the physiological and psychological aspects of stress, and on creating positive ways to reduce stress and minimize the potential for workplace burnout.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT1701 Creativity and Work Teams

This course is designed to educate students about work teams. Students will learn strategies for team leadership and development. Principles of what it takes to build a successful team along with the stages of team building will be covered. Focus will be placed on participating leadership, drawing on the knowledge and expertise of individuals and teams within an organization, yielding higher participation, productivity and satisfaction. Students will learn to find fresh insight and new perspectives for positively impacting their leadership role at work. This course also teaches students how to develop more creative and innovative solutions to difficult and complex problems. Students will learn to find fresh insight and new perspectives for positively impacting their leadership role at work.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT1702 Business Ethics and Diversity

This course will provide students with strategies and skills to effectively deal with ethical and diversity issues and how to select the best employees. Key areas include sexual harassment, workplace violence, employee theft, and customer relationships. Managers will utilize diversity in regard to culture, race, gender, age and ability for greater effectiveness and employee satisfaction. Focus will be on elimnating existing barriers affecting equal access, professional growth, and mobility for every employee.

Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT 1704 Employment Law and Selection

This course allows students to examine workplace issues impacting supervisory responsibilities such as employee hiring decisions, discrimination, unemployment compensation, workers' compensation, Fair Labor Standards Act, employee safety and health, workplace harassment, documentation, and termination. This course will also provide students with the strategies and skills to effectively recruit, interview, and select the best person from a field of qualified candidates. Methods and techniques will be presented to insure legal, objective and fair employee selection.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT1706 Employee Training and Coaching

This course provides students with the skills and strategies necessary to assess training needs, design and prepare a training plan, deliver a training session, and assess transfer of the training. Students will learn the skills necessary to coach, mentor, tutor, counsel, and confront performance in order to help employees become more committed to performance objectives and increase productivity. Students will practice setting, communicating, and coaching to performance expectations.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT 1708 Performance Management

This course covers techniques for improving employee performance. Students will learn procedures for setting performance standards, measuring results, and discussing performance. Students will also learn skills necessary for conducting an effective performance review including how to plan for a performance review meeting, how to develop a performance improvement plan, how to provide for periodic progress reviews and how to practice interim coaching skills.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

**SMGT1800 Providing Quality Customer
Service**

This course is designed for students to learn and demonstrate customer service skills in workplace situations. Organizational effectiveness and customer satisfaction will be improved by learning a process of

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assessing customer needs and empowering others to be responsive to those needs. Emphasis will be placed on creating a culture supportive of making customer focused decisions and motivating others to service excellence. Students will learn to use tools of measurement to assess customer needs and levels of satisfaction to better serve internal and external customers.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT1802 Occupational Safety

This course will provide students with regulations and guidelines set by OSHA, MPCA, and DOT for maintaining worker safety and rules along with compliance in the workplace. Supervisory responsibility for safety training, reporting, communication, industrial hygiene, motivation, and enforcement of policies will be emphasized. Other areas of importance include workers' compensation cost control, accident investigation techniques, and policy and program development.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT2600 Supervisory Leadership Field Study

This course will focus on the practical application of supervisory management principles and concepts through application of their most previous course work to the workplace. The advisor must approve the field project. Student outcomes of the field project will be designed by the student to enhance their workplace skills and must be directly related to course content in the Supervisory Leadership Certificate. This course is intended to be taken concurrent with other courses in the certificate.
Prerequisites: None
(2 C: 0 lect/pres, 0 lab, 2 other)

SMGT2700 Organizational Development Field Study

This course will focus on the practical application of supervisory management principles and concepts through application of their most previous course work to the workplace. The advisor must approve the field project. Student outcomes of the field project will be designed by the student to enhance their workplace skills and must be directly related to course content in the Organizational Development Certificate. This course is intended to be taken concurrent with other courses in the certificate.
Prerequisites: None
(2 C: 0 lect/pres, 0 lab, 2 other)

SMGT2800 Quality and Productivity Field Study

This course will focus on the practical application of supervisory management principles and concepts through application of the student's course work as it applies to the workplace. The advisor must approve the field project. Student outcomes of the field project will be designed by the student to enhance their workplace skills and must be directly related to course content in the Productivity Certificate. This course is intended to be taken concurrent with other courses in the certificate.
Prerequisites: None
(2 C: 0 lect/pres, 0 lab, 2 other)

SMGT2802 Project and Meeting Management

This course provides an overview of methods used when doing Project Management on either large or small projects. The participants will review the tools and procedures for designing, scheduling, and controlling projects in operations and management with emphasis on human needs in project management. This course is designed to teach students how to plan, prepare, organize, conduct, and evaluate effective meetings. It will cover tools and techniques to be able to lead and facilitate productive, limited, decision-making, or more complex project-oriented meetings.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

SMGT2804 Problem Solving and Quality Tools

Students will learn principles and use tools for

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quality and continuous improvement. Emphasis will be on assessing the supervisor's role and responsibilities related to quality including identifying customer needs, applying tools and techniques for improving systems and processes, developing a quality training plan for work group members, and enhancing work group commitment to quality. This course provides participants with the skills and resources to define and resolve organizational problems and make effective decisions. Students will learn techniques to improve creativity, group participation and gaining approval and support for successful implementation of solutions. Individual and group decision making is explored.
Prerequisites: None
(4 C: 4 lect/pres, 0 lab, 0 other)

SMGT2806 Accounting for Non-Financial Managers

This course is specially designed to provide students with the management planning and control methods necessary for supervisors. These skills are essential for supervisors to be able to understand the role of budgeting in management decision making and use good management planning and control techniques.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

SMGT2808 Leadership Development

This course is an introduction to several concepts of leadership. Participants will identify leadership qualities, explore the relationship between leadership and management, and look at the dynamics of value systems. In addition to mechanics and styles of leadership, the moral and ethical considerations of leadership will also be discussed. Leadership will be approached from the aspect of follower empowerment. This course will focus on developing the skills to support and lead others.
Prerequisites: SMGT1602 or advisor approval
(2 C: 2 lect/pres, 0 lab, 0 other)

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SURGICAL TECHNOLOGY
COURSE DESCRIPTIONS (SURG)

SURG   1400   Medical Microbiology
This course will enable students to recognize how you can prevent the spread of disease and promote wound healing. Students 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. Students will classify wound types and study the wound healing process in conjunction with the body's defenses against disease.
Prerequisites: HLTH1444 or BLGY1300, and BLGY1302
(2 C: 2 lect/pres, 0 lab, 0 other)

SURG   1404   Surgical Pharmacology
This course will enable students to assist in the preparation of drugs used in the operating room. Students 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. Students will convert standard time to military time, do temperature conversions, and study how to prepare a solution. Emphasis will be placed on the legal and safety aspects of drug administration.
Prerequisites: HLTH1444 or BLGY1300 and BLGY1302
(2 C: 2 lect/pres, 0 lab, 0 other)

SURG   1420 Operating Room Techniques
This course will enable students to recognize the surgical technologist as an essential part of the medical team providing surgical care to patients in an operating room setting. Students will study the total operating room environment, which includes preoperative, intraoperative and postoperative care. Emphasis will be placed on safety and the principles of aseptic technique.
Prerequisites: HLTH1444 or BLGY1300 and BLGY1302, completion or concurrent registration with HLTH1440, 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 a surgical procedure. Students will accomplish this by having the opportunity to observe, practice and demonstrate these skills in a lab setting. Emphasis will be placed on demonstrating the principles of aseptic technique as they apply to skills inherent in the role of the surgical technologist.
Prerequisites: HLTH1444 or BLGY1300 and BLGY1302, completion or concurrent registration with HLTH1440, SURG1420, SURG1400, and SURG1404
(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, cardiovascular and nervous system organs. This course will also enable students to seek employment. Students will write a letter of application and a résumé and follow-up letter. Students will practice for an interview.
Prerequisites: HLTH1444 or BLGY1300 and BLGY1302, HLTH1440, SURG1400, SURG1404, SURG1420, SURG1424.
(6 C: 6 lect/pres, 0 lab, 0 other)

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SURG 1443 Surgical Procedures II

This course will enable students to understand various types of surgical procedures. Students will accomplish this by studying 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 studies will include surgeries performed on cardiovascular system, pediatrics and geriatrics.
Prerequisites: SURG1442
(1 C: 1 lect/pres, 0 lab, 0 other)

SURG 1462 Operating Room Clinical Lab I

This course will start students on the road to becoming a functional member of the surgical team in the capacity of a surgical technologist. Students will implement skills learned in prior surgical technology theory and lab courses. They will be scrubbing for a variety of surgical procedures and assisting the circulating nurse. Students 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 students will have two rotations at area health care institutions. One rotation will be 10 weeks long and the other will be 7 weeks. The second rotation will be combined with SURG 1463 during May Term to equal 10 weeks.
Prerequisites: HLTH1444 or , HLTH 1440, EMSC1480, SURG1420, SURG1424, SURG1400, SURG1404, SURG1440 or concurrent registration
(17 C: 0 lect/pres, 17 lab, 0 other)

SURG 1463 Operating Room 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 echnologist 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 SURG1462.
Prerequisites: HLTH 1444 or BLGY1300, BLGY1302, EMSC1480, HLTH1440, SURG1400, SURG1404, SURG1420, SURG1424, SURG1442, SURG1462
(3 C: 0 lect/pres, 3 lab, 0 other)

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TECHNOLOGY CORE
COURSE DESCRIPTIONS (TECH)

TECH   1500   Applied Algebra
This is an introductory algebra course. The course is designed for students who have no previous experience in algebra and for those who need a review of basic algebraic concepts. The primary goals of this course are to help individuals acquire a solid foundation in the basic skills of algebra and to show how algebra can model and solve authentic real-world problems.
Prerequisites: Basic Math Skills
(3 C: 2 lect/pres, 1 lab, 0 other)

TECH1522 Manufacturing Math
This course will focus on the practical applications of applied geometry and trigonometry. Students will be involved in problem solving as it relates to industrial manufacturing and trade applications.
Prerequisites: 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.
Prerequisites: None
(2 C: 0 lect/pres, 2 lab, 0 other)

TECH   1540   Technical Communications
Students are introduced to the correct procedures for verbal and written communication in the technical field including collecting and presenting technical data and working in a team environment.
Prerequisites: GCOM1340 TECH1530
(1 C: 0 lect/pres, 1 lab, 0 other)

TECH   1550   Basic CAD
This is a fundamental course in using computer-aided drafting software to create basic drawings. This course is designed for students who have no previous experience in drafting or using computers. Topics include file management, two-dimensional drawings, symbols, libraries, electrical and schematic drawings.
Prerequisites: None
(2 C: 0 lect/pres, 2 lab, 0 other)

TECH   1560   Applied Physics
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 gasses, heat and thermodynamics, waves and sound.
Prerequisites: TECH1500
(5 C: 4 lect/pres, 1 lab, 0 other)

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Transportation Core
Course Descriptions (TRAN)

TRAN   1502   General Service
This course covers the correct procedures for servicing vehicles, shop safety, and the use of service manuals and bulletins. Automotive tools, equipment and minor services and repairs will be emphasized.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

TRAN   1504   Electrical I
In this course students will learn the basics of electricity and electronics. Students 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 oscilloscope.
Prerequisites: None
(3 C: 1 lect/pres, 2 lab, 0 other)

TRAN   1518   Transportation Hazardous

Materials
Students enrolled in this class will learn how to identify and handle hazardous materials (haz-mat) found in the transportation industry. Studies include shop safety, haz-mat identification, haz-mat source identification, storage and handling of haz-mat, personal and environmental effects of haz-mat, emergency procedures involving haz-mat, and pollution prevention techniques.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

TRAN   1520   Workplace Perceptions and

Expectations
The workplace is filled with expectations of the employee, employer, and customers. This course will explore issues concerning safety, performance, and workplace ethics. Students completing this course will develop skills to perform successfully in the transportation industry.
Prerequisites: None

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

TRAN   1522   Intr Transportation
**   Computers**
Students will study the theory and operating principles of automotive computers. Lab work consists of using typical scan tools to learn about late model vehicle computer systems. Students should be able to describe automotive computer operation and perform service in accordance with manufacturer's procedures.
Prerequisites: TRAN1504 or Instructor Approval
(2 C: 1 lect/pres, 1 lab, 0 other)

TRAN   2514   Basic Air Conditioning
This course covers the principles of air conditioning systems, the various types of systems, diagnosis of malfunctions and proper legal procedures for handling refrigerants. Students will learn to test and repair automotive or truck systems. Hands on experience will include evacuating, replacing of defective components, charging and performance testing air conditioning systems.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

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WELDING COURSE DESCRIPTIONS (WELD)

WELD 1502 Welding for Work and Leisure

This course covers basic welding procedures using arc welding and oxy-fuel equipment. One of the major topics of discussion will be safety in the use of this equipment. Time will be spent in the shop completing welds in various positions with different processes and electrodes. The processes to be covered in this class will be stick electrode (SMAW) Oxy-Acetylene welding, cutting and brazing along with a short introduction into wire-feed welding. Students in this course will be from other programs where welding may be a useful tool. However, it will be stressed that in many situations it is most advisable to have a skilled welder do jobs that will involve personal safety.

Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

WELD 1506 Shielded Metal Arc Welding

This course will cover the safety issues connected with the arc welding process and the types of power sources used in arc welding. Current selection and the applications will also be covered. Electrodes and the AWS electrode code will be defined. Electrode selection and application will be covered. The use of welding codes and how they apply will also be covered along with welding certification guidelines.

Prerequisites: Concurrent registration WELD1510 or Instructor Approval
(2 C: 2 lect/pres, 0 lab, 0 other)

WELD 1510 Shielded Metal Arc Welding Lab

Time will be spent in the lab developing skills using this welding process. Welds will be made in all positions using various types of electrodes. Welding tests will be done in accordance with the AWS welding code. Welds will be completed on plate, and an introduction to pipe welding will also be included.

Prerequisites: Concurrent registration WELD1506 or Instructor Approval

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

WELD 1514 Oxy-Fuel Welding Brazing

This course covers the use of oxy-fuel equipment, welding, brazing methods. A very important part of this course will be discussing safety as related to oxy-fuel equipment. Also covered will be set-up and other flame applications.

Prerequisites: Concurrent registration WELD1518 or Instructor Approval
(1 C: 1 lect/pres, 0 lab, 0 other)

WELD 1518 Oxy-Fuel Welding and Brazing (Lab)

This course covers oxy-fuel welding and brazing operations and equipment. Students will be working with the equipment required to gas weld and braze in all positions. Other equipment used will be spray powder torches and heating tips. Students will be required to demonstrate the safe use of equipment.

Prerequisites: Concurrent registration WELD1514 or Instructor Approval
(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1522 Metallurgy

This course covers the study of metals and how to weld them. Physical and mechanical properties of carbon steels as they apply to welding will be covered. The numerical code for the classification of steel and aluminum will be discussed. Terms dealing with metallurgy will be an important part of the course. Students will perform hardness testing and identifying metals.

Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

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WELD1524 Related Math for the Welding Profession

The welding profession requires a good working knowledge of math concepts using whole numbers, fractions, decimals and the metric system. In many situations the welder will be required to convert from one method of measure to another. In other instances the welder will be required to calculate the weight and cost of material to fabricate a tank then calculate the capacity, which may be needed in cubic feet, gallons or liters. To accurately layout and fabricate parts the welder will need some knowledge of geometric construction. One of the tools used in this math class will be a calculator. How to use the functions of the calculator will be covered.
Prerequisites: None
(1 C: 1 lect/pres, 0 lab, 0 other)

WELD   1528   Blueprint Reading I

This course covers why blueprints are such an important part of the welding and fabrication industry. As an introduction to blueprints the types of lines, drawing and views will be discussed, including how views are arranged and the importance of developing an understanding of the relationship of one view to another.
Prerequisites: None
(1 C: 0 lect/pres, 1 lab, 0 other)

WELD   1532   Blueprint Reading II

This course covers the use of blueprints in industry dealing with applications in structural steel, and sheet metal fabrication. In this course the use of metric measure will be discussed. The American Welding Society weld symbols and their use and applications will be covered. The various components of the symbols and types of weld joints will be discussed.
Prerequisites: WELD1528 or Instructor Approval or Test Out of WELD1528
(2 C: 2 lect/pres, 0 lab, 0 other)

WELD   1534   Cutting Processes

This course covers the use of cutting equipment used in the metal fabrication industry. Equipment included will be manual and automated flame cutting equipment. Plasma cutting and mechanical cutting will include sawing and shearing methods.
Prerequisites: None
(2 C: 1 lect/pres, 1 lab, 0 other)

WELD   1538   Gas Metal Arc Welding

This course covers the Gas Metal Arc Welding (GMAW) process in depth. The course will be covered in five major groups: Power Sources, Shielding Gases, Electrodes, Wirefeeders and Torches. Each one of these topics will be covered in detail. The course will also deal with various wire types, flux core, metal core, aluminum and stainless steel. The applications for these various wires will be discussed.
Prerequisites: Concurrent registration WELD1542 or Instructor Approval
(2 C: 2 lect/pres, 0 lab, 0 other)

WELD   1542   Gas Metal Arc Weld (Lab)

Time will be spent in the lab developing skills using the GMAW process. In the beginning solid wire will be used with the short arc method of transfer. The use of solid wire with spray arc and pulse spray will also be covered. Welding will be done in all positions. Students will also set up the equipment for various applications. Upon completion of the required projects with solid wire, students will then begin using flux core wire. Both the gas shielded and gasless will be used in all positions. Students will also be given the opportunity to use various shielding gases. The welding of aluminum and stainless steel will be covered.
Prerequisites: Concurrent registration WELD1538 or Instructor Approval
(5 C: 0 lect/pres, 5 lab, 0 other)

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WELD 1546 Gas Tungsten Arc Welding

This course covers the safety hazards and applications for Gas Tungsten Arc Welding (Heli-Arc) in the welding industry. Material covered in the classroom will be power sources, setup, types of current, current selection, shielding gases and torch types. Various procedures will be discussed for welding different metals and problems that may be encountered. Applications for the process in the piping industry and the use of back purging and its applications will be discussed. Safety when using the process and the handling of high-pressure cylinders will also be covered.
Prerequisites: Concurrent registration WELD1550 or Instructor Approval
(2 C: 2 lect/pres, 0 lab, 0 other)

WELD 1550 Gas Tungsten Arc Welding (Lab)

Safety when using the GTAW process and the handling of high pressure cylinders will be covered. The setup and operation of the equipment will be covered in the lab. Welding of mild steel, stainless steel, and aluminum will be covered along with the proper preparation and correct selection of electrodes. This welding process is one of the more demanding and requires good hand and eye coordination.
Prerequisites: Concurrent registration WELD1546 or Instructor Approval
(3 C: 0 lect/pres, 3 lab, 0 other)

WELD 1554 Fabrication/Equipment I

This course covers equipment used in the metal fabrication industry for the forming and shaping of metals. A wide variety of equipment will be used during this course and several projects will be fabricated. Types of equipment will include shear, ironworker, hydraulic brake, pan and finger brake, track torches, electronic tracer and plasma cutting equipment. Also included in this course will be layout procedures for various types of applications.
Prerequisites: None
(1 C: 0 lect/pres, 1 lab, 0 other)

WELD 1558 Fabrication/Layout II

This course covers the use of forming equipment used in the metal working industry along with the safety aspects of using this equipment. Several different types of layouts will be done, along with the actual forming of parts. Also covered in this course will be the process of searching out the various types of shops when seeking employment. Students will also develop a résumé and letter of application.
Prerequisites: WELD1554
(2 C: 0 lect/pres, 2 lab, 0 other)

WELD 1562 Welding Skill Development and/or Certification

This course will allow the student an opportunity to refresh or upgrade skills with one or more welding processes, to learn skills in a process new to them, or to obtain a needed welding certification. They may be familiar with the welding process but need preparation to take the welding test. After visiting with the student and determining their needs the credit level can be determined. During this advising session the process required and the welding code to be tested can be determined. If upgrading skills is the main goal, then the level of skill can be discussed and the appropriate time lines and schedule can be developed. If taking a welding certification test is the goal the student will be given the opportunity to make several test welds to prepare for the test. After this has been done the student will then be able to make practice welds and bend them to check for weld quality. Once the test is started it will be done according to the code. There will be no grinding unless it is part of the weld procedure being tested to. It will be up to the student to pay for all shipping and testing charges.
Prerequisites: None
(1–3 C: 0 lect/pres, 0 lab, 1–3 other)

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WATER ENVIRONMENT TECHNOLOGIES COURSE DESCRIPTIONS (WETT)

WETT1502 Basic Laboratory Skills
Students will learn basic testing skills, weighing and sampling techniques in order to evaluate the effectiveness and efficiency to water and wastewater treatment processing. Course also includes laboratory safety and the identification, care, and use of laboratory equipment.
Prerequisites: None
(1 C: 0 lect/pres, 1 lab, 0 other)

WETT1506 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. Students will study water and wastewater terminology, identify operator duties, identify different treatment processes, identify sources of water and define water characteristics. Students will also learn the effect of people on public waterways and what treatment processes have been designed to limit these effects. This course will distinctly define the differences between water and wastewater treatment facilities.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

WETT1510 Water/Wastewater Treatment Calibrations
Students will review basic arithmetic and metric conversion. Calculations will relate to water and wastewater treatment using word problems to solve for volumes, areas, flows, and weights.
Prerequisites: None
(2 C: 2 lect/pres, 0 lab, 0 other)

WETT1514 Source Water Treatment and Development
Students will study the treatment and development of both ground and surface water sources. Areas studied will include well construction and development, pump types and applications, ground and surface water protection, pretreatment of surface water, and water filtration.
Prerequisites: WETT1502, WETT1506, WETT1510
(4 C: 2 lect/pres, 2 lab, 0 other)

WETT1518 Water Plant Operation I
This course assists students to identify, gain knowledge and demonstrate the skills and tasks used in the treatment of raw water and drinking water. The tasks and skills reflect tests and operations that are practices in water treatment plants and are based on biological and chemical concepts. The tests are in correlation with Public Health and Environmental Protection Agency Standards.
Prerequisites: WETT1502, WETT1506, WETT1510
(3 C: 2 lect/pres, 1 lab, 0 other)

WETT1522 Water Plant Operation II
This course correlates and uses synthesis to assist students to gain knowledge and experience in advanced raw water and drinking water testing and treatment. The tests presented are based on knowledge obtained in previous courses. All sampling and testing are evaluated using Public Health and Environmental Protection Agency Standards.
Prerequisites: WETT1518
(3 C: 2 lect/pres, 1 lab, 0 other)

WETT1526 Water Distribution Systems
Students will be exposed to all operational design and maintenance characteristics of water distribution systems. This will include storage facilities, pump stations, distribution piping, valves, and fittings and associated hydraulics. The course will include a 40-hour internship at a water treatment facility.
Prerequisites: WETT1502, WETT1506, WETT1510
(3 C: 1 lect/pres, 2 lab, 0 other)

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

WETT1530 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 knowledge obtained in
the classroom and information gathered through research and observation at a local utility.
Prerequisites: None
(3 C: 3 lect/pres, 0 lab, 0 other)

WETT1534 Wastewater Plant Operations I

This course will assist students to understand preliminary, primary, and secondary operation and process control at a wastewater treatment facility. The concept of rotating biological contactors and trickling filter operations and maintenance will be presented as the secondary processes. Students will be presented with the opportunity to demonstrate operational control strategies, safety practices, ability to solve mechanical, flow and pollution problems. The lab component will address specific analytical methods directly associated with the treatment processes involved.
Prerequisites: WETT1502, WETT1506, WETT1510
(3 C: 2 lect/pres, 1 lab, 0 other)

WETT1538 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. Students will identify problems that occur in each of these processes and develop skills necessary to troubleshoot and solve the problems. The laboratory component presented in this course will require a synthesis of prior theory and practice.
Prerequisites: WETT1534
(4 C: 2 lect/pres, 2 lab, 0 other)

WETT1542 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 an 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 the data generated from their lab results.
Prerequisites: WETT1502, WETT1506, WETT1510
(3 C: 1 lect/pres, 2 lab, 0 other)

WETT1546 Collection and Disinfection Systems Operations

This course will prepare students for the operation and maintenance of wastewater collection systems and disinfection methods employed in water and wastewater treatment systems. The installation and maintenance of the equipment required by these systems will be explored. Disinfection by chlorination will be the main focus of the disinfection methods discussed. Calculations of chemical dosages and the safety practices involved with handling chemicals will also be included in the study of collection and disinfection systems. Lab analysis and interpretation of lab data will be demonstrated and practiced to ensure comprehension and understanding of these systems.
Prerequisites: WETT1502, WETT1506, WETT1510
(3 C: 2 lect/pres, 1 lab, 0 other)

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

**WETT1550 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 a cooperating water
and wastewater facility. Students will also com-
plete the process of researching and applying for
employment, in the water and wastewater industry
using a
variety of methods learned.
Prerequisites: WETT1502, WETT1506,
WETT1510; WETT1514, WETT1522,
WETT1526, WETT1546; concurrent registration
WETT1538, WETT1542, WETT1554
(3 C: 2 lect/pres, 1 lab, 0 other)

WETT1554 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 under-
standing of the motors and control panels used in
the operation of water and wastewater treatment
processes. The operation of various types of instru-
mentation, monitoring equipment and other control
devices will be understood and utilized by the students.
Prerequisites: WETT1502, WETT1506,
WETT1510
(3 C: 1 lect/pres, 2 lab, 0 other)

**WETT1558 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 agen-
cies relating to biosolids. Students will study the
comprehensive requirements for the management
and disposal of biosolids generated during the pro-
cess of treating municipal wastewater. This course
will also help prepare students to obtain a type IV
biosolids operator's license upon meeting the state
and federal minimum requirements for biosolids
application.
Prerequisites: WETT1502, WETT1506,
WETT1510
(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

ADMINISTRATION

Barrett-Volkmuth, Joan (1997)   320-308-5017
President
    EdD, Oregon State University, 1998
    MEd, University of Minnesota, 1989
    BA, Concordia College, 1988

Gilbride, Kathleen (2000)   320-308-5940
Associate Dean of Continuing Education
    AAS, St. Cloud Technical College, 1999
    BS, Winona State University, 1977

Holloway, Mary Louise (2002)   320-308-5048
Dean: Health and Human Service and General Education
    PhD, Higher Ed Admin Ohio, 1990
    MS, Nursing Marquette University, 1974
    BS, Nursing Marquette University, 1961

Holstad, Deb (1997)   320-308-3227
Director: Human Resources
    BA, St. Cloud State University, 1992

Hixson, James (1998)   320-308-5081
Dean: Computer Science & Information Systems
    AAS, St. Cloud Technical College, 1996
    BS, University of Minnesota, 1977
    BS, University of Minnesota, 1971

Kloos, Lori (1998)   320-308-5026
Vice President of Finance & Facilities
    BS, Moorhead State University, 1994
    Certified Public Accountant

Pape, Dieter (2003)   320-308-5045
Vice President door 15
    MA, Michigan State University, 1972
    BA, Michigan State University, 1969

Peterson, Bruce (1998)   320-308-6639
Dean: Trade and Industry
    BS, Bemidji State University, 1996
    AAS, North Dakota State College of Science, 1988

Willis, Jebb (1984)   320-308-5030
Interim Vice President of Academic and Student Affairs
    BS, St. Cloud State University, 1978
    Certificate, University of Oklahoma, 1983

Wysoski, Diane (1992)   320-308-5980
Director of Institutional Advancement
    BA, Concordia University, 2002
    Diploma, St. Cloud Business College, 1973

ADMINISTRATIVE SUPPORT FACULTY

Hensel, Stephanie (1976)   320-308-5068
Instructor: Administrative Support
    MS, St. Cloud State University, 1981
    BS, St. Cloud State University, 1974

Hotz, Geri (2003)   320-308-5065
Instructor: Administrative Support
    BES, St. Cloud State University, 1985
    AAS, Fergus Falls Comm. College, 1979

Kinzer, Kathleen (1974)   320-308-5068
Instructor: Administrative Support
    MS, Winona State University, 1975
    BS, Winona State University, 1969

Montreux, Marilyn (2001)   320-308-5903
Instructor: Administrative Support
    MA, University of St. Thomas, 1991
    BA, University of Minnesota, 1979

BUSINESS COMMUNICATIONS & MARKETING TECHNOLOGY FACULTY AND STAFF

Brown, Robert (1974)   320-308-5987
Instructor: Advertising
    *MFA, Cranbrook Acade*my of Art, 1973
    BFA, Minneapolis College of Art, 1969

Burklund, Brad (1991)   320-308-5033
Instructor: Farm Business Management
    MA, University of Minnesota, 1995
    BS, University of Wisconsin, 1980

Iten, Nan (1978)   320-308-5085
Instructor: Sales & Management
    BS, Stritch College, 1982
    MA, St. Mary's University, 1999

Janku, Mike (2003)   320-308-5037
Lab Assistant: Culinary Arts

Joseph, Thomas (1998)   320-308-6642
Instructor: Sales & Management
    MS, St. Cloud State University, 1980
    BS, University of Notre Dame, 1971

Palm, Jeff (1985)   320-308-5924
Instructor: Advertising
    MA, North Dakota State University, 1983
    BA, Concordia College, 1981

Pennertz, Howard (1979)   320-308-5925
Instructor: Farm Business Management
    BS, University of Minnesota, 1969
    AA, Willmar Community College, 1967

Scheffler, Eldon (1999)   320-308-5978
Instructor: Advertising
    Diploma, St. Cloud AVTI, 1977

Shand, Rebecca (1989)   320-308-5073
Instructor: Sales and Management
    MEd, University of Minnesota, 1995
    BS, University of Minnesota, 1985

Storkamp, Stephen (1986)   320-308-5944
Instructor: Printing & Imaging Technology
    BES, St. Cloud State University, 1983
    Diploma, St. Cloud AVTI, 1975

Thomas, James (2001)   320-308-5037
Instructor: Culinary Arts
    Diploma, St. Cloud Technical College, 1981

Town-Gunderson, Jessica (1999)320-308-
                                               5073
Instructor: Sales & Management
    BS, St. Cloud State University, 1995

CONSTRUCTION TECHNOLOGY FACULTY AND STAFF

Antony, Richard (1995)   320-308-5012
Instructor: Civil Engineering Technology
    AAS, St. Cloud Technical College, 1988
    Diploma, St. Cloud Technical College, 1978
    BS, St. Cloud State University, 1970
    Professional Land Surveyor

Bjork, John   320-308-5757
    Lab Assistant, Carpentry

Dahl, John (1995)   320-308-5012
Instructor: Civil Engineering Technology
    BS, University of Minnesota, 1987
    Diploma, Dunwoody Institute, 1978
    Professional Civil Engineer
    Professional Land Surveyor

Ekern, James (2001)   320-308-5086
Instructor: Architectural Construction Technology
    MS, University of Wisconsin-Stout, 1987
    BS, Winona State University, 1974

Fabel, Randy (2003)   320-308-6048
Instructor: Carpentry
    MS, Southwest State University, 1999
    BA, St. Cloud State University, 1993

Gross, Donald (1979)   320-308-5094
Instructor: Construction Electrician

Class "A" Journeyman's License, 1968
Johnson, Jed (1998)   320-308-5086
Instructor: Architectural Construction Technology
    Diploma, St. Cloud Technical College, 1992

Kidder, Randall (1997)   320-308-5916
Instructor: Commercial Heating and Air Conditioning & Refrigeration
    Johnson Control Training Inst., Milwaukee, 1992
    Diploma, Moorhead AVTI, 1986
    North Dakota State University, 1980–82

Kreps, Bradley (1995)   320-308-6455
Instructor: Carpentry
    BS, Moorhead State University, 1974

Larson, James (1987)   320-308-5992
Instructor: Architectural Construction Technology
    Certified Professional Constructor, 1998
    AAS, North Dakota State School of Science, 1970
    Diploma, ND State School of Science, 1965

Leonard, Donivan (1991)   320-308-5094
Instructor: Construction Electrician
    Certified "Smart House" Installer, 1993
    "A" Master, 1982
    "A" Journeyman, 1969

Lorenz, David (1997)   320-308-6024
Instructor: Carpentry
    BS, St. Cloud State University, 1996

Mergen, Robert (1997)   320-308-5902
Instructor: Construction Electrician
    "A" Master Electrical License, 1996
    BS, St. Cloud State University, 1991

Nichelson, Mark (1988)   320-308-5916
Instructor: Heating and Air Conditioning
    BS, Dakota State University, 1995
    AAS, University of South Dakota, 1981

Raeker, Alcuin (1998)   320-308-5094
Instructor: Construction Electrician
    "A" Master Electrician, 1985
    BS, St. Cloud State University, 1983
    Diploma, St. Cloud Technical College, 1976

Redmond, Keith (1997)   320-308-5952
Instructor: Water Environment Technologies
    AA, Vermilion Community College, 1983
    AAS, Vermilion Community College, 1983
    Licensed Water Plant Operator
    Licensed Wastewater Plant Operator

Roberts, Michael (1994)   320-308-5059
Instructor: Plumbing
    BS, Mankato State University, 1980

AAS, Worthington Community College
MN Journeyman Plumber License

Schirmers, Daniel (2002)   **320-308-0901**
Construction Electrician
Class A Master Electrician License, 1993
Class A Journeyman Electrician License, 1985
Certificate, St. Cloud Technical College, 1993
Diploma, St. Cloud Technical College, 1985

Spain, William (1987)   **320-308-5952**
Instructor: Water Environment Technologies
BES, St. Cloud State University, 1998
Diploma, St. Cloud Technical College, 1986
Diploma, Brainerd Technical College, 1975
Licensed Water Operator
Licensed Wastewater Operator

Vennes, William (1989)   **320-308-5992**
Instructor: Architectural Construction Technology
MS, St. Cloud State University, 1997
AAS, University of North Dakota, 1973
BS, University of North Dakota, 1970

Weyer, Roger (1987)   **320-308-5082**
Instructor: Carpentry
BES, St. Cloud State University, 1998
Journeyman Carpenter, 1971
Diploma, St. Cloud Technical College, 1968

GENERAL EDUCATION / GENERAL STUDIES FACULTY

Borgert, Catherine (1982)   **320-308-0973**
Instructor: Sales & Management,
General Education/General Studies
MS, St. Cloud State University, 2000
BS, St. Cloud State University, 1975

Gruber, Terry (1987)   **320-308-5070**
Instructor: General Education
MS, Drake University, 1985
BS, St. Cloud State University, 1971

Hnatko, Alan (1993)   **320-308-5072**
Instructor: General Studies/General Education
MS, St. Cloud State University, 1977
BA, University of Minnesota, 1975
Licensed Psychologist, State of Minnesota

Kasimor, Mary (2000)   **320-308-1591**
Instructor: General Education/General Studies
MA, St. Cloud State University, 1997
MS, St. Cloud State University, 1992
BA, St. Cloud State University, 1975

Lourey, Diane (2002)   **320-308-6155**
Instructor: General Education
MS, St. Cloud State University, 1990
BS, St. Cloud State University, 1972

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Missaghi, Soheyl (1991)   **320-308-5409**
Instructor: General Education/General Studies
     MA, St. Cloud State University, 1993
     BA, St. Cloud State University, 1988

Oetting, Jake (2001)   **320-308-0120**
Instructor: General Education
     MS, St. Cloud State University, 1998
     BS, St. Cloud State University, 1992
     BES, St. Cloud State University, 1990

Oliver, Sharon (1989)   **320-308-5920**
Instructor: General Studies
     MA, Eastern Michigan University, 1975
     BS, Western Kentucky University, 1966

Roiger, Deborah (2001)   **320-308-5991**
Instructor: Anatomy & Physiology
General Education/General Studies
     MA, St. Mary's University of MN, 1997
     BS, St. Cloud State University, 1992

Schmainda, Kaye (1974)   **320-308-5945**
Instructor: General Studies
     BA, Concordia College (Moorhead), 1970

Sjoberg, Joy (1988)   **320-308-0974**
Instructor: General Education/General Studies
     MA, St. Cloud State University, 1998
     BS, University of Minnesota, 1988
     BS, St. Cloud State University, 1970

Stangler, Mary (1974)   **320-308-5945**
Instructor: General Studies
     BA, College of St. Benedict, 1974

Stanley, Jan (2001)   **320-308-5035**
Instructor: General Education
     MA, University of Minnesota,1987
     BA, Mount Mary College,1975

Whipple, Steven (1986)   **320-308-5953**
Instructor: General Education/General Studies
     MFA, University of North Carolina, 1985
     BA, Southwest State University, 1975

HEALTH & HUMAN SERVICE FACULTY AND STAFF

Anderson, Terry (2002)   **320-308-5031**
Instructor: Dental Assistant
     Diploma, St. Cloud Technical College, 1998
     MS, University of Minnesota, 1995
     BS, University of Minnesota,1988

Andrews, Carolyn (1979)   **320-308-5084**
Instructor: Practical Nursing/Nursing Assistant
     MA, St. Mary's University, 1997
     BS, College of St. Francis, 1985
     Registered Nurse, 1965
     Diploma, St. Anthony School of Nursing, 1965

Barclay, Renea (1994)   **320-308-5084**
Instructor: Practical Nursing
     MA, St. Mary's University, 1997
     BS, St. Francis College, 1990
     Diploma, RN, St. Gabriels School of Nursing, 1968

Batterman, Nancy (1978)   **320-308-5024**
Instructor: Health & Human Services
     BS, St. Cloud State University, 1994
     Certificate, Itasca Community College, 1975
     Registered Optometric Technician

Broker-Relph, Margaret (1978)   **320-308-6032**
Instructor: Dental Assistant
     AAS, St. Cloud Technical College, 1997
     Registered Dental Hygienist, 1997
     BS, St. Cloud State University, 1989
     Certified Dental Assistant, 1973
     Registered Dental Assistant, 1973

Butkowski, Kim (1991)   **320-308-5563**
Instructor: Dental Assistant
     Diploma, St. Cloud AVTI, 1977
     Certified Dental Assistant, 1977
     Registered Dental Assistant, 1977

Green-Quayle, Laurie (1996)   **320-308-5921**
Instructor: Surgical Technology
     Diploma, Anoka Vo-Tech, 1977
     Certified Surgical Technologist, Anoka Vo-Tech, 1977

Gunderson, Jeff, (2002)   **320-308-0971**
Instructor: Diagnostic Medical Sonography
     BS, University of St. Francis, 1996
     Registered Vascular Technologist, 1994
     Registered Diagnostic Medical Sonographer, 1985
     Certificate, Diagnostic Medical Sonography, University of Iowa, 1985
     Certificate, X-Ray Technology, United Hospital & Grand Forks Clinic, 1983

Registered Radiologic Technologist, 1983

Henkemeyer, Barbara (1993)   320-308-5906

Instructor: Dental Hygiene
        MS, St. Cloud State University, 1993
        BS, Mankato State University, 1986
        AS, Mankato State University, 1985
        Registered Dental Hygienist, 1985

Hooper, Janice (1990)   320-308-5015

Instructor: Practical Nursing
        BSN, University of NY Regents College, 1996

Jerde, Mary (2001)   320-308-5935

Program Director: Practical Nursing
Instructor: Practical Nursing
        MS, University of Minnesota, 1987
        BS, University of Minnesota, 1980
        AAS, Anoka Hennepin Technical College, 1969

LeBlanc, Mary (2002)   320-308-5410

Instructor: Dental Hygiene
        BS, University of South Dakota, 1978
        AA, University of South Dakota, 1978

McGuire, Jeanne (2002)   320-308-5034

Instructor: Child & Adult Care and Education
        MS, College of St. Thomas, 1991
        BS, College of St. Catherine, 1979

McGuire, Patrick (2001)   320-308-6010

Program Director: Diagnostic Imaging Programs
Instructor: Cardiovascular Technology
        BTE, National University, San Diego, 1986
        AA, National University, San Diego, 1985
        Certificate, Cardiopulmonary Technology, US
          Navy, Bethesda, 1978
        LPN, St. Cloud Technical College, 1974
        RegisteredCardiovascular Invasive Specialist,
          (RCIS)
        Certified Cardiovascular Non-Invasive
          Specialist, (CCNS)

Mannie, Patricia (1995)   320-308-5410

Instructor: Dental Hygiene
        MS, St. Cloud State University, 1994
        BS, Old Dominion University, 1977

Petters, Carol (1994)   320-308-5060

Lab Assistant: Nursing
        Diploma, St. Cloud Technical College, 1994

Schlicht, Susan (1998)   320-308-5956

Instructor: Child & Adult Care and Education
        EdD, University of Minnesota, 1997
        MS, St. Cloud State University, 1981
        BS, St. Cloud State University, 1976

Starks, Larry (2001)   320-308-5405

Program Director: Paramedicine
        AAS, St. Cloud Technical College, 2002
        Nationally Registered Paramedic, Augustana
          College, 1990

Stellmach, Pamela (1997)   320-308-3700

Instructor: Nursing
        BS, St. Cloud State University, 1997
        RN, St. Cloud School of Nursing, 1984
        LPN, St. Cloud Technical College, 1978

Wilson, Terry (1979)   320-308-5921

Program Director: Surgical Technology
        MEd, St. Mary's University, 1996
        BS, St. Cloud State University, 1990
        Diploma, St. Cloud School of Nursing, 1979
        Certified Surgical Technologist, 1970
        Diploma, St. Joseph Mercy Hospital, 1968

COMPUTER CAREERS FACULTY

Andresen, Luke (2001)   320-308-5081

Instructor: Computer Careers
        AAS, St. Cloud Technical College, 1996

Boraas, Lee (1971)   320-308-5029

Instructor: Computer Careers
        MS, St. Cloud State University, 1973
        BA, University of Minnesota – Morris, 1967

Brovold, Ryan (2002)   320-308-5081

Instructor: Computer Careers
        MS, Bemidji State University, 1996
        BS, Bemidji State University, 1995

Felling, Mona (2001)   320-308-5025

Instructor: Computer Careers
        AAS, St. Cloud Technical College, 1998

Kearin, Pat (1998)   320-308-5025

Instructor: Computer Careers
        *MS, St. Cloud State University, 197*0
        BA, Dakota State University, 1966

Maguire, Daniel (1997)   320-308-5934

Instructor: Computer Careers
        AAS, St. Cloud Technical College, 1993

Sadoski, David (1989)   320-308-5917

Instructor: Computer Careers
        BES, St. Cloud State University, 1991
        AES, St. Cloud State University

Wilson, Weldon (1984)   320-308-5934

Instructor: Computer Careers
        MA, Metropolitan State University, 1995
        BA, Metropolitan State University, 1975
        AA, Lakewood State Community College, 1972

Information Technology Faculty

Anderson, James (1996)   **320-308-6594**
Instructor: Accounting
    MS, St. Cloud State University, 2001
    CPA, 1993
    BS, St. Cloud State University, 1991

Anderson, Kay (1982)   **320-308-5013**
Instructor: Accounting
    MS, St. Cloud State University, 1995
    CPA, 1993
    BS, Bemidji State University, 1971

Dombrovski, Mary (1997)   **320-308-5081**
Instructor: Accounting
    CPA, 1991
    Diploma, St. Cloud Technical College, 1986

Frampton, Don (1981)   **320-308-5065**
Instructor: Credit & Finance
    Diploma, Graduate School of Banking,
      University of Wisconsin, 1976
    Certificate, MN School of Banking, St. Olaf
      College, 1970
    BA, St. Cloud State University, 1957

Haugen, Ronald (1977)   **320-308-5063**
Instructor: Accounting
    BS, Moorhead State University, 1977

Hollenhorst, Mark (1999)   **320-308-5065**
Instructor: Accounting
    BA, St. John's University, 1977

Ramanathan, Gajen (2003)   **320-308-5013**
Instructor: Accounting
    Master of Business Administration,
    University of Toledo, 1991
    BA, University of Toledo 1988
    AA, University of Toledo 1984

Manufacturing Technology Faculty

Bettermann, Jerry (2001)   **320-308-5088**
Instructor: Machine Tool Technology
    Diploma, Alexandria Technical College, 1964

Hallermann, Jeff (1997)   **320-308-5044**
*Instructor: Computer-Aided Drafting & Design,
Computer-Aided Design & Manufacturing*
    Diploma, St. Cloud Technical College, 1977

Jahnke, Rob (1995)   **320-308-0975**
Instructor: Industrial Electronics Technology

MS, University of Wisconsin, 1973
BS, University of Wisconsin – Madison, 1968

Johnson, David (1990)   320-308-5044
*Instructor: Computer-Aided Drafting & Design,
Computer-Aided Design & Manufacturing*
Diploma, Faribault Technical College, 1983

Petterson, Duane (1995)   320-308-5931
Instructor: Industrial Welding
BS, Mankato State University, 1987

Ruuska, David (1991)   320-308-5088
Instructor: Machine Tool Technology
MA, University of Michigan, 1972
BS, Northern Michigan University, 1969

Wolbersen, Tony (1996)   320-308-5088
Instructor: Machine Tool Technology
BS, Moorhead State University, 1989
Diploma, Alexandria Technical College, 1983

Young, Roger (1984)   320-308-5955
Instructor: Industrial Electronics Technology
BS, St. Cloud State University, 1986

TRANSPORTATION TECHNOLOGY FACULTY AND STAFF

Allex, James (2000)   320-308-6528
Instructor: Automotives Service Technician
Diploma, St. Cloud Technical College, 1984
ASE Master Certified
ASE Certified Advanced Engine Performance
ASE Certified Refrigerant Recovery &
Recycling

Cimenski, Steve (1988)   320-308-5036
Instructor: Automotive Service Technician
Certified Master Technician, ASE, 2001
Diploma, St. Cloud AVTI, 1975
ASE Certified Advanced Engine Performance
ASE Certified Refrigerant Recovery &
Recycling

DeRung, Dale (1990)   320-308-5047
Instructor: Auto Body Collision Technology
Diploma, Willmar Vocational, 1994
I-CAR Certified, 2001
ASE Certified, 2001
Certified CHIEF Automotive Systems, 1994

Howard, James (1999)   320-308-6076
Lab Assistant: Automotives
LI Certified, Air Conditioning
ASE Master Certified, 2000
AAS Degree, St. Cloud Technical College

Kline, John (1993)   320-308-5411
Instructor: Medium/Heavy Truck
MN State Patrol Commercial Vehicle Inspector
Trainer, 1996
ASE Certified Master Medium/Heavy Truck
Technician, 1993
Diploma, St. Cloud Technical College, 1981

Lehn, Mike (1974)   320-308-5984
Instructor: Automotives Service Technician
BS, St. Cloud State University, 1989
Diploma, Moorhead AVTI, 1969
ASE Master Certified
Automotive Driveability Technician Certificate,
2000

Morgan, Steven (1981)   320-308-1593
Instructor: Automotives Service Technician
BS, St. Cloud State University, 1990
ASE Master Certified, 2000
Air Conditioning Certified

**Rauschendorfer, Charles (1976)320-308-
5901**
Instructor: Automotives Service Technician
BS, St. Cloud State University, 1994
Certified Master Technician, ASE, 2005
LI Certified, Air Conditioning

Tasto, Arnold (1988)   320-308-5915
Instructor: Medium/Heavy Truck
BS, St. Cloud State University, 1991
Diploma, Willmar Technical Institute, 1973
ASE Certified Master Heavy Duty Truck
Technician, 1985
ASE Certified Master Auto Technician, 1990

Thompson, LeRoy (1975)   320-308-5047
Instructor: Auto Body Collision Technology
MS, St. Cloud State University, 1984
BS, St. Cloud State University, 1980
Certificate, Mankato AVTI, 1967
I-CAR Certification, 2000
ASE Certified, 1996
DuPont Refinish Training Certificate, 1990
Martin Senour Paints Certificate, 1991
PPG Industries Certificate, 2000
CPR Adult & Ped "B" Certificate, SCTC, 1996
CHIEF Automotive Systems Certificate, 1998

ACADEMIC & STUDENT AFFAIRS SUPPORT STAFF

Anderson, Roseanne, Adm. Asst.	308-0978
Bauer, Jacquiline, Admissions	308-5486
Beaver, Robert, Admissions	308-5927
Brunn, Susan, Health	308-5403
Burnett-Pick, Susan, Bus. Div.	308-5485
Gruber, Iris, Admissions	308-5090
Hall, Joan, Cont. Educ.	308-5565
Kantor, Cindy, Continuing Education	308-6641
Kennedy, Sharon, Admissions	308-5000
Laudenbach, Lori, Dental Clinic	308-5919
Mockenhaupt, Debbie, Asst. to the V.P.	308-5937
Provost, Marcia, Financial Aid	308-5478
Schaaf, Roxanne, Admissions	308-1594
Schmitdbauer, Bev, Admissions	308-5090
Sundet, Juanita, Registration	308-5998
Tholl, Mary, Admissions	308-5067
West, Patricia, Counseling	308-5926
Wochnick, Beverly, Library Tech.	308-5966
Wolters, Kimberly, Financial Aid	308-5069

BUSINESS SERVICES

Parry, Marge (1995)   **320-308-5028**
Book Store Manager
> Certificate of Completion, St. Cloud Area
> Leadership Program, 1993
> AAS, St. Cloud Technical College, 1975

Book Store Staff

Goodwin, Sandy, Bookkeeper	308-5028
Kotchevar, Linda, Clerk	308-5028

Roeker, Darla (2000)   **320-308-6471**
Accounting Officer Sr.
> Diploma in Data Processing Accounting
> Program, Ridgewater, 1970

Business Services Staff:

DeIeso, Nicollete, Cashier	308-5923
Eizenhoefer, Karen, Cashier	308-5946
Fiereck, Jeri, Asst. to V.P.	308-5479
Fritz, Rose, Account Clerk Sr.	308-6470
Haley, Karen, Reprographics	308-5023

Harris, Sharon, Accounts Receivable	308-3709
John, Jeffrey, Purchasing	308-5572

CUSTODIAL SERVICES

Kremers, Don (1995)   **320-308-5097**
Maintenance Supervisor – I

Custodial Staff   320-308-5097

> Brinker, Arthur, General Maintenance
> Durant, Roger, General Repair Worker
> Flatley, Thomas, General Maintenance
> Foseid, Joseph, General Maintenance
> Gross, Mark, General Maintenance
> Hartmann, Jon, General Maintenance
> Heurung, Blake, General Maintenance
> Kuebler, Ervin, Electrician
> Mishow, Jerold, Building Engineer
> Reich, Terry, General Maintenance – Lead
> Schramel, Norbert, General Maintenance
> Trutwin, Patrick, General Maintenance
> Wagner, Dean, General Maintenance

door15 AT ST. CLOUD TECHNICAL COLLEGE STAFF

Denne-Morgan, Diane (2003)   **320-308-6522**
Program Director for Continuing Education
> BA, Concordia University, 2003
> AAS, St. Cloud Technical College, 1983

Dickinson, Tim (1985)   **320-308-5048**
Director: EMS & Public Safety
> BA, Concordia College, 1999

Evans, Patrick (1996)   **320-308-5954**
Instructor: EMS
Coordinator: Firefighter Education

Friedrich, Kathleen (1990)   **320-308-5066**
Program Manager
> BS, College of St. Catherine, 1966

Leyk, Mary (2002)   **320-308-5482**
Health Program Manager
> RN, North Hennepin Community College, 1993

SCTC Foundation
Board of Directors (2003-2004)

Board Members

Tim Keller, President
Bremer Bank

Linda Eich-DesJardins, Vice President
Eich Motor Company

Duane Schultz, Secretary
Winkelman Building Corporation

Leonard Wohlman, Treasurer
American Heritage National Bank

Rich Feneis, Past President
Logo Signs of America

Ray Bernardy
California Closets

Mike Fitch
St. Cloud Refrigeration Sales & Service, Inc.

Clyde Lewandowski
St. Cloud Truck Sales

John McDowall
McDowall Company

Dr. John Schad, D.D.S.
North Benton Dental Care

Tom Schlough
Park Industries, Inc.

Robert Sexton
Retired Business Leader

Roxanne Wilson
St. Cloud Hospital

Advisors to the Board of Directors

Scott Hamak, Legal Advisor
Rinke-Noonan

Chris Shorba, Financial Advisor
KDV, Ltd.

NOTES

ST. CLOUD TECHNICAL COLLEGE BOARD LIAISONS

Lana Feddema
Terry Gruber
Dave Johnson
Mike Lehn
Dieter Pape
Pat West

ST. CLOUD TECHNICAL COLLEGE ADMINISTRATION AND STAFF SUPPORTING THE FOUNDATION

Joan B. Volkmuth
President

Diane Wysoski
Director of Institutional Advancement

Penny Casavant
Marketing and Alumni Coordinator

SCTC FOUNDATION STAFF

Michele Braun
Administrative Assistant

Brenda Keller
Accountant

Glossary

Academic Advisor
An academic advisor is a faculty member assigned to advise a student and act as a resource.

Admissions and Counseling
The Office of Admissions provides assistance in the enrollment process. Counseling is provided by trained professionals that adhere to the "Ethical Standards for School Counselors." Counselors facilitate academic, career, and personal student success.

Associate of Applied Science (AAS)
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.

Audit
Students participate in a course but are not required to take exams or quizzes. Students do not receive grades or credit for audited courses.

Bachelor's Degree
A degree awarded by a state college or university after the successful completion of a program of 120 to 128 semester credits.

Catalog
A booklet published by the college that includes information about curricula, courses, and other important information.

Certificate
A certificate may be awarded for successful completion of a specialized program of study. A certificate shall include 9 to 30 semester credits.

Class Schedule
A listing of all classes that will be offered during a semester, including days and times of class meetings, names of instructors or to be announced (TBA), rooms, and other registration information.

College Readiness Courses
Courses that prepare students to succeed at the college level. These credits do not count toward graduation.

Concurrent Registration
Registration in two classes at the same time.

Core Studies
Courses that count toward graduation in more than one related program and contain content common to two or more majors.

Credit
A unit of measure given for completion of courses that apply toward a college degree or diploma.

Curriculum
The content and competency level of each credit course as approved by the Curriculum Committee lead by faculty members.

Degree
Award given to students that have successfully completed a specified number of collegiate level credit courses and experiences.

Department
The organizational unit established by the college. For example, Transportation Technology.

Diploma
A diploma may be awarded for 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 award of the diploma.

Drop
Students are allowed to drop (cancel) courses without penalty during the first five days of the semester. Financial aid benefits may also be curtailed because a course is dropped.

Electives
Courses students select from an academic area. The number of electives varies according to programs. Electives may be suggested by program advisors.

Extracurricular
Activities, clubs, or organizations students join and participate in above and beyond academic courses.

Faculty
Instructors employed by the college who meet the standards and requirements for employment.

Fees
Costs required in addition to tuition.

Final Exams
Exams held during examination week at the end of each semester. Instructors may also schedule periodic exams or midterm exams throughout the semester.

Financial Aid
Some forms of financial aid are gifts, but others are loans that must be repaid with interest, or work study. To determine eligibility for any sort of aid, see the Financial Aid office.

Full-time Student
Students are considered full-time if enrolled for a minimum of 12 credits per semester.

General Education
Courses that are outside a field of study that may be part of the Minnesota Transfer Curriculum. Students must complete twenty-five percent of semester credits in general education to satisfy the requirements for the Associate of Applied Science Degree.

General Studies
Semester credits (6-9) outside a field of study offered at a technical college to meet the requirements for the Diploma of Occupational Proficiency. General Studies courses do not fulfill the Minnesota Transfer Curriculum.

Glossary
A list of words and their definitions.

GPA Values
Values given to letter grades so that grade point averages may be computed. The following values are used at St. Cloud Technical College: "A", 4.0; "B". 3.0; "C", 2.0; "D", 1.0; and "F", 0.

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 indicates success in the course, but have not completed all course requirements. Needs faculty approval. An incomplete grade is changed to "F" when the assignments are not completed within the specified time.

Internship
An arrangement that permits students to work at a job site and receive college credit.

Laboratory Credit
Usually involves hands-on activities. One lab credit equals 36 hours of student effort.

Lecture
A verbal presentation of course content.

Lecture Credit
One lecture credit equals 36 hours of student effort.

Letter Grade
A grade such as "A", "B", "C" that designates the quality of work. Letter grades have the following meanings: "A", superior; "B" very good; "C", average; "D", passing; "F", failing; "P", pass, but no grade points; "AD", audit for no credit or grade.

Matriculate
To apply for a degree program, to be accepted in that program, and to enroll in classes.

Number Grade
A grade such as 91, 85, and 68 that designates the quality of work students do; usually a percentage of total points.

Orientation
A period of time or a series of events planned to help new students adjust satisfactorily to college life.

Part-time Student
A student enrolled for fewer than 12 credits per semester.

Prerequisite
A requirement of a specific course that must be completed before the course can be taken.

President
The chief administrative officer appointed by the Chancellor of the Minnesota State Colleges and Universities system to be responsible for the management and day-to-day operations of the college in accordance with policies set forth by the Board of Trustees and in compliance with Minnesota state law governing higher education.

Probation
Notice that a student is not making satisfactory academic progress. Without improvement probation is followed by suspension.

Progress Report
A report issued to students mid-semester to inform them of their academic standing and need for improvement.

Registrar
The person responsible for registering students in courses and for maintaining their academic records and transcripts.

Registration
A specified period of time during which students may register for courses.

Section
A number given to each class offered in a single subject matter.

Semester System

A system dividing the academic year into two parts of approximately 16 week segments.

Supervised Occupational Experience (SOE)

Work experience that students may or may not be paid for to perform work for an employer that is related to their field of study. Faculty supervise these experiences.

Syllabus

A course syllabus is a document that contains the elements of the corresponding course outline and standards for evaluation of student learning and may contain additional information which reflects the creative work of the faculty member. Each student enrolled in a course shall receive a course syllabus.

Tech Prep

A program designed to provide the competencies high school students need to move into technical programs that transfer to the technical college for advanced placement.

Technical Studies

Technical courses that contain specialized program content necessary to become competent in a technical field.

Term

A period of study in a college that usually ends with the administration of final examinations. A term may be a semester or summer session.

Textbook

A book that summarizes information about the subject matter of a college course.

Transcript

Official record of courses taken, grades received, and grade point average. Transcripts are maintained by the registrar.

Transfer Credit

The number of courses that a new college accepts from a college previously attended and counts toward a degree, diploma or certificate.

Tuition

The amount charged per credit for college courses.

Tutor

A person who gives individual instruction to students, either in or outside the classroom.

Withdrawal Grade (W)

A grade given so that students may drop courses when they have good reasons for doing so. Usually "W" grades do not lower grade point averages when they are requested within specific time limits and students are doing passing work at the time of withdrawal.

NOTES

LPN, St. Cloud Technical College, 1991

Shaffer, Kathy (2000)   **320-308-5974**
Director of Client Services
> BS, Southwest Missouri State University, 1981

door15 at St. Cloud Technical College
Support Staff
> Becker, Ruth, Accountant   308-5957
> Bernett, Terry, Admin. Asst.   308-5011
> Haney, Dennis, Admin. Asst.   308-6493
> Hanson, Ken, EMS   308-5048
> Hirdler, June, EMS   308-5048
> Jensen, Mary, EMS   308-6077
> Shermock, Carolina, Admin. Asst. 308-5040

FOOD SERVICE
Zimmerman, Joyce   **320-308-5064**
Food Service Manager

Food Service Staff:
> Gohman, Geraldine, Food Service Aide
> Huls, Janet, Food Service Aide
> Salzbrun, Tammy, Food Service Aide
> Voight, Sandy, Food Service Aide
> Zanardi, Anita, Food Service Cook

HUMAN RESOURCES STAFF
> Abel, Greta, Human Resources   308-5480
> Punch, Jill, Human Resources   308-5993

INFORMATION TECHNOLOGY STAFF
> Dillman, Daniel, IT Specialist   308-5014
> McClintock, David, IT Specialist 308-5032
> Rausch, Jason, Webmaster   308-5669
> Rehnke, Gary, IT Specialist   308-5995
> Schmitz, Chad, IT Specialist   308-5074
> Vossen, Kimberly, IT Specialist   308-6011

OFFICE OF THE PRESIDENT
> Hiemenz, Karen   308-5017
> *Assistant to the President*

Institutional Advancement
> Casavant, Penny   308-6021
> *Marketing & Alumni Coordinator*

SCTC Foundation Staff
> Braun, Michele   308-5668
> *Administrative Assistant*

STUDENT AFFAIRS STAFF

Baugh, Anita (2001)   **320-308-5936**
Financial Aid Director, Records and Registration
> BS, Indiana State University, 1986

Berg, Judy Jacobson (1990)   **320-308-5096**

Counselor: TRIO Success Center, PSEO
> MS, St. Cloud State University, 1988
> Certificate Rehabilitation Counselor, 1988
> BS, St. Cloud State University, 1982

Elness, Jodi (1994)   **320-308-5087**
Director of Enrollment Management
> BS, St. Cloud State University, 1990

Fabian, Sandra (1999)   **320-308-5908**
Education Transition Facilitator
> MA, St. Mary's University, 1996
> BA, Moorhead State University, 1992
> Diploma, Willmar Technical College, 1969

Feddema, Lana, (1989)   **320-308-5048**
Registrar
> Diploma, St. Cloud Technical College 1999

Gruber, Terry (1987)   **320-308-5070**
Placement Director
> MS, Drake University, 1985
> BS, St. Cloud State University, 1971

Haller, John (1998)   **320-308-5922**
Student Activities Coordinator
> MS, University of Missouri, 1989
> BS, St. Cloud State University, 1986

Hendrickson, Lois (1989)   **320-308-5080**
Counselor
> MS, St. Cloud State University, 1985
> BS, University of Minnesota, 1972

Pierce Rhodes, Anne (1998)   **320-308-5046**
Interpreter
> St. Paul Interpreter Training Program, 1989

Reigstad, Greg, (2002)   **320-308-0977**
TRIO Success Center, College Bound Program
Director
> MA, Minnesota State University, 1981
> MA, Minnesota State University, 1976

Thienes, Robert (1974)   **320-308-5959**
Counselor
> MS, St. Cloud State University, 1977
> MS, St. Cloud State University, 1970
> BS, St. Cloud State University, 1968

Tie, Thomas (2000)   **320-308-6153**
Academic Coordinator – TRIO Success Center
> MA, Bemidji State University, 1993
> BA, University of Minnesota Duluth, 1988
> AA, Hibbing Community College, 1985

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

GTEC 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. Students will register for one of two formats: either traditional classroom lecture or computer-based instruction using interactive multimedia software.

Prerequisites: None

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

GTEC   1300 Introduction to Construction

Technology

This course will enable the student to understand the influence of technology on construction. Emphasis will be on different kinds of construction and how they effect the environment. Technology of tool design will also be discussed.

Prerequisites: None

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

GTEC   1304 The Automobile in America

Explore the history and future of the automobiles and its impact on labor, culture, society, the environment, and the economy of the United States. Analyze the effect of the automobile on your present and future lifestyles.

Prerequisites: None

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

GTEC   1320   Environmental Technology

This course is designed to stimulate an awareness of new technology and how it will bring about change. An examination of expanding population problems, land development, use of natural resources, building design and recycling will be addressed.

Prerequisites: None

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

GTEC   1340   Workplace Safety and First Aid

This course enables students to recognize and apply the concepts and principles of safety and first-aid in the workplace.

Prerequisites: None

(3 C: 3 lect/pres, 0 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.

Prerequisites: Basic Math Skills

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

228

Prerequisites: None
(2 C)

FBMT   2345   CPR and First Aid
This course assists students in understanding
proper procedures for handling wounds and
injuries and in performing CPR.
Prerequisites: None
(2 C)

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

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

DVOM meters and scan tool usage when repairing engine performance problems on today's vehicles. Students should be able to perform engine performance service in accordance with manufacturer's procedures.
Prerequisites: AUTO2502, AUTO2504, or Instructor Approval
(3 C: 1 lect/pres, 2 lab, 0 other)

AUTO 2538 Supervised Internship
Students will work in a sponsoring automotive service facility. The work will be full time, approximately 40 hours per week. The tasks will be consistent with previous course work. This is a variable credit experience. Students may earn 1 to 4 credits. Course goals vary with the number of credits.
Prerequisites: Instructor Approval
(1–4 C: 0 lect/pres, 0 lab, 1–4 other)

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

WATER ENVIRONMENT TECHNOLOGIES

Diploma

Technical Studies

WETT1502	Basic Laboratory Skills	1
WETT1506	Introductory Water/Wastewater Technology	3
WETT1510	Water/Wastewater Treatment Calibrations	2
WETT1514	Source Water Treatment and Development	4
WETT1518	Water Plant Operation I	3
WETT1522	Water Plant Operation II	3
WETT1526	Water Distribution Systems	3
WETT1534	Wastewater Plant Operations I	3
WETT1538	Wastewater Plant Operations II	4
WETT1542	Wastewater Lab Procedures	3
WETT1546	Collection and Disinfection Systems Operations	3
WETT1550	Strategic Enhancement for Success	3
WETT1554	Automated Control Systems	3

General Studies

GBEH1300	Human Relations	3
GCOM1340	Written Communication	3

Suggested Electives

WETT1530	Understanding OSHA Safety Regulations in Water Industry	3
WETT1558	Understanding EPA Part 503 Biosolids Rules	3
	Elective	3

Estimated cost for tools, books and supplies $550

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

and laptop   **$3,300**

FBMA3130 Directed Study: Decision Making   2
FBMA3131 Directed Study: Advanced Communications 2
FBMA3132 Directed Study: Technical Issues   2
FBMA3133 Directed Study: Family Transition   2
FBMA3134 Directed Study: Personnel Management   2
FBMA3135 Directed Study: Enterprise Alternatives   2

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

SAMG1210 Customer Service Sales   3
Estimated cost for books and supplies $875

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

CARPENTERS ASSISTANT
Certificate

Technical Studies

CARP1506 Construction Tools, Equipment, and Machines
                                                      3
CARP1514 Blueprint Reading and Building Codes   3
CARP1520 Residential Framing and Estimating   4
CARP1524 Rafters and Stairs   4
CARP1526 Exterior/Interior Finish   4
CARP1528 Building Layout & Concrete   3

General Studies

EMSC1420 Basic Emergency Care   1
GBEH1300 Human Relations   3
GCOM1340 Written Communication   3

Estimated cost for tools, books and supplies $800

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

to registering for this program.

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

MO at 1-888-442-4551.

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